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JACARANDA KEY CONCEPTS IN VCE

HEALTH & HUMAN DEVELOPMENT

UNITS 3 AND 4 | EIGHTH EDITION

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ANDREW BEAUMONT

MEREDITH FETTLING

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The Publishers of this series acknowledge and pay their respects to Aboriginal Peoples and Torres Strait Islander Peoples as the traditional custodians of the land on which this resource was produced.

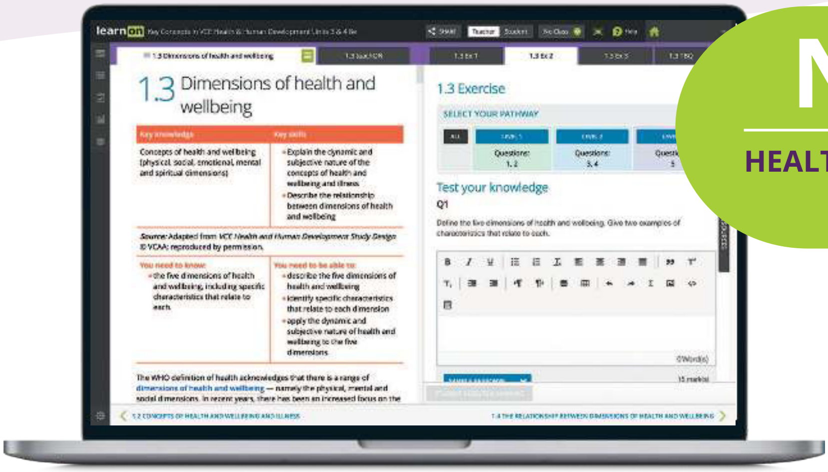
This suite of resources may include references to (including names, images, footage or voices of) people of Aboriginal and/or Torres Strait Islander heritage who are deceased. These images and references have been included to help Australian students from all cultural backgrounds develop a better understanding of Aboriginal and Torres Strait Islander Peoples' history, culture and lived experience.

It is strongly recommended that teachers examine resources on topics related to Aboriginal and/or Torres Strait Islander Cultures and Peoples to assess their suitability for their own specific class and school context. It is also recommended that teachers know and follow the guidelines laid down by the relevant educational authorities and local Elders or community advisors regarding content about all First Nations Peoples.

The Publisher acknowledges ongoing discussions related to gender-based population data. At the time of publishing, there was insufficient data available to allow for the meaningful analysis of trends and patterns to broaden our discussion of demographics beyond male and female gender identification.

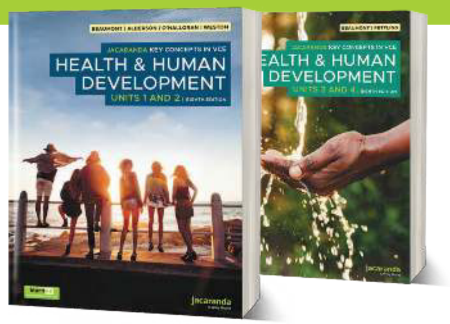
Contents

Learning with learnON



NEW FOR

HEALTH AND HUMAN DEVELOPMENT STUDY DESIGN (2025–2029)



JACARANDA

KEY CONCEPTS IN VCE HEALTH & HUMAN DEVELOPMENT

UNITS 3 AND 4

EIGHTH EDITION

Developed by teachers for students

Tried, tested and trusted. The eighth edition of the *Jacaranda Key Concepts in VCE Health & Human Development* series, completely revised and updated, continues to focus on helping teachers achieve learning success for every student — ensuring no student is left behind and no student held back.

Because both *what* and *how* students learn matter

Learning is personal

Whether students need a challenge or a helping hand, you'll find what you need to create engaging lessons.

Whether in class or at home, students can get unstuck and progress! Scaffolded lessons use visuals and clear explanations to allow students to apply their knowledge. Differentiated question sets and past VCAA exam questions are all supported by detailed sample responses. Automatically-marked Quick quizzes support learning and teacher-led video eLessons explain key concepts.

Learning is effortful

Learning happens when students push themselves. With learnON, Australia's most powerful online learning platform, students can challenge themselves, build confidence and ultimately achieve success.

Learning is rewarding

Through real-time results data, students can track and monitor their own progress and easily identify areas of strength and weakness.

And for teachers, Learning Analytics provide valuable insights to support student growth and drive informed intervention strategies.

Learn online with Australia's most

Everything you need for each of your lessons in one simple view

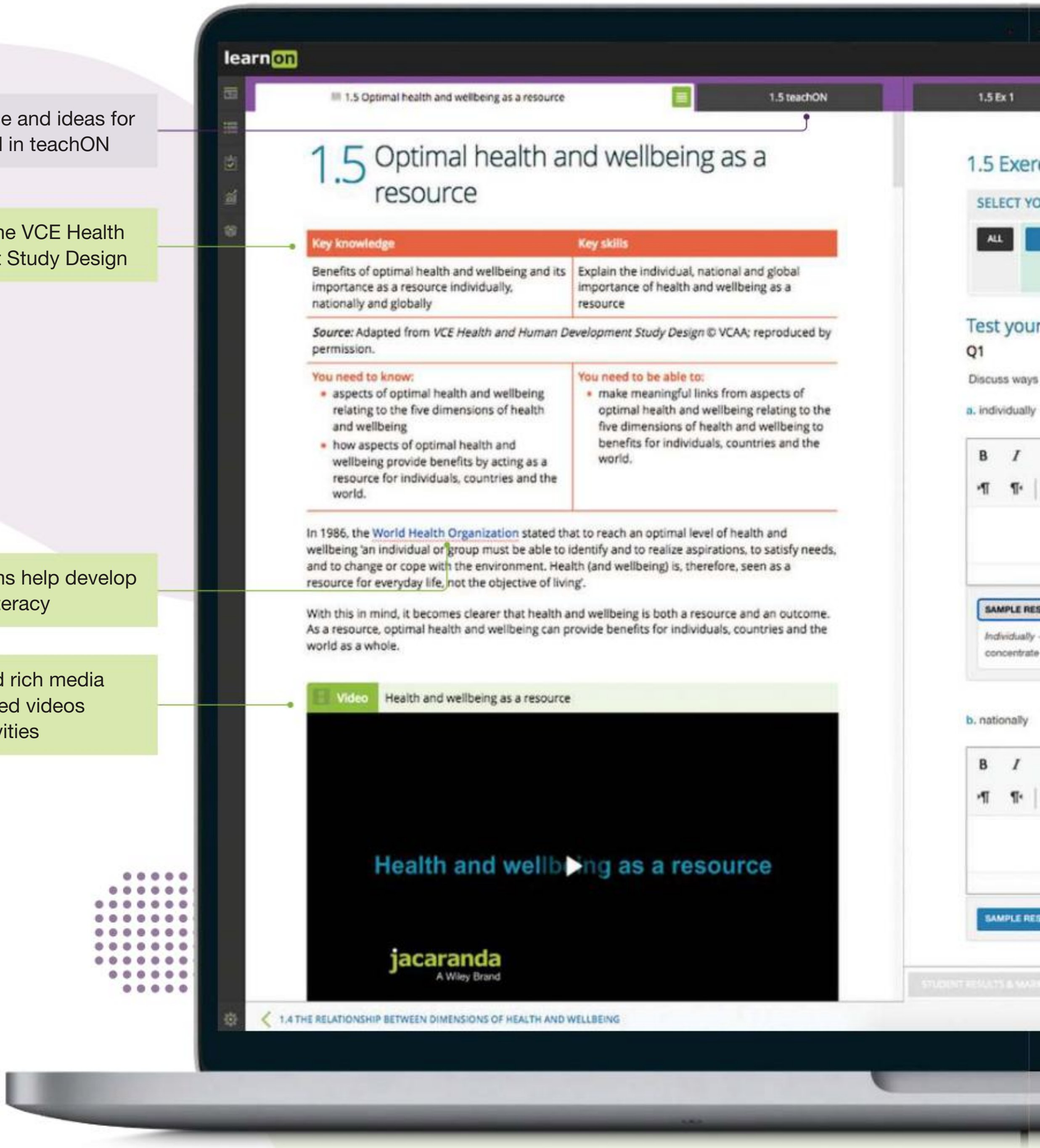
- Trusted, curriculum-aligned theory
- Engaging, rich multimedia
- All the teaching-support resources you need
- Deep insights into progress
- Immediate feedback for students
- Create custom assignments in just a few clicks

Practical teaching advice and ideas for each lesson provided in teachON

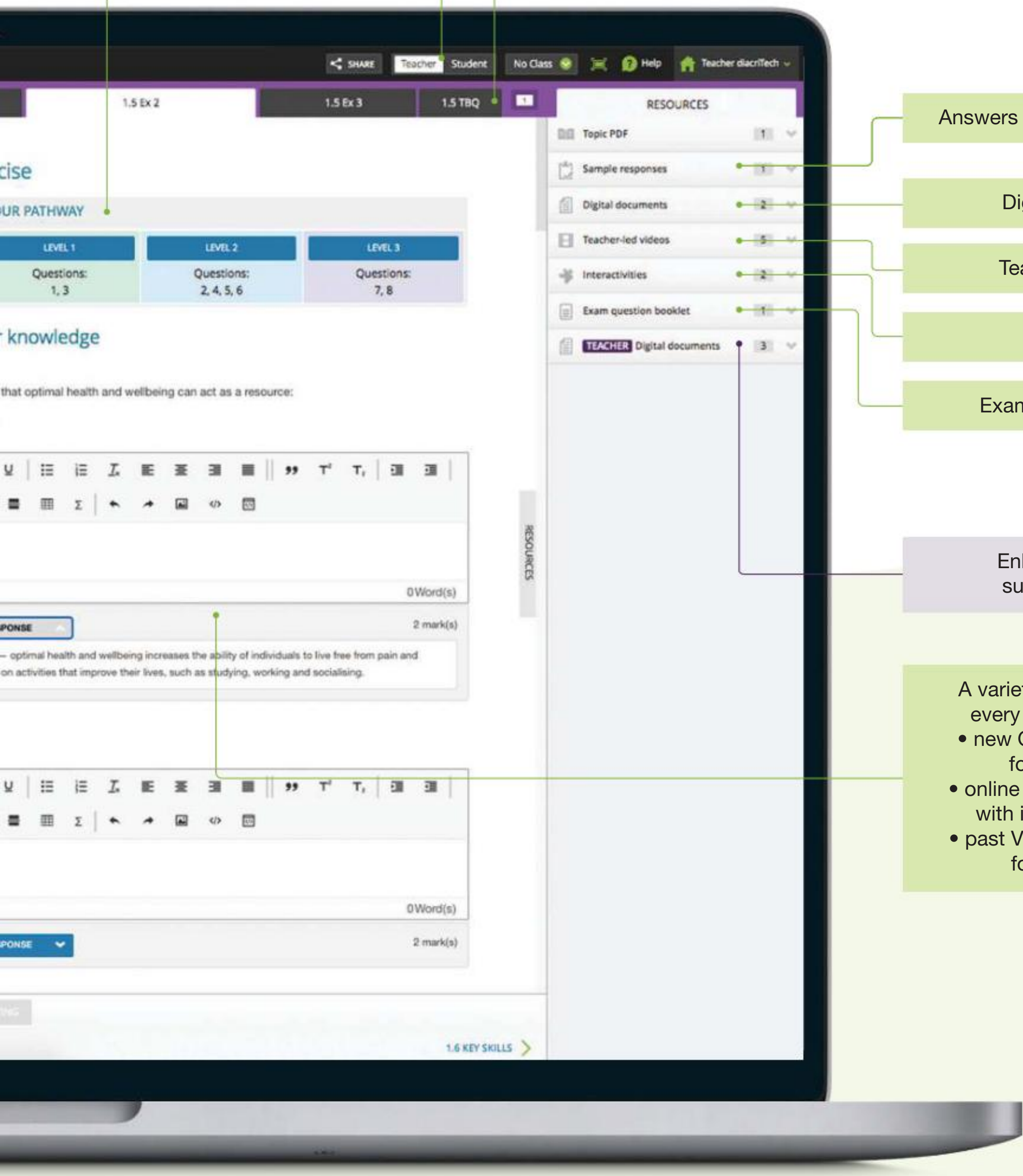
Each lesson linked to the VCE Health & Human Development Study Design

Interactive glossary terms help develop and support literacy

Reading content and rich media including embedded videos and interactivities



powerful learning tool, learnON



Differentiated question sets

Teacher and student views

Textbook questions

Answers and sample responses

Digital documents

Teacher-led videos

Interactivities

Exam question booklet

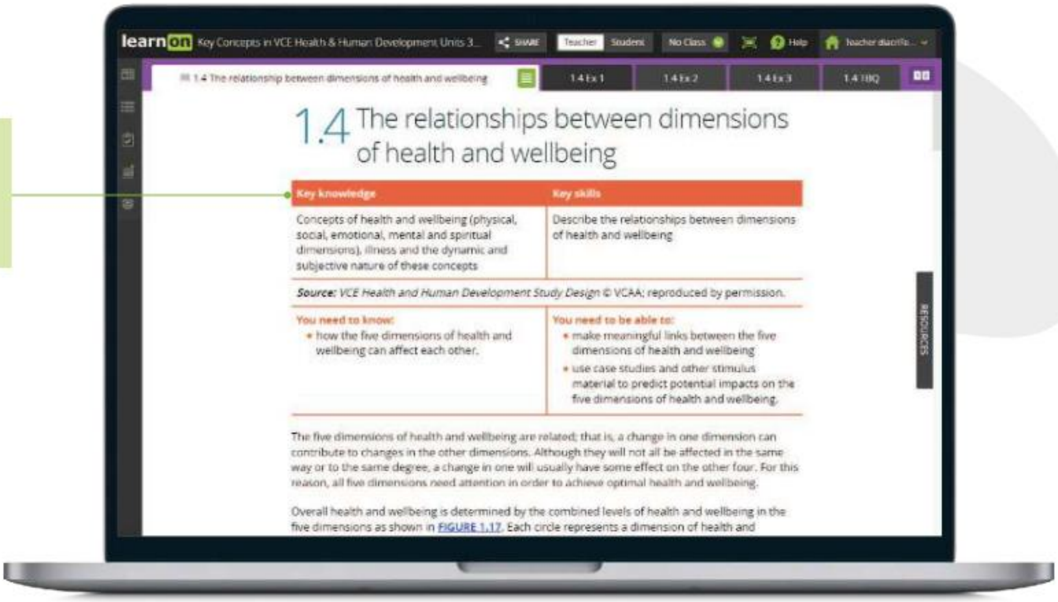
Enhanced teaching support resources

A variety of question sets in every subtopic including:
- new Quick Quiz questions for skill acquisition
- online textbook exercise set with immediate feedback
- past VCAA exam questions for exam practice.

Online, these new editions are the complete package

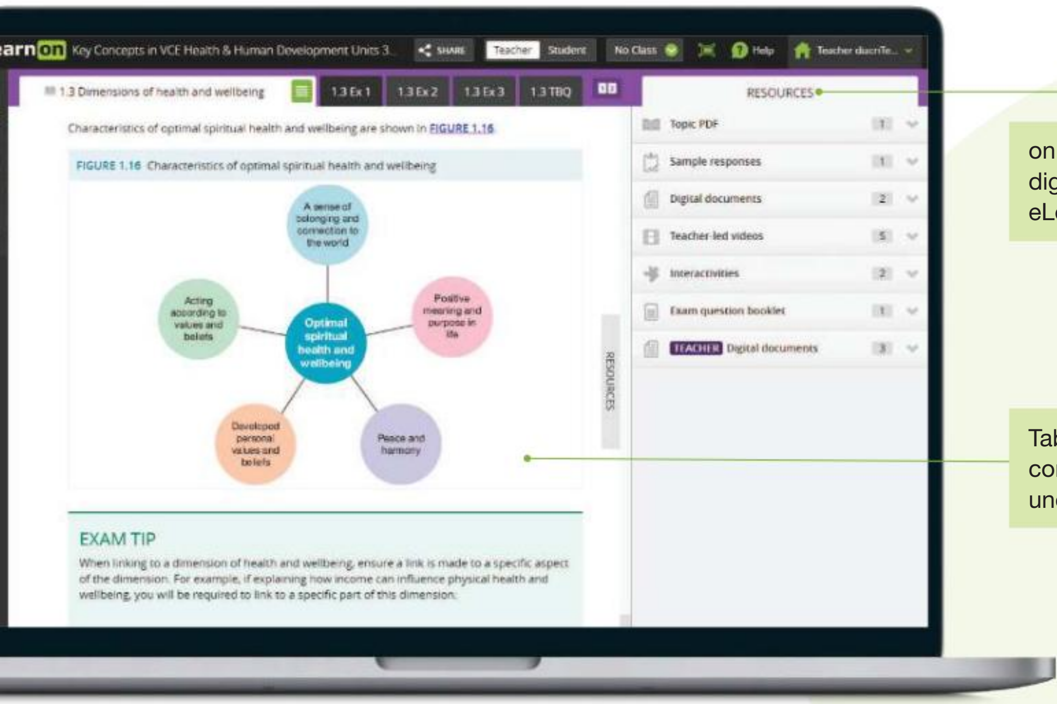
Trusted Jacaranda theory, plus tools to support teaching and make learning more engaging, personalised and visible.

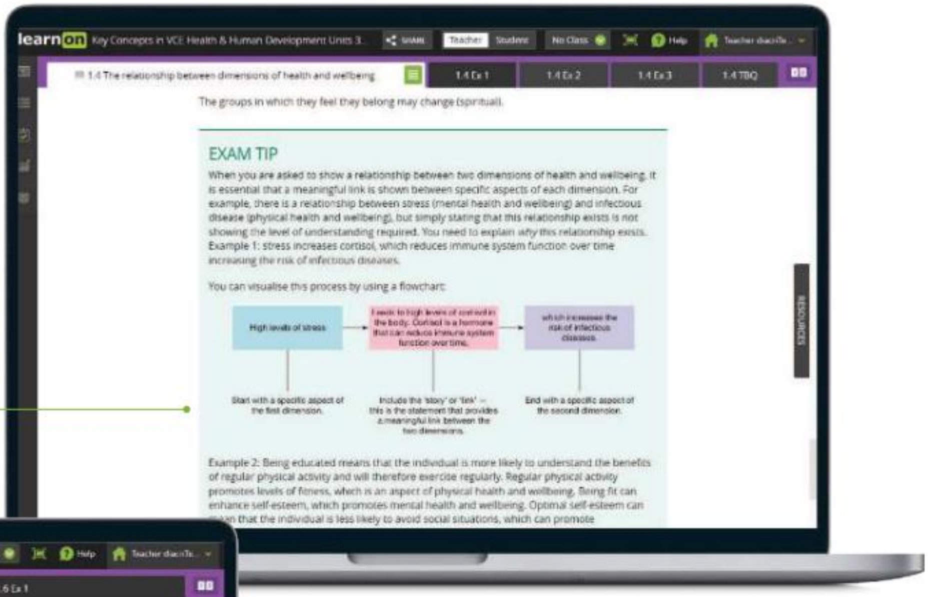
Each topic is linked to content points from the Key knowledge and Key skills from the Study Design.



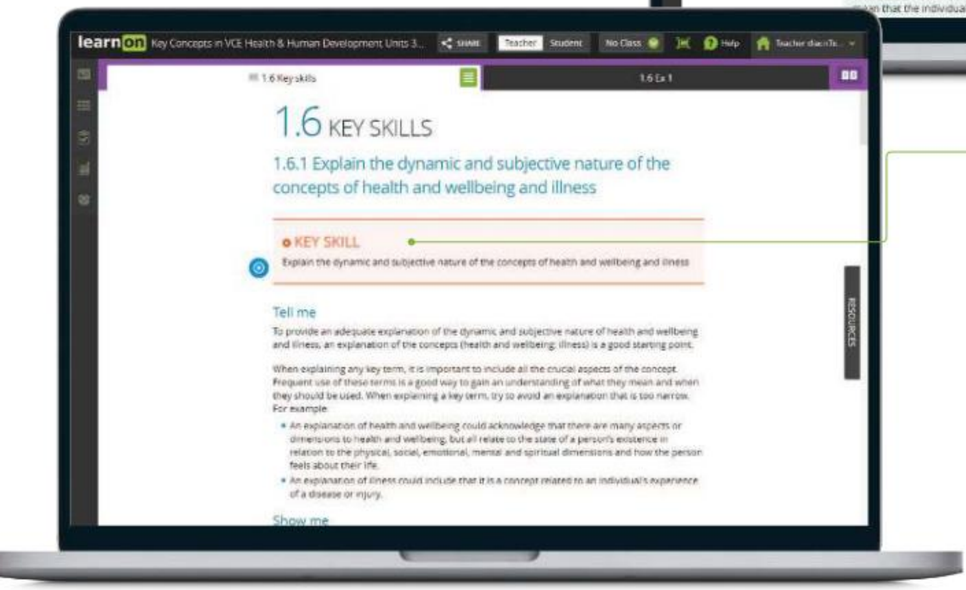
onResources link to targeted digital resources including video eLessons and weblinks.

Tables and images break down content, allowing students to understand complex concepts.





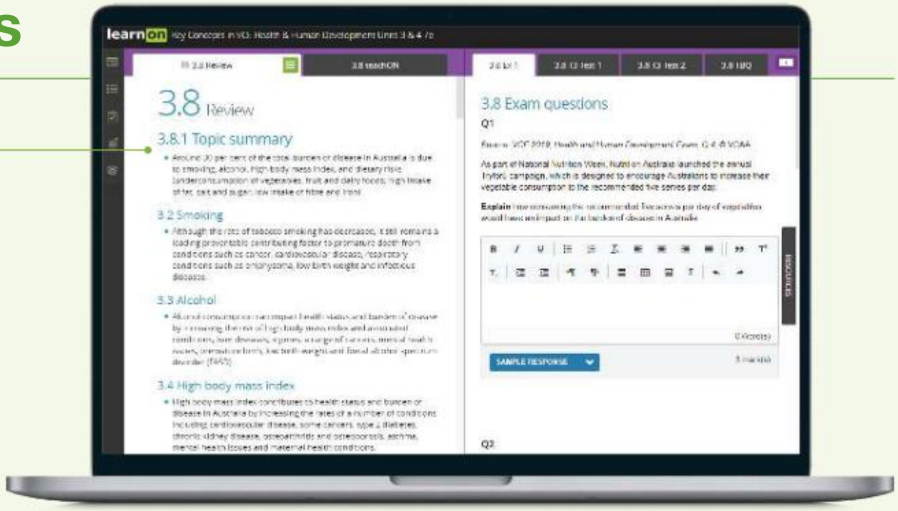
Exam tip boxes provide guidance and advice for VCE Health & Human Development exam success.



Key skills sections unpack every single key skill in the Study Design, with a video to help build skills.

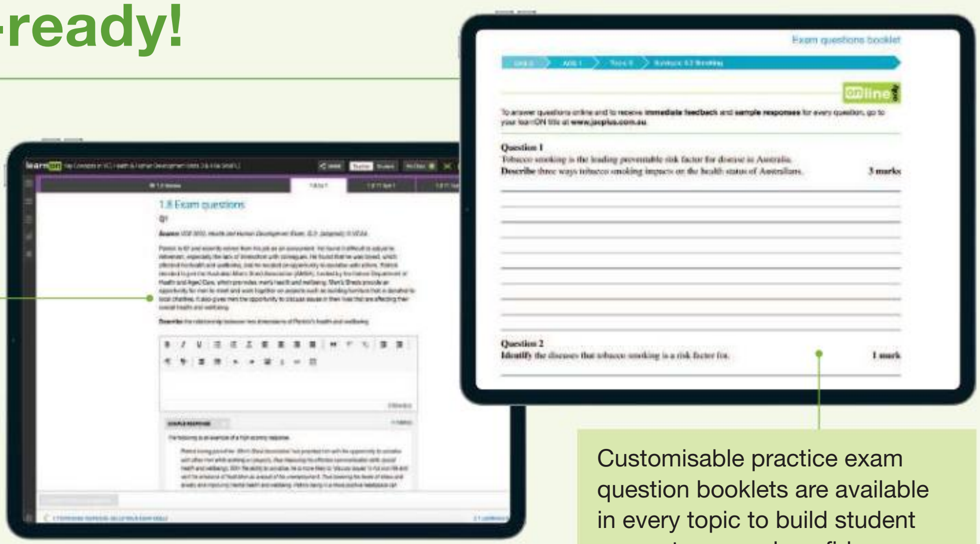
- Scaffolded Extended response modelled example builds skills in every topic.
- Practice Extended response questions in every topic.

Topic reviews



Topic reviews include summaries and topic-level review exercises that cover multiple concepts.

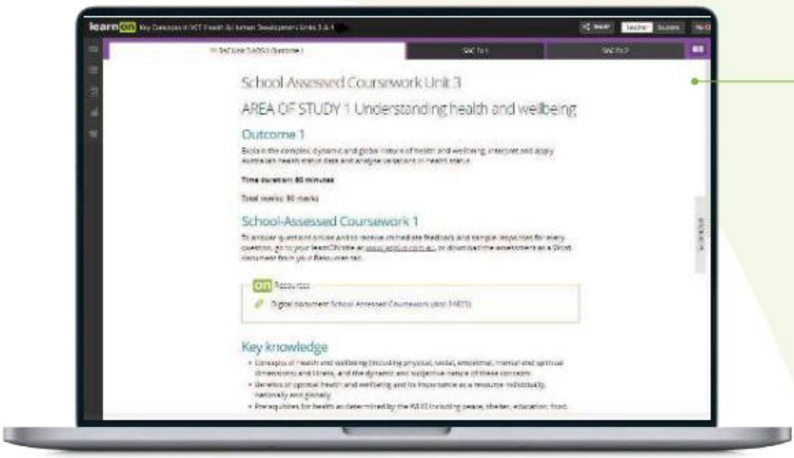
Get exam-ready!



Topic-level review questions include past VCE exam questions.

Customisable practice exam question booklets are available in every topic to build student competence and confidence.

Sample SACs for every Outcome



Sample SACs for every Outcome save time and provide inspiration. Quarantined teacher-only samples are included.

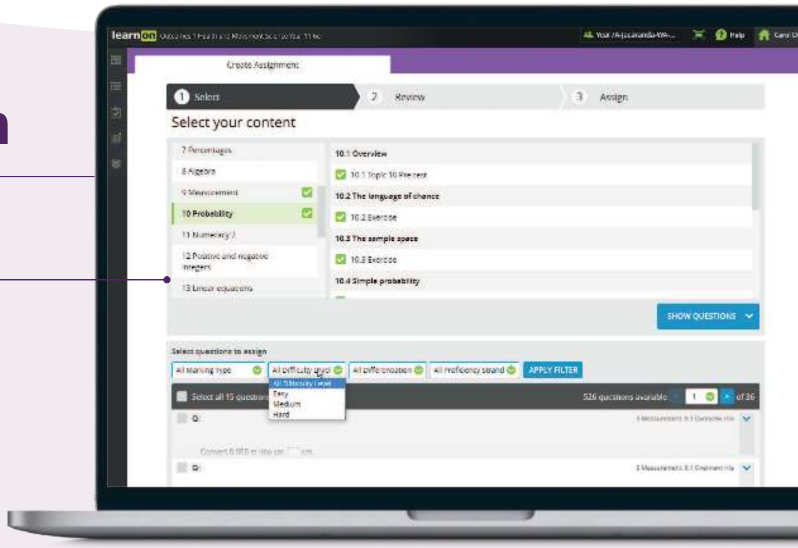
Teaching with learnON

A wealth of enhanced teaching-support resources for every lesson, including:

- work programs
- teaching advice and additional activities
- quarantined topic tests (with solutions)
- custom exam-builder with exam question filter

Customise and assign

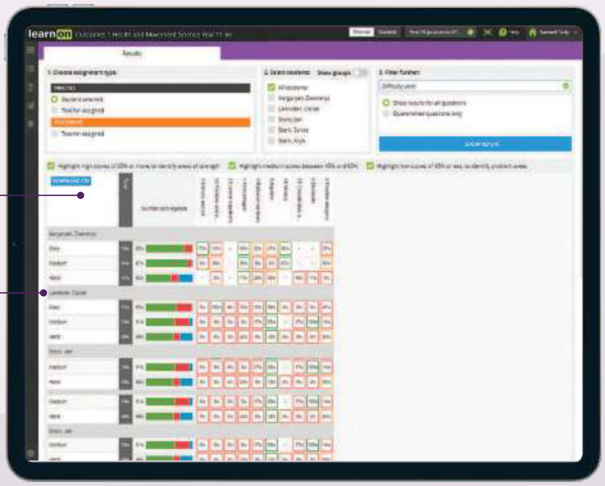
A testmaker enables you to create custom tests from the complete bank of hundreds of questions.



Reports and results

Data analytics and instant reports provide data-driven insights into performance across the entire course.

Show students (and their parents or carers) their own assessment data in fine detail. You can filter their results to identify areas of strength and weakness.



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Meet our author team

Andrew Beaumont

Andrew has been teaching Health and Human Development since its inception and is passionate about promoting teaching and learning in this area. He has been involved in writing many materials including the popular Jacaranda texts, newspaper articles, sample and trial exams, SACs, study guides and course outlines. Andrew has assisted many teachers and students of Health and Human Development, including delivering his well-received preparation and revision sessions for over 15 years for a range of organisations and various teachers' associations. He also runs the Health Teachers' Network, through which he distributes resources on a weekly basis to health teachers around Australia.

Meredith Fettling

Meredith has been involved with VCE Health and Human Development from the beginning and has considerable experience in the study. She has been involved in writing support material, assessment tasks and textbooks and has previously delivered professional development programs to students and teachers. Meredith now retired, was until recently assistant principal at Bendigo Senior Secondary College.

Exam terminology

The following terms are often used in the Health and Human Development exam. Refer back to this list when answering the topic practice exam questions to ensure you understand what each question is asking you to do.

Key term	What does it mean?
Analyse	Examine the components of; look for links, patterns, relationships and anomalies
Apply	Use your knowledge in the given case study/scenario
Assess	Weigh up the value of
Comment	Make relevant remarks about
Compare	Show similarities and/or differences
Contrast	Show differences
Critique	Evaluate in a detailed and analytical way
Define	Give the precise meaning of
Describe	Provide a general description
Discuss	Give an overall account of
Draw conclusions	Make reasoned decisions or judgements
Evaluate	Make a judgement, weigh up the pros and cons
Explain	Make plain, make clear (may require reasons)
How	The way in which something happens
Identify	List, state
Illustrate	Use examples to show understanding
Justify	Give reasons and/or evidence to support a point of view
List	Make brief points
Outline	Give an overview, a brief summary
Suggest	State ideas
To what extent	Describe the degree or level to which a statement, opinion or contention is correct or valid
What	Provide information about something
Why	Give the reason for something

UNIT

3 Australia's health in a globalised world

AREA OF STUDY 1 UNDERSTANDING HEALTH AND WELLBEING

OUTCOME 1

Explain the complex, dynamic and global nature of health and wellbeing, interpret and apply Australia's health status data, and analyse variations in health status.

AREA OF STUDY 2 PROMOTING HEALTH IN AUSTRALIA

OUTCOME 2

Explain changes to public health approaches, analyse improvements in population health over time and evaluate health promotion strategies and initiatives.

1 Concepts of health and wellbeing

LEARNING SEQUENCE

1.1 Overview

	Key knowledge	Key skills	Subtopic
◯	Concepts of health and wellbeing (physical, social, emotional, mental and spiritual dimensions), illness, and the dynamic and subjective nature of these concepts	Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness Describe the relationship between dimensions of health and wellbeing	**1.2, 1.3, 1.4**
◯	Benefits of optimal health and wellbeing and its importance as a resource individually, nationally and globally	Explain the individual, national and global importance of health and wellbeing as a resource	**1.5**

Key terms

chronic condition

communicable diseases

dimensions of health and wellbeing

disease

dynamic

emotional health and wellbeing

equilibrium

health and wellbeing

illness

infirmity

mental health and wellbeing

physical health and wellbeing

social health and wellbeing

spiritual health and wellbeing

subjective

Exam terminology

Describe Provide a general description

Explain Make plain, make clear (may require reasons)

on Resources

Digital document Key terms glossary (doc-41363)

Exam question booklet Topic 1 Exam question booklet (eqb-0245)

1.2 Concepts of health and wellbeing and illness

Key knowledge	Key skill
Concepts of health and wellbeing, illness, and the dynamic and subjective nature of these concepts	Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what health and wellbeing and illness relate to • the dynamic and subjective nature of health and wellbeing and illness.	• explain health and wellbeing and illness • use examples to explain the dynamic and subjective nature of health and wellbeing and illness.

The concepts of 'health and wellbeing' and 'illness' are explored in this subtopic.

1.2.1 What is health and wellbeing?

Understanding the concept of **health and wellbeing** is important for gaining an accurate awareness of the quality of people's lives in Australia. This understanding allows areas for improvement to be identified and targeted. A deep understanding of health and wellbeing will also allow for predictions to be made about the likely effect that introduced strategies and actions will have on the people they are targeting. Health and wellbeing were usually considered separate concepts in the past. In modern society, however, they are often considered together, and refer to the overall state of a person's physical, social, emotional, mental and spiritual existence. Health and wellbeing is characterised by an **equilibrium** in which the individual feels happy, healthy, capable and engaged.

In this subtopic, the terms 'health' and 'wellbeing' will first be explored separately. Once each term is explored and discussed, the concept of 'health and wellbeing' becomes clearer.

health and wellbeing the state of a person's physical, social, emotional, mental and spiritual existence, characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged

equilibrium a state of balance and/or calmness

disease a physical or mental disturbance involving symptoms, dysfunction or tissue damage

infirmity the quality or state of being weak or ill; often associated with old age

In the past, health was often seen as relating to the body (the physical dimension), and more specifically the absence of **disease**. If a person was not sick or in pain, they were seen to be in a good state of health. In 1946, the draft of the World Health Organization (WHO) constitution included the first globally accepted definition of health, which viewed health as a positive concept:

'Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or **infirmity**.'

The World Health Organization (WHO)

When delegates first met to form the United Nations in 1945, establishing a global health body was discussed. The World Health Organization officially came to life in 1948 as the branch of the United Nations concerned with promoting health and wellbeing globally. More than 75 years later, the WHO stands as a global health force offering leadership on global health matters, providing direction for research and technical support to countries, and gathering evidence on and assessment of health trends.

FIGURE 1.1 The WHO headquarters in Geneva, Switzerland

This definition was significant because it was the first time that health had been considered as being more than physical health. It also acknowledged that the absence of disease is only one aspect of health, emphasising that health is a positive concept and not only related to whether a person is sick or not.

Although the WHO definition moved beyond the physical characteristics of health, it was still limiting because it did not give everyone the opportunity to be considered healthy. 'Complete' wellbeing in all dimensions is difficult to achieve and beyond the capacity of most people.

Forty years after this definition was drafted, it was clarified by adding that 'to reach a state of complete physical, mental and social wellbeing, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment'. Being healthy is essential in realising aspirations and satisfying needs and, according to the WHO, 'health is, therefore, seen as a resource for everyday life, not the objective of living'.

FIGURE 1.2 Health and wellbeing moves beyond the physical aspect and includes social, emotional, mental and spiritual health and wellbeing.

The clarification provided by the WHO makes the concept of health more inclusive and achievable. The notion of complete wellbeing is clarified by stating that health is an individual concept and will differ from person to person depending on many factors, such as health outcomes, biological and sociocultural factors, and the environments in which people live.

Although not identified in the original WHO definition, the emotional and spiritual dimensions of health and wellbeing have been increasing focuses of overall health and wellbeing and will therefore also be considered in this subtopic.

The WHO definition of health makes reference to the concept of 'wellbeing'. Wellbeing is related to health and has been used frequently in recent years to describe how well an individual is living. Like health, wellbeing is not just the absence of disease or illness, it is a concept that takes health outcomes into account, but also considers other factors in a person's life, such as happiness and life satisfaction. Wellbeing is sometimes described as how a person feels about themselves and their life.

As health and wellbeing are closely related concepts, they will be considered together in this study and will be taken to refer to the state of a person's physical, social, emotional, mental and spiritual existence. It is characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged (see **FIGURE 1.3**).

Health and wellbeing is dynamic

The health and wellbeing experienced by an individual is **dynamic**, meaning that it is constantly changing. These changes are often gradual and may not be obvious as they are happening. For example, gaining weight, the changing nature of relationships, improvements in self-esteem and developing a sense of purpose in life all relate to health and wellbeing, and often occur over a long period of time. Health and wellbeing can also change quickly. It can be good one moment but then events such as accidents, disease, relationship breakdown and stressful events can alter the state of health and wellbeing rapidly. Health and wellbeing also has the potential to improve quickly. A person with a migraine who is experiencing poor health and wellbeing can rest and possibly take medication that can return them to good health and wellbeing. A person experiencing grief after the loss of a loved one may learn strategies to help them deal with their feelings of loss, which can improve their health and wellbeing.

dynamic continually changing

FIGURE 1.3 Overall health and wellbeing includes the five dimensions of health and how an individual feels about their life.

Health and wellbeing is subjective

In modern times, the concept of health and wellbeing is viewed in many different ways and is therefore said to be **subjective**. Although not being sick is still a fundamental aspect of health and wellbeing for most people, a number of factors influence the way people view health and wellbeing, such as age, fitness, body weight, social networks, income, occupation, education, media and culture. For example:

- The state and functioning of the body often deteriorate over time, so an elderly person may view health and wellbeing as the ability to carry out tasks independently, such as living in their own home, cooking, cleaning, washing, shopping and socialising. As people get older, the absence of disease may be particularly important in relation to health and wellbeing.
- A person with a **chronic condition** may see health and wellbeing in relation to the management of their condition. If their condition is being adequately managed and is having minimal impact on their life, they may see themselves as experiencing good health and wellbeing.
- An elite sportsperson may view health and wellbeing as the absence of sport-related injuries, the ability to train at full capacity, high levels of fitness and the ability to compete at the highest level.
- Parents of young children may view health and wellbeing as a concept related to their ability to function in their job, spend time with their children and provide for their family.
- A Year 12 student may see health and wellbeing as a concept related to their academic performance, sporting participation and physical and social functioning.
- A person living in a community with severe health concerns, such as in an aged care facility or nursing home, might consider themselves in a state of positive health and wellbeing if they are less sick than their peers, even if they have a serious disease or illness.

subjective influenced by or based on personal beliefs, feelings or opinions

chronic condition any disease or condition that lasts a long time (usually longer than six months). These are often incurable and require ongoing treatment and management. Examples include arthritis and asthma.

- Aboriginal and Torres Strait Islander Peoples often relate optimal health and wellbeing to having a strong connection to Country and their cultures and histories (see the following case study on Aboriginal and Torres Strait Islander Peoples' perspectives).

FIGURE 1.4 Health and wellbeing is continually changing and influenced by beliefs, feelings and opinions.

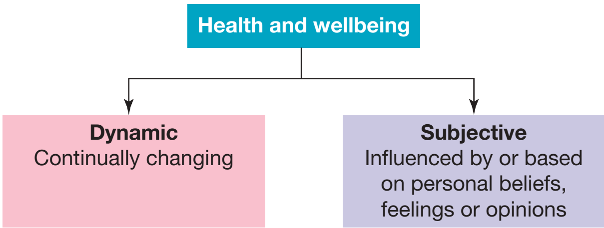
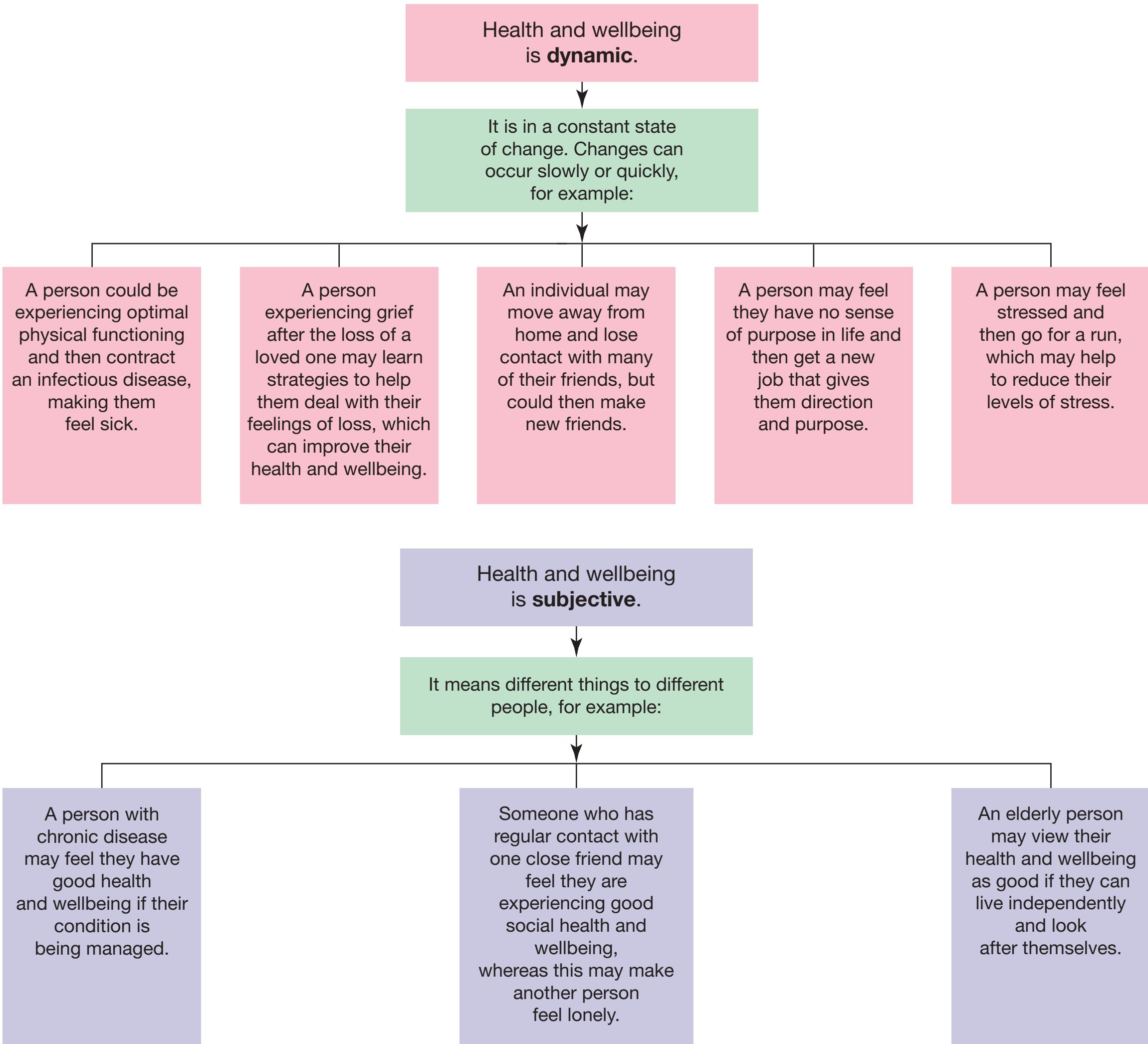


FIGURE 1.5 Health and wellbeing is dynamic and subjective.



CASE STUDY

Aboriginal and Torres Strait Islander Peoples' perspectives on health and wellbeing

The health of the land and the way it is treated are central to Aboriginal and Torres Strait Islander Peoples. Land sustains the lives of Aboriginal and Torres Strait Islander Peoples in every way — socially, culturally, physically and spiritually. The stories that are passed through the generations are connected to the land, and maintaining this connection is essential to ensuring that important knowledge is passed down to future generations. Aboriginal and Torres Strait Islander Peoples' laws and lives originate in and are governed by the land.

Australia's Aboriginal and Torres Strait Islander Peoples continue to manage land and sea resources, as they have for tens of thousands of years. There is archaeological evidence of permanent settlements and farming techniques, with each community having its own territory. These territories or 'traditional lands' are defined by geographic boundaries such as rivers, lakes and mountains. The different environments are understood and cared for.

> *We cultivated our land, but in a way different from the white man. We endeavoured to live with the land; they seemed to live off it. I was taught to preserve, never to destroy.*
>
> Aboriginal Elder Tom Dystra

This knowledge of the land is linked to exceptional knowledge and understanding of Country. Ceremonial events help Aboriginal and Torres Strait Islander Peoples renew their spiritual connection to the land and significant cultural sites.

FIGURE 1.6 The land is particularly important for the health and wellbeing of Aboriginal and Torres Strait Islander Peoples.

Aboriginal and Torres Strait Islander Peoples identify themselves through their Country, their relationship to others and their language and stories, which may be expressed through ceremony, the arts, family, religion, and sports. Cultural heritage is passed on from one generation to the next.

There were about 600 different clan groups or 'nations' around the continent when Europeans arrived, with distinctive cultures and beliefs. Different groups developed different skills and built a unique body of knowledge based on their particular environment.

The system of kinship puts everybody in a specific relationship to each other and forms special relationships with land areas based on their kin. These relationships have roles and responsibilities attached to them.

Kinship influences marriage decisions and governs much of everyday behaviour. By adulthood, people know exactly how to behave, and in what manner, to all other people around them as well as in respect to specific land areas. Kinship is about meeting the obligations of one's community, and forms part of Aboriginal and Torres Strait Islander Peoples' beliefs and values. This is sometimes known as the Dreaming, the English word used to label the systems of beliefs about life, culture and spirituality of Aboriginal and Torres Strait Islander Peoples.

Language is vitally important in understanding the rich cultures and heritage of Aboriginal and Torres Strait Islander Peoples because much of their history is an oral history. Hundreds of languages and dialects exist (although many are now extinct), and language meaning, as well as geographic location, is used today to identify different groups.

Source: Adapted from http://www.australia.gov.au/about-australia/australian-story/austn-indigenous-cultural-heritage

CASE STUDY REVIEW

1. Explain ways that land promotes the health and wellbeing of Aboriginal and Torres Strait Islander Peoples.
2. How does Tom Dystra compare the use of land between Aboriginal and Torres Strait Islander Peoples and other Australians?
3. Discuss how kinship can promote health and wellbeing among Aboriginal and Torres Strait Islander Peoples.

1.2.2 Illness

Illness is a concept that relates to negative aspects of health and wellbeing. Disease is a term that is often associated with illness and, although these concepts are related, they are not the same. According to the Australian Institute of Health and Welfare (2014), 'a disease is a physical or mental disturbance involving symptoms, dysfunction or tissue damage, while illness is a more subjective concept related to personal experience of a disease'. Just as wellbeing relates to how an individual feels about and experiences their health, illness relates to how a person feels about and experiences any disease or injury they have.

Illness is dynamic

Diseases can be physical or mental in nature and can range from mild discomfort to severe pain. Injuries also vary significantly in their severity. Just like health and wellbeing, illness is dynamic because it changes constantly as a person experiences disease or injury. These changes may be rapid and produce obvious changes, such as the breaking of a bone, or occur gradually and may be difficult to notice, such as the healing of a broken bone. Many diseases and injuries follow a particular course and may get worse initially, and then over time often have the potential to improve with treatment and rest, causing levels of illness to change as well. Although some diseases and injuries are chronic, others can come and go, which further demonstrates illness as a subjective concept.

Illness is subjective

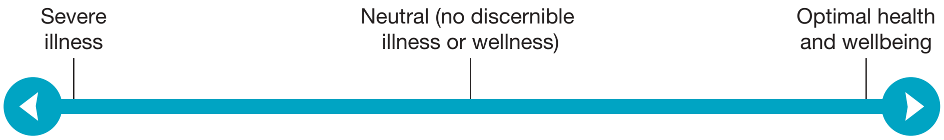
Different people may experience diseases and injuries in different ways. This can affect the level of illness experienced and reflects the subjective nature of this concept. An individual's level of illness may be influenced by a range of factors including the age of the individual, past experiences of disease and injury, their pain threshold and the level of social support they have. For example, a person with a high threshold for pain may experience a lower level of illness than a person with a low threshold for pain, even if their diseases or injuries are the same. A person with low levels of social support and few people to help them through their disease may experience a higher level of illness than a person with adequate social support. Two people with the same disease may experience different levels of illness as a result of their past experiences with disease.

The concepts of health and wellbeing and illness can be considered as a continuum, with severe illness at one end, and **optimal health and wellbeing** on the other (see **FIGURE 1.7**). People in the middle of the continuum would not be experiencing optimal health and wellbeing or severe illness, but would sit somewhere in between.

illness a subjective concept related to personal experience of a disease or injury

optimal health and wellbeing the highest level of health and wellbeing an individual can realistically attain at any particular time, taking into account genetics and the different environments in which people live

FIGURE 1.7 Health and wellbeing and illness can be considered as a continuum.



EXAM TIP

The subjective nature of illness relates to how people experience diseases and injuries, not how they 'feel about diseases'. For example, a person can have strong negative feelings about cancer, even though they may have never experienced it, which does not reflect the subjective nature of illness.

Additionally, differences in the severity of the disease experienced does not accurately reflect the subjective nature of illness. It is about the fact that two people can have the same severity of disease or injury, but still experience them in different ways due to a range of factors such as age, their pain threshold, social support and previous experience with the disease or injury.

1.2 Activities

1. Draw and annotate a picture of a person displaying characteristics of good health and wellbeing. Compare your results with others in the class.
2. Conduct a survey to collect information on what health and wellbeing means to a range of people. Collate your results and prepare a brief report summarising your findings.

1.2 Exercises

1.2 Quick quiz on

1.2 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4, 7	5, 6, 8	9, 10

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Test your knowledge

1. Outline the WHO definition of health. Why might this definition have its limitations?
2. Explain why the WHO definition of health was significant when it was written.
3. Briefly explain what is meant by ‘health and wellbeing’.
4. Identify the five dimensions of health and wellbeing.
5. Describe how health and wellbeing is different from illness.
6. Briefly explain the difference between disease and illness.

Apply your knowledge

7. Devise your own definition of health and wellbeing. Share your results with others in the class.
8. Briefly explain why health and wellbeing and illness can be considered on a continuum.
9. Brainstorm factors that could contribute to different levels of illness experienced by two people with the same disease.
10. Create a graphic summarising the dynamic and subjective nature of illness including appropriate examples. Use the format of **FIGURE 1.5** to guide your response.

1.2 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2013, Health and Human Development, Section B, Q.2.a*; © VCAA

> Men’s Shed is an initiative of the Australian Men’s Shed Association. It has been developed in many local communities across Australia, and it offers men an opportunity to socialise with other men in their community and learn new skills, such as woodworking and the restoration of old furniture.
>
> The Australian Men’s Shed Association is a not-for-profit organisation that is funded by the Federal Government. It is now the largest association in Australia focused on men’s health and wellbeing.
>
> ***Source:*** adapted from http://www.mensshed.org

Outline two ways in which this initiative could improve men’s health and wellbeing.

Question 2 (2 marks)

Explain with an example why health and wellbeing is more than the absence of illness or injury.

Question 3 (2 marks)

List two dimensions of health and wellbeing.

Question 4 (2 marks)

Define ‘health and wellbeing’.

More exam questions are available in your learnON title.

1.3 Dimensions of health and wellbeing

Key knowledge	Key skills
Concepts of health and wellbeing (physical, social, emotional, mental and spiritual dimensions)	• Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness • Describe the relationship between dimensions of health and wellbeing

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the five dimensions of health and wellbeing, including specific characteristics that relate to each.	• describe the five dimensions of health and wellbeing • identify specific characteristics that relate to each dimension • apply the dynamic and subjective nature of health and wellbeing to the five dimensions.

The WHO definition of health acknowledges that there is a range of **dimensions of health and wellbeing** — namely the physical, mental and social dimensions. In recent years, there has been an increased focus on the emotional and spiritual dimensions of health and wellbeing, which will also be considered in this subtopic.

The physical dimension of health and wellbeing is generally the easiest to observe and, as a result, is often the main focus of individuals, groups, government organisations and non-government organisations. Most statistics relating to health and wellbeing also tend to focus on the physical dimension. However, it is important to remember that the physical dimension is only one part of health and wellbeing; as the social, emotional, mental and spiritual dimensions also contribute to a person's overall level of health and wellbeing, they will also be discussed in this subtopic and referred to throughout the remainder of this text.

EXAM TIP

The five dimensions of health and wellbeing are defined in the VCAA document 'Advice for Teachers – Health and Human Development'. The definitions provided are quite detailed and do not necessarily have to be memorised. The definition of each dimension is summarised in the margins of this topic, with the whole definition included as each dimension is discussed. In the exam, the mark allocation should be used as a guide to determine how much detail to include for any question asking for key concepts to be 'defined' or 'explained'.

1.3.1 Physical health and wellbeing

Physical health and wellbeing relates to the functioning of the body and its systems; it includes the physical capacity to perform daily activities or tasks (VCAA, 2024).

Simply 'not being sick' is perhaps the most basic level of physical health and wellbeing, but there are many other aspects of the physical dimension. A person may be free from disease and injury, but may not have enough energy or strength to complete the tasks they need to, or they may be unfit or overweight, all of which relate to physical health and wellbeing. It is only when the whole body and its systems are functioning to the best of their ability that a person can be considered as having optimal physical health and wellbeing.

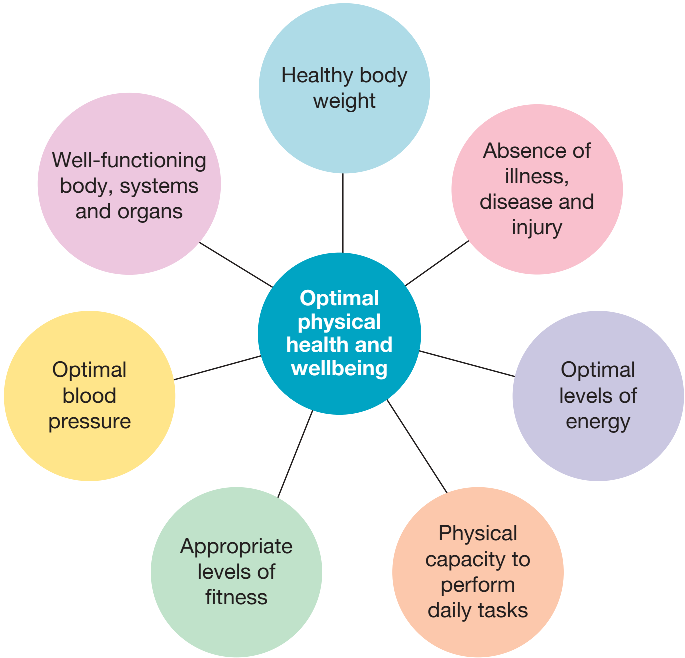
Having a balanced diet, doing regular physical activity and getting enough rest and sleep are all factors that support physical health and wellbeing. Although these factors *promote* physical health and wellbeing, it is important to note that they are not specifically part of the body or its systems and are therefore not considered to be *characteristics* of physical health and wellbeing.

dimensions of health and wellbeing the components that make up an individual's overall health and wellbeing. The dimensions are physical, social, emotional, mental and spiritual.

physical health and wellbeing relates to the state and functioning of the body and its systems; it includes the physical capacity to perform daily activities or tasks

Someone with optimal physical health and wellbeing may demonstrate the characteristics displayed in **FIGURE 1.8**.

FIGURE 1.8 Characteristics of optimal physical health and wellbeing



1.3.2 Social health and wellbeing

Social health and wellbeing relates to the state and quality of the interactions and relationships that an individual has with family, friends and other people. It includes the ability to manage or adapt appropriately to different social situations. It also includes the level of support provided by family and within a community to ensure that every person has equal opportunity to function as a contributing member of the society (VCAA, 2024).

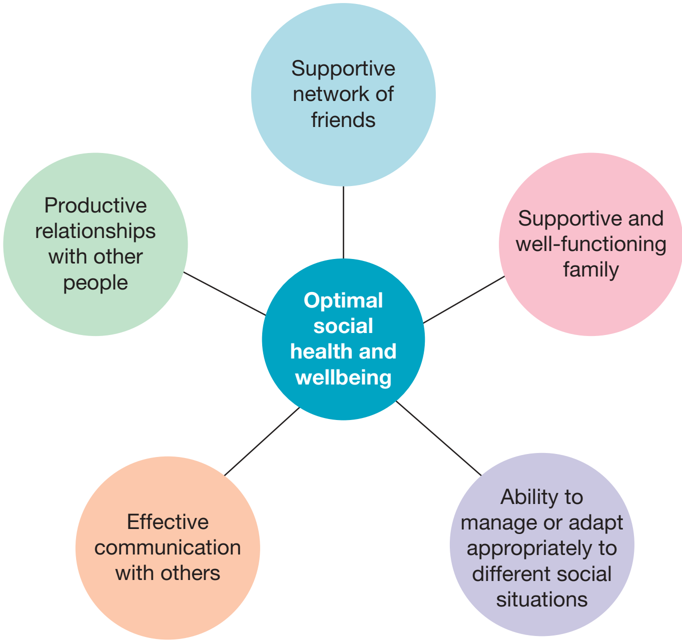
FIGURE 1.9 A supportive network of friends is an aspect of optimal social health and wellbeing.

Humans are social beings and interacting with others is an important aspect of human existence. Sometimes these interactions are positive and add value to life. When an individual has a supportive group of friends, a supportive and well-functioning family and maybe an intimate relationship with another person, their social health and wellbeing is optimal. At other times, such interactions may not be as effective: a person may be in conflict with friends and family, or in the process of breaking up with a partner. Under these circumstances, social health and wellbeing would not be considered optimal. Like all dimensions of health and wellbeing, social health and wellbeing is dynamic, so it will change over time. When optimal social health and wellbeing is not being experienced, there is potential for improvement.

Throughout the course of a typical day, most people will find themselves in a range of social situations, interacting with school friends, family members, employers, coaches and teachers. Being able to effectively adapt to different social interactions by adjusting behaviour and communication enhances social experiences and contributes to higher levels of social health and wellbeing. Characteristics of optimal social health and wellbeing are identified in **FIGURE 1.10**.

social health and wellbeing relates to the state and quality of the interactions and relationships that an individual has with other people. It includes the ability to manage or adapt appropriately to different social situations.

FIGURE 1.10 Characteristics of optimal social health and wellbeing



1.3.3 Emotional health and wellbeing

Emotional health and wellbeing relates to the ability to express feelings in an appropriate way (VCAA, 2024). Emotional health and wellbeing is about the positive management and expression of emotional actions and reactions as well as the ability to display resilience. Emotional health and wellbeing is the degree to which an individual feels emotionally secure and relaxed in everyday life. Characteristics associated with optimal emotional health and wellbeing are identified in **FIGURE 1.11**.

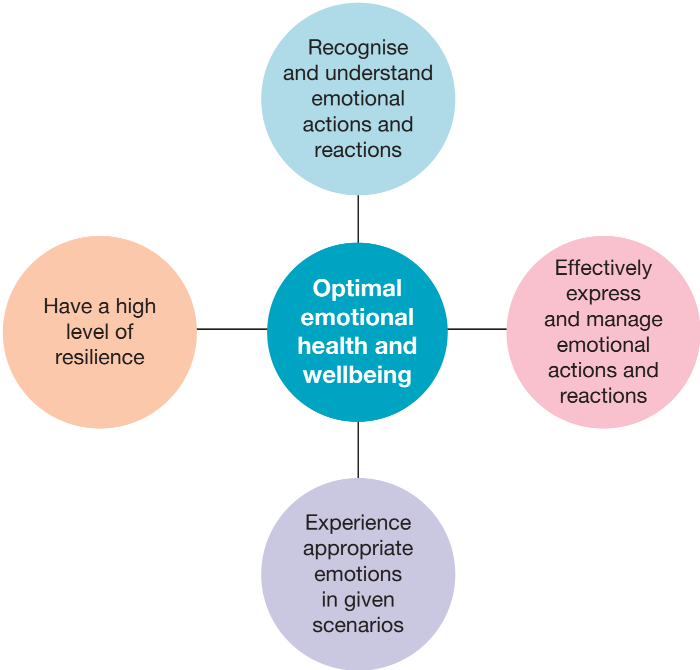
Experiencing a variety of emotions is part of human life. Researchers have identified a range of emotions, including:

- anger
- fear
- sadness
- disgust
- embarrassment
- surprise
- happiness
- excitement
- satisfaction
- amusement.

Although the basic emotions are experienced by most people at some stage in their lives, they often experience them in different ways and in different circumstances. Consider embarrassment. Some people might feel embarrassed in a situation that would not cause embarrassment to others. They might also experience different degrees of embarrassment ranging from slight discomfort to severe anxiety. The situations in which embarrassment is experienced, and the manner in which it is experienced, are often influenced by the individual's level of emotional health and wellbeing.

emotional health and wellbeing relates to the ability to express feelings in an appropriate way. Emotional health and wellbeing is about the positive management and expression of emotional actions and reactions, as well as the ability to display resilience. It is the degree to which an individual feels emotionally secure and relaxed in everyday life.

FIGURE 1.11 Characteristics of optimal emotional health and wellbeing



People rarely experience one emotion on its own and are more likely to experience a mix of emotions. For example, changing schools as a child might trigger emotions ranging from excitement to anxiety. These emotions can exist at the same time or occur one after the other. An emotionally healthy individual would recognise these emotions and be able to manage them effectively.

Recognising and responding to emotions

The manner in which people recognise and respond to the emotions they experience can either promote or detract from their overall health and wellbeing. When an individual can accurately identify the emotion experienced, acknowledge why they are feeling a certain way, and act on the emotion in a responsible and mature manner, emotional health and wellbeing is said to be optimal. This does not mean that the individual only experiences positive or desirable emotions such as happiness and amusement. Emotions such as anger, sadness and fear are an important part of life and are appropriate in many scenarios. They can assist in identifying aspects of life that require attention. Research shows that experiencing and accepting such emotions is vital to our overall health and wellbeing, and trying to block these emotions can actually contribute to poor health and wellbeing. However, if these emotions become excessive, irrational, distressing or interfere with daily activities, emotional health and wellbeing can be adversely affected.

Resilience

Resilience relates to the ability to effectively deal with adverse or negative events and the associated emotions that occur throughout life. Such events include the death of a loved one, relationship breakdown, conflict with family and friends, financial stress and job loss. When these events occur, it is natural to experience a range of negative emotions. A resilient individual will recognise, process, acknowledge and respond to these emotions effectively, which assists in recovering from negative experiences. An individual's level of resilience can fluctuate over time and is influenced by a range of factors including levels of stress and social support. Having high levels of resilience is a key component of optimal emotional health and wellbeing.

FIGURE 1.12 Humans experience a range of emotions. When they are experienced at appropriate times, emotional health and wellbeing is more likely to be optimal.

1.3.4 Mental health and wellbeing

Mental health and wellbeing is the current state of wellbeing relating to the mind or brain and includes the ability to think and process information (VCAA, 2024). It includes thought patterns, self-esteem and levels of stress and anxiety. The human mind is a complex thing, and is what sets us apart from other animals. The way the mind functions determines mental health and wellbeing. When stress levels are low and a person feels relaxed and positive about themselves and life, mental health and wellbeing can be said to be optimal. Conversely, if a person is stressed and experiencing negative thought patterns about themselves, others, or the world in general, mental health and wellbeing may not be optimal.

Mental disorders are often associated with poor mental health and wellbeing, but these concepts are not the same. Mental disorders relate to conditions that significantly impact thought processes and mental functioning, such as depression and anxiety. Mental health and wellbeing relates to the overall functioning of the mind and can be positive or negative. All people have a level of mental health and wellbeing, whereas only some people have a mental disorder. Mental disorders have the potential to contribute to high levels of illness if they are not managed appropriately.

mental health and wellbeing the current state of wellbeing relating to a person's mind or brain and the ability to think and process information. It includes thought patterns, self-esteem and levels of stress and anxiety.

Stress and anxiety

Stress relates to the mental tension individuals experience when they feel they do not have the resources to deal with the situations they find themselves in. These resources can include time, money, skills and ability, knowledge and social support. Everyone experiences stress from time to time. In small amounts, stress can be beneficial for helping people achieve their goals and to stay motivated. However, high levels and/or extended periods of stress can harm health and wellbeing by:

- reducing immune system function. Cortisol (often referred to as 'the stress hormone') can reduce immune system function over time, which can in turn increase the risk of disease.
- interrupting sleep patterns and contributing to low levels of energy in the waking hours
- increasing the risk of depression and anxiety
- increasing risk-taking behaviours such as alcohol misuse, smoking and vaping, which can contribute to impacts on physical health and wellbeing by leading to weight gain and reduced levels of fitness.

FIGURE 1.13 Stress levels contribute significantly to the overall level of mental health and wellbeing experienced.

Anxiety relates to intense worry or fear about future events. Like stress, everyone experiences anxiety from time to time and, in small amounts, it can be helpful in completing tasks such as studying for a SAC or meeting a deadline at work. When anxiety is excessive for the given situation, it can harm health and wellbeing by interrupting sleep patterns, impacting concentration and causing avoidance of everyday activities or requirements, such as socialising or making necessary appointments.

Self-esteem and confidence

Self-esteem refers to how people feel about themselves. Having positive self-esteem means that people feel good about themselves. Self-esteem influences behaviour; those with positive self-esteem are more likely to speak their mind and act independently and responsibly.

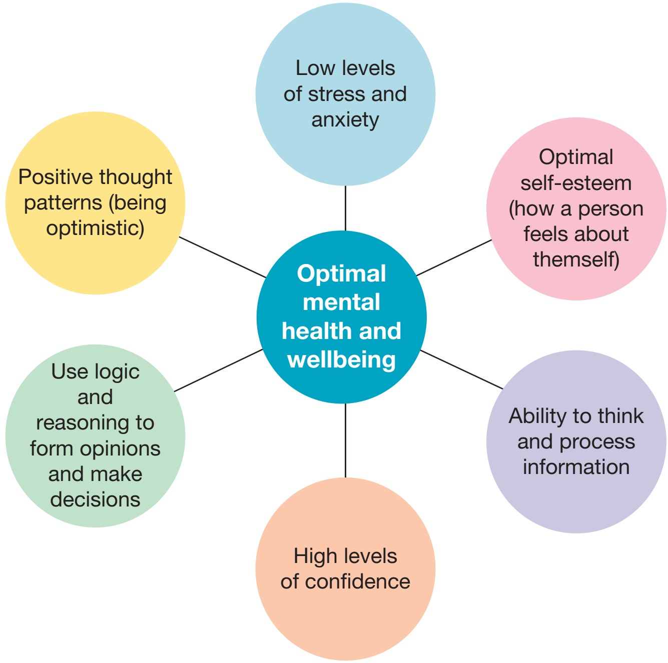
Confidence relates to believing in one's own worth and ability to succeed. Having confidence can help people accept challenges, such as volunteering to give a speech or trying out for a sports team, and increase their chances of success because they are not concentrating on failure.

Individuals may have different levels of confidence in different aspects of their lives. Although it is often based on past experiences, confidence can change rapidly as a result of factors such as one's personal appearance or comments made by others.

Thought patterns are often referred to as one's 'frame of mind' and relate to the attitude a person has regarding their thoughts and the situations in which they find themselves. Positive thought patterns help individuals in navigating day-to-day life and dealing with any challenges that present. Negative thought patterns, on the other hand, can cause individuals to focus on negative aspects of situations even if the negative aspect is a relatively minor part of the whole situation. This can increase levels of stress and anxiety and contribute to negative self-esteem. For example, Year 12 students who do not get the ATAR they were hoping for can look at the situation in a number of different ways. One person might think 'I will still find a course I will enjoy', whereas another might think 'My career will be completely ruined now'. Like all aspects of health and wellbeing, thought patterns often change over time and can even change over the course of a single day.

As with the other dimensions of health and wellbeing, there are a number of characteristics relating to the optimal mental health and wellbeing experienced by an individual. These are summarised in **FIGURE 1.14**.

FIGURE 1.14 Characteristics of optimal mental health and wellbeing



What is the difference between emotional and mental health and wellbeing?

Although emotional and mental health and wellbeing are related, they are not the same. Emotional health and wellbeing relates to appropriately experiencing, identifying and managing emotions, whereas mental health and wellbeing relates to the nature of feelings and thoughts that a person is having. Good emotional health and wellbeing does not mean that emotions and feelings are always positive. In fact, experiencing only positive emotions and feelings can indicate that emotional health and wellbeing is not optimal. As humans, we all experience negative events which can, and should, cause us to experience negative emotions and feelings. During these times, mental health and wellbeing may not be optimal, but if the emotions and feelings experienced are appropriate for the given situation, emotional health and wellbeing can be considered positive.

Experiencing stress is an aspect of mental health and wellbeing, but the manner in which the individual recognises and deals with the associated emotions relates to emotional health and wellbeing. For example, the stress of the loss of a loved one is an event that often causes mental health and wellbeing to be impacted in a negative way. The person may feel sad and experience grief. An emotionally healthy person can identify and acknowledge these feelings and manage them appropriately.

'Emotions' and 'mood' are two terms that are often interpreted as meaning the same thing, but they are distinct concepts. Emotions usually relate to emotional health and wellbeing, and moods often relate to mental health and wellbeing. Emotions are often experienced in the short term, but they can be intense. Emotions are also likely to have a distinct and identifiable cause, such as a disagreement with a friend, the loss of a loved one, experiencing success at school or being around people who make you happy. Mood is more closely related to mental health and wellbeing, and is usually milder than an emotion but longer lasting. In many cases, the cause of a mood is difficult to identify. For example, a person might feel particularly gloomy or optimistic for a number of days without any specific reason.

1. Using examples, explain the difference between mental and emotional health and wellbeing.
2. Does optimal emotional health and wellbeing mean never feeling sad or down? Explain.

1.3.5 Spiritual health and wellbeing

Spiritual health and wellbeing relates to ideas, beliefs, values and ethics that arise in the minds and conscience of human beings (VCAA, 2024). This includes concepts of hope and peace, a sense of meaning, place and purpose in life, and a sense of connection and belonging to the world in which you live.

spiritual health and wellbeing relates to ideas, beliefs, values and ethics that arise in the minds and conscience of human beings. It includes the concepts of hope, peace, a guiding sense of meaning or value, and reflection on your place in the world.

A connection to an organised religion or faith in a higher power and prayer can support spiritual health and wellbeing, but so too can activities such as meditation, taking time for relaxation, connection and belonging and spending time in the outdoors.

A sense of belonging is a human need that occurs when a person feels like a member or a part of the society or world in which they live. Belonging assists in seeing value in life and can help in dealing with painful experiences. Individuals who have a sense of belonging realise that everyone goes through hard times and that they are not alone. They are also more likely to feel supported in times of need. When individuals feel that they are connected to others and to the world in general, they are more likely to find positive aspects in negative events and deal with these situations in a more positive manner. Many people join clubs or organisations to help satisfy the need to belong, but this can also occur in informal ways, such as friendship groups and daily interactions with others. All people can make a difference to the world they live in and doing this promotes feelings of belonging. People often find a sense of belonging in a range of different settings, including family, friendship and volunteer groups, sporting and social clubs, the workplace, school, and places of worship (such as a temple, church, mosque or synagogue).

Values and beliefs

Establishing values and beliefs is a key component of spiritual health and wellbeing. Values relate to what an individual feels is important in life, and can include valuing family connections or freedom of speech. Beliefs relate to what an individual feels to be true or right, even though the belief may be unproven, such as the belief in life after death. Examples of values and beliefs are shown in **TABLES 1.1** and **1.2**. Both values and beliefs guide the behaviours of individuals and influence the decisions they make. For example, if a person values physical fitness they may be less likely to binge-drink or overconsume unhealthy foods. Living according to one's values and beliefs can assist in promoting a sense of satisfaction with life.

TABLE 1.1 Examples of values

Values
Education
Tidiness
Fitness
Listening
Acceptance
Creativity
Career success
Wealth
Manners
Appearance
Fun
Socialisation

TABLE 1.2 Examples of beliefs

Beliefs
God exists.
The mind can cure the body.
All people are created equal.
The planet is a resource to be used for human gain.
There is life after death.
Heaven exists.
It is wrong to steal.
Animals have rights.
Immigration should be encouraged.
People evolved through evolution.
Wealth should be shared equally.
Success is achieved through hard work.

Finding meaning and purpose in human existence and determining what is meaningful in our own lives are related to values and beliefs, which are key characteristics of spiritual health and wellbeing. Meaning and purpose relate to an individual's sense of who they are and why they were born. Throughout history, humans have asked themselves what are sometimes referred to as 'life's ultimate questions', including:

- Who am I?
- Why am I here?
- What is the meaning of my life?

Although these questions may not be asked specifically or consciously, they form the basis by which people decide what they value and what they want to do and achieve in their life. The answers to these questions formulate an individual's meaning and purpose in life. Examples of purpose include:

- to tear down the walls that separate people who have significant disabilities from people who are able-bodied
- to speak up for the rights of all living creatures to ensure that all can live in harmony
- to assist children in realising their true potential by challenging them and encouraging them to be their best
- to create music that brings joy to people from all walks of life.

FIGURE 1.15 Peace and harmony are characteristics of spiritual health and wellbeing, and they can be promoted by practices such as yoga and meditation.

Peace and hope are often characteristic of positive spiritual health and wellbeing. Accepting that we cannot control all that happens in our life, and looking for positives in all situations, can contribute to a level of health and wellbeing that helps people to deal more effectively with misfortune.

Many people associate religion with spirituality. Religion provides a structured and organised form of spirituality, but spirituality exists for many people without connection to an organised religion. Characteristics of optimal spiritual health and wellbeing are shown in **FIGURE 1.16**.

FIGURE 1.16 Characteristics of optimal spiritual health and wellbeing

EXAM TIP

When linking to a dimension of health and wellbeing, ensure a link is made to a specific characteristic of the dimension. For example, if explaining how income can influence physical health and wellbeing, you will be required to link to a specific part of this dimension:

> Earning a decent income can mean that individuals have money for resources such as nutritious food. This increases the ability of people to consume a healthy diet, which promotes a healthy body weight and provides optimal levels of energy.

Although food intake will influence physical health and wellbeing, it is not a characteristic of this dimension. If a specific link is not made to a characteristic of physical health and wellbeing, such as body weight or levels of energy, full marks cannot be awarded.

1.3 Exercises

1.3 Quick quiz on

1.3 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2	3, 4	5

Test your knowledge

1. Define the five dimensions of health and wellbeing. Give two examples of characteristics that relate to each.
2. Classify each of the following examples as a physical, social, emotional, mental or spiritual dimension of health and wellbeing.
   a. A sense of belonging to a community group
   b. Having an asthma attack
   c. Positive thought patterns
   d. Recognising the difference between embarrassment and anxiety
   e. Experiencing productive relationships with schoolmates
   f. Having adequate levels of energy
   g. Experiencing positive self-esteem
   h. Having effective communication with others
   i. Experiencing sadness at appropriate times
   j. Establishing and acting according to values and beliefs

Apply your knowledge

3. 'Religion and spirituality are the same thing.' Discuss this statement.
4. Brainstorm the range of factors that you feel influence your own level of health and wellbeing. Remember that health and wellbeing is not just physical.
5. 'Physical health and wellbeing is the most significant dimension of health and wellbeing.' To what extent do you agree with this statement?

1.3 Exam questions

Question 1 (3 marks)

Source: Adapted from *VCE 2021, Health and Human Development Exam, Q.1.a. i, ii* © VCAA

Lucy is 17 years old and lives with her parents, her two younger brothers and her grandmother. Lucy also has a large extended family of aunts, uncles and cousins who get together regularly. Lucy trains with her netball team twice a week and plays in competitions every Saturday.

a. Apart from physical activity, **identify** one factor that has an impact on physical health and wellbeing. **1 mark**

b. **Describe** how the factor identified in **part a** supports optimal health and wellbeing. **2 marks**

Question 2 (1 mark)

Source: *VCE 2017, Health and Human Development Exam, Q.4.b*; © VCAA

Consider the following information regarding a VicHealth project.

> **Victorian workplace mental wellbeing collaboration**
> VicHealth, SuperFriend and WorkSafe Victoria have formed a collaboration to help workplaces create positive and supportive cultures and environments that enable workers to be more engaged, positive and effective at work.
>
> Victorian workers spend around one-third of their time in the workplace and the work environment can provide a positive sense of community and connection with others, as well as build self-esteem and provide recognition and rewards for individual workers and teams.
>
> Approaches such as developing a positive leadership style, designing jobs for mental wellbeing, communicating effectively, recruitment and selection of employees, work-life demands, and supporting and developing employees are all important components of workplace mental wellbeing.
>
> ***Source:*** © Victorian Health Promotion Foundation; source material available at <www.vichealth.vic.gov.au>

Outline one potential social health outcome of the project described above.

Question 3 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.2.a*; © VCAA

Describe the mental dimension of health and wellbeing.

Question 4 (1 mark)

Source: Adapted from *VCE 2014, Health and Human Development Exam, Q.1.b*; © VCAA

Define 'physical health and wellbeing'.

Question 5 (3 marks)

In a recent survey of doctors on reasons for not retiring in the near future, it was found that more than a third of doctors over 55 did not intend to retire, due to the following reasons:

- the sense of purpose the job provided
- being free from significant illness or disease
- having fulfilling professional interactions with others
- the cognitive stimulation of being a doctor.

Identify an example relating to each of physical, spiritual and social health and wellbeing from the survey. **Justify** your choice.

More exam questions are available in your learnON title.

1.4 The relationships between dimensions of health and wellbeing

Key knowledge	Key skill
Concepts of health and wellbeing (physical, social, emotional, mental and spiritual dimensions), illness, and the dynamic and subjective nature of these concepts	Describe the relationship between dimensions of health and wellbeing

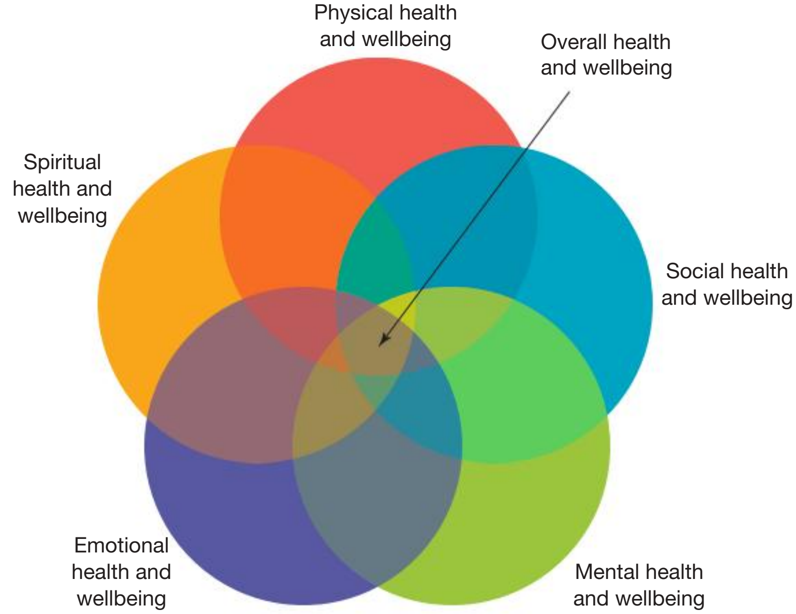
You need to know:	You need to be able to:
• how the five dimensions of health and wellbeing can affect each other.	• make meaningful links between the five dimensions of health and wellbeing • use case studies and other stimulus material to predict potential impacts on the five dimensions of health and wellbeing.

The five dimensions of health and wellbeing are related; that is, a change in one dimension can contribute to changes in the other dimensions. Although they will not all be affected in the same way or to the same degree, a change in one will usually have some effect on the other four. For this reason, all five dimensions need attention in order to achieve optimal health and wellbeing.

Overall health and wellbeing is determined by the combined levels of health and wellbeing in the five dimensions as shown in **FIGURE 1.17**. Each circle represents a dimension of health and wellbeing. They all influence each other and all combine to produce the overall level of health and wellbeing experienced.

When all five dimensions are as good as they can be, health and wellbeing is said to be optimal. Optimal health and wellbeing therefore refers to the highest level of health and wellbeing an individual can realistically attain at any particular time. However, everyone is born with a different genetic potential and is influenced by different environments. As a result, every individual's level of optimal health and wellbeing will be different.

FIGURE 1.17 The five dimensions of health and wellbeing are related, therefore, a change in one can lead to changes in the other four.



Exactly how do the dimensions of health and wellbeing affect each other? It is impossible to state exactly how an individual's health and wellbeing will be affected by a particular event because everyone is unique and each situation is different. We can, however, predict *possible* effects on health and wellbeing.

It is useful to explore the manner in which the five dimensions of health and wellbeing can influence each other. **TABLE 1.3** shows a mix of both positive and negative impacts on health and wellbeing, but remember that the impact on each dimension will largely depend on the individual and scenario in question. It is also possible to explore the potential impacts on the five dimensions of health and wellbeing in one particular scenario. Consider a person who has suffered a broken leg (physical health and wellbeing) and is recovering in hospital. While in hospital and during the recovery phase, their health and wellbeing could be affected in numerous ways:

- Physical health and wellbeing:
  - might not be able to exercise, so fitness levels reduce
  - could gain weight as physical activity levels decrease
  - immune and other body systems might be affected by the food given in hospital (this could have positive or negative effects on health and wellbeing, depending on what the diet was like before)
- Social health and wellbeing:
  - might make new friends in hospital
  - might get a lot of visits from family members they would not normally see
  - will not be able to socialise and interact with friends at school and during leisure time
- Mental health and wellbeing:
  - might be depressed about missing out on socialising with friends and family
  - might experience negative thought patterns if they feel like they are a burden on their family
- Emotional health and wellbeing:
  - could experience a range of emotions including frustration or feelings of loneliness and respond to these emotions appropriately
  - might be happy or sad to miss out on school and recognise these emotions accurately
  - might learn to deal with any negative emotions they are experiencing, therefore developing resilience
- Spiritual health and wellbeing:
  - might feel supported by family and friends, which can promote a sense of belonging and connection to the world around them
  - might accept that some aspects of life are out of their control, promoting a sense of peace and harmony.

FIGURE 1.18 This individual's social, emotional, mental and spiritual health and wellbeing may be affected by their physical health and wellbeing.

TABLE 1.3 How the five dimensions of health and wellbeing can influence each other

	Physical	Social	Mental	Emotional	Spiritual
Physical		When an individual has adequate levels of energy, they are physically able to participate in activities with friends, which can enhance relationships.	An individual who is fit and physically capable of carrying out daily tasks is more likely to feel good about themselves and have positive self-esteem.	An individual who is sick may experience emotions such as fear and anger and respond appropriately to these emotions.	A person who is physically fit is more able to participate in community activities, which can enhance feelings of belonging.
Social	Strong social networks have been shown to reduce smoking rates and obesity, which can reduce the risk of many conditions including cardiovascular disease.		Having a close network of friends allows people to share problems with others, which can reduce stress.	Close social bonds allow individuals to be themselves and share their emotions which can assist others in responding appropriately.	When a person has social bonds, they are more likely to feel connected to the world in which they live.
Mental	Stress can lower immune system function and increase the risk of infectious diseases.	If a person is optimistic, they are more likely to interact in a positive way with friends and family, developing stronger relationships.		When using logic and reasoning, an individual may be better able to think clearly and fairly judge the emotions they are experiencing.	Stress is characterised by excessive self-focus. When an individual is focusing on themselves, they are less likely to feel connected to their community.
Emotional	If an individual can recognise that they are feeling sad and is taking action to deal with this, they are more likely to participate in their normal activities, such as exercise.	An individual who can express their emotions can share their feelings with friends, which can promote deeper, more meaningful friendships.	If an individual can process emotions effectively, they may feel better about themselves, which enhances self-esteem.		Experiencing appropriate emotions (both positive and negative) can assist in a person feeling connected to their world and the events that occur in it.
Spiritual	When an individual has purpose in life, they are more likely to take care of themselves physically so they can fulfil their purpose.	If an individual feels connected to their society, they are more likely to treat people fairly, which can enhance relationships.	Believing that life has a positive meaning and purpose can enhance self-esteem and a sense of optimism.	If a person acts according to their values and beliefs, they may feel more comfortable with the emotions they experience throughout life.	

In the examples given, not all of the effects on health and wellbeing are negative. Sometimes a negative event can produce positive effects on one or more of the dimensions of health and wellbeing. You may have noticed that there is a range of effects on the various dimensions of health and wellbeing. It is also important to note that the effect on health and wellbeing will not always have a physical cause. For example, a relationship breakup (non-physical cause) can lead to a loss of appetite, which can influence energy levels (physical health and wellbeing). If the newly single individual used to spend a lot of time with their partner's friends, they may now have to find a new group of friends (social). The person may experience a loss of confidence and doubt their own worth (mental). They may experience emotions such as loss, loneliness and anger (emotional). The groups in which they feel they belong may change (spiritual).

EXAM TIP

When you are asked to show a relationship between two dimensions of health and wellbeing, it is essential that a meaningful link is shown between specific aspects of each dimension. For example, there is a relationship between stress (mental health and wellbeing) and infectious disease (physical health and wellbeing), but simply stating that this relationship exists is not showing the level of understanding required. You need to explain *why* this relationship exists. Example 1: stress increases cortisol, which reduces immune system function over time increasing the risk of infectious diseases.

You can visualise this process by using a flowchart:

High levels of stress (mental) → leads to high levels of cortisol in the body. Cortisol is a hormone that can reduce immune system function over time, → which increases the risk of infectious diseases (physical).

Start with a specific aspect of the first dimension.

Include the 'story' or 'link' — this is the statement that provides a meaningful link between the two dimensions.

End with a specific aspect of the second dimension.

Example 2: Being educated means that the individual is more likely to understand the benefits of regular physical activity and will therefore exercise regularly. Regular physical activity promotes levels of fitness, which is an aspect of physical health and wellbeing. Being fit can enhance self-esteem, which promotes mental health and wellbeing. Optimal self-esteem can mean that the individual is less likely to avoid social situations, which can promote relationships and improve social health and wellbeing.

The following case study about Sandy looks at the effect of excessive stress on health and wellbeing.

CASE STUDY

Sandy's story

Sandy is a 26-year-old accountant who works for a large corporation in the city. She has many responsibilities and generally copes with these very well. Recently, she was given a large contract to work on. The demands of the contract are substantial, and her work life has begun to dominate her free time as well as her working hours. Sandy has been feeling more stressed at work. Despite this, she has felt good about herself for being trusted to work on this contract.

Sandy has found that she has had to cut back on her social activities and other things she enjoys, such as being a part of the local netball club and spending time with her family. Missing such interactions has made her feel disconnected and sad at times, but she has been able to manage these emotions. She has also reduced the amount of time spent at the gym and preparing healthy meals, which has caused her to gain some weight.

CASE STUDY REVIEW

1. Identify one example from Sandy's story that relates to each dimension of health and wellbeing.
2. For each dimension, identify how Sandy's health and wellbeing might have recently changed and justify your response.
3. Explain how the dimensions of health and wellbeing may be related in Sandy's case.

1.4 Exercises

1.4 Quick quiz on | 1.4 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2	3, 4	5, 6, 7

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Test your knowledge

1. Discuss what it means when the dimensions of health and wellbeing are said to be related.
2. Explain what is meant by 'optimal health and wellbeing'.

Apply your knowledge

3. Brainstorm reasons why every person has a different level of optimal health and wellbeing.
4. Either on your own or with a partner, brainstorm ways in which:
   a. physical health and wellbeing could affect social, emotional, mental and spiritual health and wellbeing
   b. social health and wellbeing could affect physical, emotional, mental and spiritual health and wellbeing
   c. mental health and wellbeing could affect physical, social, emotional and spiritual health and wellbeing
   d. emotional health and wellbeing could affect physical, social, mental and spiritual health and wellbeing
   e. spiritual health and wellbeing could affect physical, social, emotional and mental health and wellbeing.
5. Use the following examples to identify how two dimensions of health and wellbeing can affect each other (i.e. show how each of the two dimensions can affect each other).
   a. Earning an income
   b. Contracting influenza (the flu)
   c. Having a close group of friends
   d. Feeling like a part of a community group
   e. Having positive thought patterns and an optimistic outlook on life
6. 'When a person experiences a negative event (such as a relationship break-up), all the impacts on the various dimensions of health and wellbeing will be negative.' To what extent do you agree with this statement?
7. Use the following scenarios to identify relationships between two dimensions of health and wellbeing.
   a. Billy has just broken up with his first serious girlfriend and is feeling very sad.
   b. Tammy loves playing cricket. In her last match, she collided with a teammate in the field and broke her leg. As a result, she will miss the rest of the season.

1.4 Exam questions

Question 1 (2 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.1.b;* © VCAA

Lucy is 17 years old and lives with her parents, her two younger brothers and her grandmother. Lucy also has a large extended family of aunts, uncles and cousins who get together regularly. Lucy trains with her netball team twice a week and plays in competitions every Saturday.

Using an example from the information above, **describe** the relationship between Lucy's social health and wellbeing and her spiritual health and wellbeing.

Question 2 (2 marks)

Describe how mental health and wellbeing may relate to social health and wellbeing.

Question 3 (2 marks)

Describe how spiritual health and wellbeing may relate to mental health and wellbeing.

Question 4 (1 mark)

Having enough energy every day enables an individual to engage in activities with their friends, which can enhance their relationships. Quality relationships can give an individual more people to play social sports with, which can improve levels of fitness.

Identify the dimensions of health and wellbeing shown to be related in this example.

More exam questions are available in your learnON title.

1.5 Optimal health and wellbeing as a resource

Key knowledge	Key skill
Benefits of optimal health and wellbeing and its importance as a resource individually, nationally and globally	Explain the individual, national and global importance of health and wellbeing as a resource

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• aspects of optimal health and wellbeing relating to the five dimensions of health and wellbeing • how aspects of optimal health and wellbeing provide benefits by acting as a resource for individuals, countries and the world.	• make meaningful links from aspects of optimal health and wellbeing relating to the five dimensions of health and wellbeing to benefits for individuals, countries and the world.

In 1986, the World Health Organization stated that to reach an optimal level of health and wellbeing 'an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health (and wellbeing) is, therefore, seen as a resource for everyday life, not the objective of living'.

With this in mind, it becomes clearer that health and wellbeing is both a resource and an outcome. As a resource, optimal health and wellbeing can provide benefits for individuals, countries and the world as a whole.

on Resources

Teacher-led video Health and wellbeing as a resource (tlvd-0255)

1.5.1 Benefits of optimal health and wellbeing and its importance as a resource individually

Similar to other traits, such as knowledge, social skills and creativity, health and wellbeing is a characteristic of human existence. Like these traits, health and wellbeing can be used to improve human life, but cannot be directly traded or sold for goods and services.

FIGURE 1.19 Optimal health and wellbeing increases the ability of people to live independently, which further enhances health and wellbeing by giving people a sense of control over their lives.

On a basic level, optimal health and wellbeing reduces the risk of disease, injury and premature death. The Australian Institute of Health and Welfare (2023) estimates that 5.6 million years of healthy life were lost in Australia in 2023 from either premature death or time lived with disease or injury.

As a result of reducing the risk of premature death, disease and injury, optimal health and wellbeing increases the ability of individuals to live free from pain and concentrate on activities that improve their lives, such as studying, working and socialising. Optimal health and wellbeing also decreases stress and anxiety and promotes positive emotions such as happiness.

Being healthy can improve quality of life and assist in creating a cycle of wellbeing. It allows individuals to work more effectively and improve their lives, which in turn promotes health and wellbeing. The individual may experience an increased ability to participate in health-promoting activities and behaviours, such as:

- sleeping well
- living independently
- working towards their purpose in life
- maintaining a nutritious diet
- exercising regularly
- effectively running a household
- taking time for social and leisure activities.

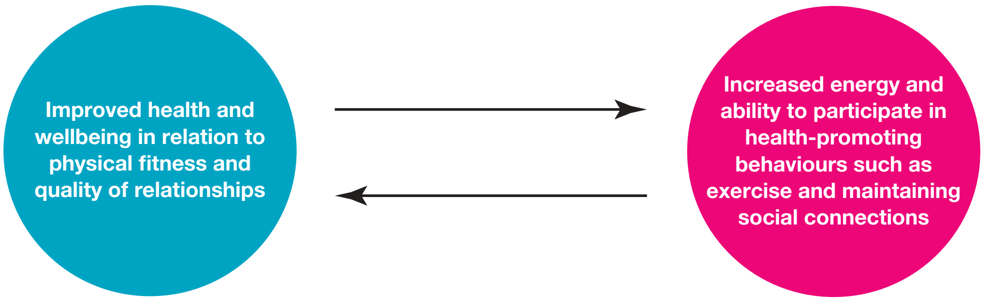
As a result of this, the individual is more likely to view life in a positive manner and can live life to the highest level possible.

Optimal health and wellbeing also reduces healthcare costs for individuals. Disease and injury can incur significant health-related costs such as doctor's consultations and medication, and individuals are often required to make financial contributions towards these costs. As a result, optimal health and wellbeing increases the amount of money that can be spent on other things, such as education, housing, food, leisure pursuits and social activities. Optimal health and wellbeing benefits individuals in a number of ways (see **FIGURE 1.20**).

FIGURE 1.20 The importance of health and wellbeing for individuals

All of these processes contribute to improved health and wellbeing, which increases the ability of individuals to further promote or improve their health and wellbeing as **FIGURE 1.21** illustrates.

FIGURE 1.21 Optimal health and wellbeing is a resource that can be used to further promote the health and wellbeing of individuals.



As well as promoting health and wellbeing in individuals, a population with optimal levels of health and wellbeing provides benefits at both national and global levels.

1.5.2 Benefits of optimal health and wellbeing and its importance as a resource nationally

In addition to its importance to individuals, optimal health and wellbeing has a number of social and economic benefits for a country's population as a whole (see **FIGURE 1.22**).

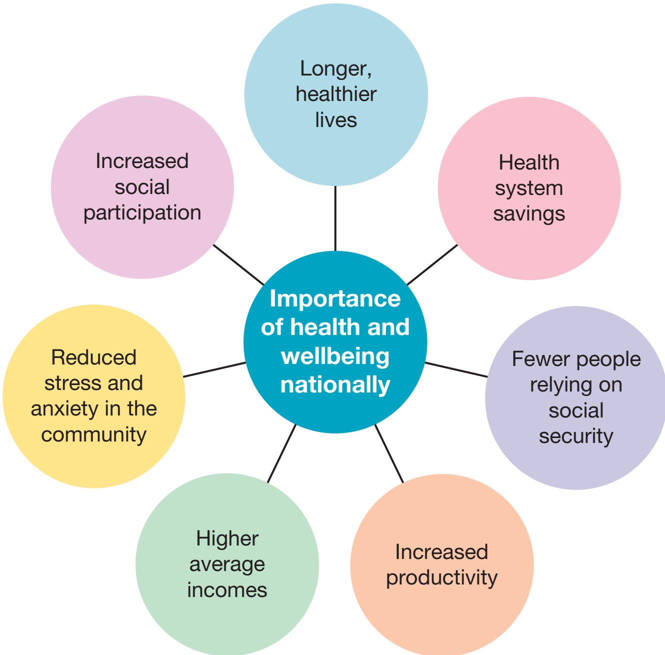
Populations with optimal levels of health and wellbeing experience greater economic benefits, such as:

- higher average incomes
- greater productivity
- less absenteeism from work
- less reliance on social security
- reduced healthcare and associated caring costs.

Other benefits of optimal health and wellbeing for countries include:

- improved life expectancy and other health outcomes
- reduced levels of stress in the community
- more participants in social activities such as community activities and volunteering
- less strain on the health system (e.g. contributing to shorter waiting lists for elective surgery).

FIGURE 1.22 The importance of health and wellbeing nationally



The most basic way to examine the importance of health and wellbeing at a national level may be through measurable indicators. The measurable costs of health and wellbeing are often related to aspects of the physical dimension, but it is important to remember that ill-health in relation to any dimension will impact on the person as a whole and also contribute to lower levels of health and wellbeing for the population.

Economic benefits

Optimal health and wellbeing decreases reliance on the health system, which has economic benefits. Doctors' consultations, medication and other health services cost Australians over $240 billion in 2021–22. Many of these costs could be saved if all people experienced optimal health and wellbeing. Savings due to improved health and wellbeing could be used to promote quality of life in Australia by making more money available for resources such as education, improving infrastructure (including housing and transport systems), the development of new industries by confident individuals challenging themselves and trying new things, and providing social security for those experiencing hardship.

FIGURE 1.23 Good health and wellbeing contributes to productive employment.

In addition to health system savings, optimal health and wellbeing promotes economic development in a number of ways that are often greater than the health system savings. In fact, the Royal Australian and New Zealand College of Psychiatrists estimated the economic cost of mental illness alone to be close to $100 billion a year. When populations are experiencing low levels of stress and high levels of resilience, they are more equipped to work productively. This increases **productivity** because individuals are more likely to fully engage with their job and work to the best of their ability. According to the report *The Health of Australia's Workforce* (Medibank Private, 2005), it has been estimated that 'the healthiest Australian employees are almost three times more productive than their colleagues'. Further, 'employees with poor overall health status are far more likely to be absent from work, and are nine times more likely to have sick days, compared to healthy employees'. Optimal health and wellbeing therefore increases the ability of people to work and earn an income, and this in turn increases the economy of the country through higher taxation revenue. Fewer people rely on social security payments as a result of reduced unemployment, further enhancing the economy of the country.

Social benefits

The importance of optimal health and wellbeing from a social perspective is often difficult to measure, but is just as important as the economic benefits.

Optimal health and wellbeing reduces the risk of premature death and the development of illness and disease. As well as improving health indicators and outcomes from a population perspective, improved health and wellbeing serves to reduce levels of stress and anxiety in communities as a result of loved ones experiencing premature death, disease or injury. The health system also benefits from optimal health and wellbeing as the number of encounters with the health system (such as doctors' consultations and hospital admissions) reduces, thereby shortening waiting times for those who do require health care.

A population experiencing good health and wellbeing is more likely to participate in meaningful employment. Having a healthy and productive workforce assists in reducing the pressure on the workforce as a whole. When fewer people are taking time off work, all people can concentrate on their own jobs. This further decreases stress and other work-related pressures.

Levels of social participation are higher in populations experiencing optimal health and wellbeing. Social participation promotes feelings of belonging and also acts to provide vital resources and services to a society through activities such as volunteering and **civic participation**. Other examples of social participation include involvement in formal activities provided by organised groups such as sport or physical recreation groups, arts or heritage groups, and religious or spiritual groups or associations; and informal activities with friends and families, including social gatherings and the provision of support and care for those in need, such as the sick or immobile.

productivity relates to the efficiency of the production of goods and services. It is measured by the amount of output produced per unit of input.

civic participation refers to involvement in a community group such as a union, professional association, political party, environmental or animal welfare group, human and civil rights group, or body corporate or tenants' association

Optimal health and wellbeing can create a cycle through generations. Parents experiencing good health and wellbeing have an increased capacity to adequately care for and raise their children. As a result, their children are more likely to have optimal health and wellbeing themselves. This produces future generations who are able to provide for themselves and their families, and contribute to the society and country in which they live.

EXAM TIP

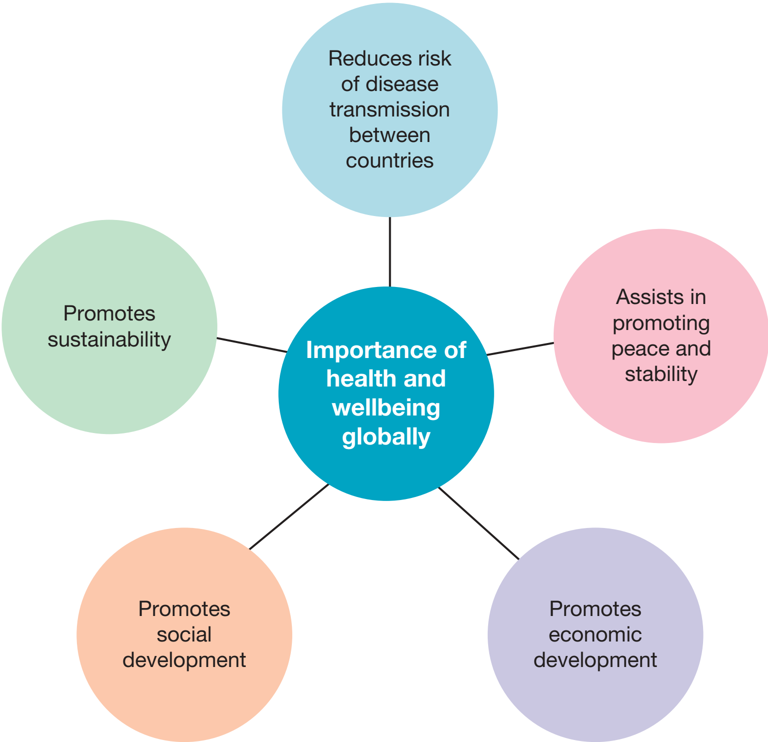
When explaining the benefits of optimal health and wellbeing for individuals, countries or the world, it is important that your wording is not ambiguous. For example, if a response stated that 'when people have adequate levels of energy, they are able to work more productively, which can increase their income' it is difficult to tell if this is in relation to individuals, countries or the world and therefore may be deemed incorrect.

For individuals, you can refer to 'a person' or 'individual', for countries you can refer to 'a country's population' or 'all people in a country' and when discussing benefits in a global context, you could state 'when all people in the world', or use terms such as 'globally' and 'worldwide'. This will ensure there is no confusion in relation to the context of your response.

1.5.3 Benefits of optimal health and wellbeing and its importance as a resource globally

As well as being an important resource for populations within countries, optimal health and wellbeing provides a range of benefits for the population on a global scale, as shown in **FIGURE 1.24**.

FIGURE 1.24 The importance of health and wellbeing as a resource globally



Optimal health and wellbeing can reduce the risk of infectious or **communicable diseases** spreading between countries. Infectious or communicable diseases refer to diseases that are passed from one person to another from either direct or indirect contact:

- direct contact — through touch (e.g. chicken pox), sexual intercourse (e.g. syphilis, HIV), saliva and droplets from coughing (e.g. influenza, COVID-19) and through human waste such as faecal or oral transmission (e.g. hepatitis A)
- indirect contact — through water (e.g. cholera), food (e.g. E. coli), blood (e.g. hepatitis B, HIV), and **vectors** such as mosquitoes (e.g. malaria).

communicable diseases infectious diseases that are transmitted from the environment, including through air, water, food and other infected organisms (including other humans)

vector a living thing that carries and transmits pathogens to other living things

pandemic the spread of infectious disease through human populations across a large region such as multiple continents or worldwide

Given favourable conditions, these diseases can spread quickly from person to person and can result in a **pandemic**, where the disease spreads across large geographical regions and affects a high proportion of the population in a relatively short period of time. This was evident in relation to the coronavirus (COVID-19) pandemic that began in late 2019. Such pandemics can have major health, social and economic consequences for the global population, including significant rates of disease and premature death, reduced workforce participation and productivity, the shutdown of non-essential services, disruptions to travel and the transport of goods, food shortages, school closures, and the breakdown of law and order. In times of crisis such as in the event of a pandemic, people are often unable to go about their daily activities and instead shift their focus to survival, which impacts all aspects of life.

A severe pandemic can result in millions of deaths, and even the most conservative estimates suggest that pandemics destroy up to 1 per cent of global GDP, which is comparable to other top-priority threats, such as climate change. The COVID-19 pandemic was estimated to have caused close to 2 million deaths and reduced the global GDP by around 4.5 per cent in 2020 alone.

With globalisation and the increase in affordable transportation of people, products and food, the last 30 years have seen a steady increase in the frequency and diversity of disease outbreaks. As a result, no country is immune to the potential impacts of infectious disease. Most of these outbreaks are caused by bacteria or microbes of animal origin that are transmitted to people, such as COVID-19, Ebola and avian flu. As a result, reducing infections and maintaining good health and wellbeing are increasingly important.

Populations experiencing good health and wellbeing contribute to world peace and security. When populations are healthy, they are more likely to be able to work for the benefit of themselves, their country and the planet. They can be productive and have an increased ability to access the resources they require for a decent standard of living, such as employment, education, food, water, shelter and health care. When populations are not in a positive state of health and wellbeing, they may resort to extreme measures in an attempt to access these resources to ensure their survival. This can contribute to conflict on a national and international level.

Optimal health and wellbeing on a global scale can also promote sustainability. When people have their needs met and feel good about themselves, they are more likely to live their lives sustainably. They can work productively and provide for their families. The government will generate a greater amount of taxation revenue, which can be used to promote sustainable energy, water and agricultural systems. These benefits have the potential to reverse the impacts of climate change globally.

FIGURE 1.25 Good health and wellbeing improves access to education for children around the world.

Children are often the most vulnerable to poor health and wellbeing. When health and wellbeing is poor, children cannot focus on education or thrive in a manner that will promote social and economic development and sustainability in the future.

Good health and wellbeing is essential for optimal trade between countries. Healthy populations are better equipped to produce goods and services that can be traded on the global market. Global trade is increasingly important for the economic development of many countries. It generates revenue that helps the governments of trading countries to provide their populations with essential resources and services such as education, public housing, health care and infrastructure. Poor health and wellbeing can therefore have significant impacts on social and economic development globally, with low-income countries most at risk as a result of lacking the resources required to deal with the negative impacts of poor health and wellbeing.

CASE STUDY

Read this statement that was released during the height of the COVID-19 pandemic in 2020 to highlight the global impacts of poor health and wellbeing.

Impact of COVID-19 on people's livelihoods, their health and our food systems

Joint statement by ILO, FAO, IFAD and WHO

13 October 2020

The COVID-19 pandemic has led to a dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems and the world of work. The economic and social disruption caused by the pandemic is devastating: tens of millions of people are at risk of falling into extreme poverty, while the number of undernourished people, currently estimated at nearly 690 million, could increase by up to 132 million by the end of the year.

Millions of enterprises face an existential threat. Nearly half of the world's 3.3 billion global workforce are at risk of losing their livelihoods. Informal economy workers are particularly vulnerable because the majority lack social protection and access to quality health care and have lost access to productive assets. Without the means to earn an income during lockdowns, many are unable to feed themselves and their families. For most, no income means no food, or, at best, less food and less nutritious food.

The pandemic has been affecting the entire food system and has laid bare its fragility. Border closures, trade restrictions and confinement measures have been preventing farmers from accessing markets, including for buying inputs and selling their produce, and agricultural workers from harvesting crops, thus disrupting domestic and international food supply chains and reducing access to healthy, safe and diverse diets. The pandemic has decimated jobs and placed millions of livelihoods at risk. As breadwinners lose jobs, fall ill and die, the food security and nutrition of millions of women and men are under threat, with those in low-income countries, particularly the most marginalized populations, which include small-scale farmers and indigenous peoples, being hardest hit.

Millions of agricultural workers – waged and self-employed – while feeding the world, regularly face high levels of working poverty, malnutrition and poor health, and suffer from a lack of safety and labour protection as well as other types of abuse. With low and irregular incomes and a lack of social support, many of them are spurred to continue working, often in unsafe conditions, thus exposing themselves and their families to additional risks. Further, when experiencing income losses, they may resort to negative coping strategies, such as distress sale of assets, predatory loans or child labour. Migrant agricultural workers are particularly vulnerable, because they face risks in their transport, working and living conditions and struggle to access support measures put in place by governments. Guaranteeing the safety and health of all agri-food workers – from primary producers to those involved in food processing, transport and retail, including street food vendors – as well as better incomes and protection, will be critical to saving lives and protecting public health, people's livelihoods and food security.

In the COVID-19 crisis, food security, public health, and employment and labour issues, in particular workers' health and safety, converge. Adhering to workplace safety and health practices and ensuring access to decent work and the protection of labour rights in all industries will be crucial in addressing the human dimension of the crisis. Immediate and purposeful action to save lives and livelihoods should include extending social protection towards universal health coverage and income support for those most affected. These include workers in the informal economy and in poorly protected and low-paid jobs, including youth, older workers, and migrants. Particular attention must be paid to the situation of women, who are over-represented in low-paid jobs and care roles. Different forms of support are key, including cash transfers, child allowances and healthy school meals, shelter and food relief initiatives, support for employment retention and recovery, and financial relief for businesses, including micro, small and medium-sized enterprises. In designing and implementing such measures it is essential that governments work closely with employers and workers.

Countries dealing with existing humanitarian crises or emergencies are particularly exposed to the effects of COVID-19. Responding swiftly to the pandemic, while ensuring that humanitarian and recovery assistance reaches those most in need, is critical.

Now is the time for global solidarity and support, especially with the most vulnerable in our societies, particularly in the emerging and developing world. Only together can we overcome the intertwined health and social and economic impacts of the pandemic and prevent its escalation into a protracted humanitarian and food security catastrophe, with the potential loss of already achieved development gains.

CASE STUDY REVIEW

1. Explain how the COVID-19 pandemic impacted the global food supply.
2. Explain why agricultural workers are at particular risk from pandemics.
3. 'If the world experienced optimal health and wellbeing prior to COVID-19, the health, economic and social impacts of the pandemic would have been significantly less severe.' Discuss the extent to which you agree with this statement.

1.5 Exercises

1.5 Quick quiz on | **1.5 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3	2, 4, 5, 6	7, 8

Test your knowledge

1. Discuss ways that optimal health and wellbeing can act as a resource:
   a. individually
   b. nationally
   c. globally.
2. Explain how optimal health and wellbeing can create a positive cycle:
   a. for individuals
   b. through generations.
3. Briefly explain what is meant by a ‘pandemic’.

Apply your knowledge

4. Imagine you only had the energy or capacity to fulfill three benefits identified in **FIGURE 1.20**.
   a. Outline which three you would choose.
   b. Explain how missing out on the other benefits could impact your health and wellbeing.
5. Explain why promoting good health and wellbeing is a priority for many governments.
6. Discuss what each of the following quotes is saying about health and wellbeing as a resource.
   a. ‘A man too busy to take care of his health is like a mechanic too busy to take care of his tools.’ — Spanish proverb
   b. ‘It is health that is real wealth and not pieces of gold and silver.’ — Mahatma Gandhi
   c. ‘Healthy citizens are the greatest asset any country can have.’ — Winston Churchill
7. Brainstorm ways that reducing pandemics could contribute to each of the following globally:
   a. health and wellbeing
   b. social benefits
   c. economic benefits.
8. Individually or in pairs, and without using answers already used in question 1, brainstorm:
   a. how optimal social health and wellbeing can act as a resource for individuals
   b. how optimal mental health and wellbeing can act as a resource for countries
   c. how optimal physical health and wellbeing can act as a resource for the world.

1.5 Exam questions

Question 1 (2 marks)

Describe how optimal health and wellbeing acts as a resource for an individual.

Question 2 (2 marks)

Describe how optimal health and wellbeing acts as a resource nationally.

Question 3 (2 marks)

Describe how optimal health and wellbeing acts as a resource globally.

Question 4 (1 mark)

What is an example of the positive impact of optimal health and wellbeing at a national level?

Question 5 (1 mark)

What is an example of the positive impact of optimal health and wellbeing at a global level?

More exam questions are available in your learnON title.

1.6 KEY SKILLS

1.6.1 Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness

tlvd-11286

KEY SKILL Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness

Tell me

To provide an adequate explanation of the dynamic and subjective nature of health and wellbeing and illness, an explanation of the concepts (health and wellbeing; illness) is a good starting point.

When explaining any key term, it is important to include all the crucial aspects of the concept. Frequent use of these terms is a good way to gain an understanding of what they mean and when they should be used. When explaining a key term, try to avoid an explanation that is too narrow. For example:

- An explanation of health and wellbeing could acknowledge that there are many aspects or dimensions to health and wellbeing, but all relate to the state of a person's existence in relation to the physical, social, emotional, mental and spiritual dimensions and how the person feels about their life.
- An explanation of illness could include that it is a concept related to an individual's experience of a disease or injury.

Show me

The following is an example of an explanation of health and wellbeing:

Health and wellbeing is not just the absence of disease, although this is an aspect of optimal health and wellbeing. Good health and wellbeing is a subjective concept that means different things to different people. Broadly, health and wellbeing relates to a person's physical, social, emotional, mental and spiritual being, and is characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged.

Tell me

It is also beneficial to be able to explain each dimension of health and wellbeing because these are crucial components of this concept. In addition, it is useful to provide examples that relate to each dimension so that their possible impacts on health and wellbeing can be predicted in a particular scenario.

Show me

For example, it is useful to know that physical health and wellbeing refers to the state and functioning of the body and its systems.[1] Physical health and wellbeing includes the physical capacity to perform tasks, physical fitness, body weight, blood pressure and energy levels.[2]

[1] A definition or explanation of physical health and wellbeing is provided.

[2] A range of characteristics that relate to physical health and wellbeing are identified.

Tell me

This skill also requires an explanation of the dynamic and subjective nature of health and wellbeing and illness.

To satisfy this part of the skill, it is important to acknowledge that health and wellbeing and illness are dynamic and therefore undergo constant change and can also change quickly, and are also subjective and therefore mean different things to different people.

Show me

The following example discusses the dynamic nature of these concepts:

The concepts of health and wellbeing and illness are dynamic, which means that they are constantly changing and the way in which an individual views them can change over time.[3] Events that contribute to changes in health and wellbeing and illness include:

- Recovery from disease: A person who is experiencing a high level of illness and poor physical health and wellbeing due to having a disease may access medication or surgery that can cure the condition or relieve symptoms, which reduces pain and increases levels of energy. This improves physical health and wellbeing and contributes to a decrease in illness.
- Forming new relationships: If an individual has few social connections, they may experience poor social health and wellbeing. If they make new friends, this can provide opportunities for social interaction, which improves social health and wellbeing.
- Personal achievement: A person who is experiencing poor emotional health and wellbeing may achieve at school, work or in the community, for example, by being elected as a leader or being promoted, which can promote a sense of pride that then enhances emotional health and wellbeing. Personal achievement can also promote self-esteem, which is an aspect of mental health and wellbeing.
- Community participation: A person experiencing poor spiritual health and wellbeing may become involved in community activities such as volunteering to deliver meals to the elderly, which can promote a sense of purpose, and this can then enhance spiritual health and wellbeing.[4]

[3] An introduction of the dynamic nature of the concepts is provided including an understanding of the term 'dynamic'.

[4] Specific examples of how health and wellbeing and illness can change are provided.

Similarly, incidents such as infection, conflict, the loss of a loved one, social isolation and unemployment can cause negative impacts on the dimensions of health and wellbeing and illness.

The way an individual views health and wellbeing and illness is also dynamic and can change throughout life as a result of factors such as advancing age, the onset of disease, and changes in living conditions, employment and levels of energy.[5]

[5] The fact that an individual's view of health and wellbeing and illness can change over time is outlined.

An example of an explanation of the subjective nature of these concepts could be:

The concepts of health and wellbeing and illness are subjective, which means they mean different things to different people.[6]

For example, a student may view health and wellbeing as a concept related to their ability to complete school tasks and maintain social connections, whereas a parent may view health and wellbeing as a concept related to their ability to provide for their family and run an efficient household.[7]

[6] An introduction to the subjective nature of the concepts is provided, including an understanding of the term 'subjective'.

[7] Specific examples of the subjective nature of health and wellbeing are provided.

An individual with a high threshold for pain may not view illness as related to the presence of disease or injury, but rather an inability to function normally, whereas a person with a low threshold for pain may view illness as the presence of any disease or injury.[8]

[8] Specific examples of the subjective nature of illness are provided.

Practise the key skill

1. Explain what is meant by the terms ‘dynamic’ and ‘subjective’.
2. Identify three examples of characteristics associated with optimal emotional health and wellbeing.
3. Explain the subjective nature of physical health and wellbeing.
4. Explain the dynamic nature of the concept of illness.

1.6.2 Describe the relationships between dimensions of health and wellbeing

tlvd-11289

KEY SKILL Describe the relationships between dimensions of health and wellbeing

Tell me

In order to master this key skill, it is important to be able to explain each dimension of health and wellbeing (physical, social, emotional, mental and spiritual) and identify examples of characteristics that relate to each. A useful approach is to practise identifying the dimensions of health and wellbeing in case studies or in examples drawn from personal experience.

When describing the relationships between the dimensions of health and wellbeing, it might be necessary to describe the possible effects on health and wellbeing in a scenario or context that is totally unfamiliar. Again, practising identifying possible effects on health and wellbeing can be beneficial. Start by thinking of something (a set of circumstances such as a relationship breakdown, illness or stress) that could affect one of the dimensions and then brainstorm ways that this circumstance could affect a different dimension. When doing this, remember that all five dimensions of health and wellbeing will be affected, including the dimension where the initial effect occurred. For example, a condition such as rheumatoid arthritis (which relates to physical health and wellbeing) will lead to other impacts on physical health and wellbeing (such as reduced fitness) as well as impacting on social, emotional, mental and spiritual health and wellbeing. The dimension that you find the easiest to link to is a good starting point.

In the following scenario, Brooke has just broken up with her boyfriend of six months and is feeling upset and anxious. During the course of the relationship, Brooke had begun to associate with her boyfriend’s friends. She now feels that she has neglected her own friends and that it may be difficult to re-establish links with them.

Show me

The following response explains how dimensions of health and wellbeing[9] could relate in Brooke’s situation.
Since Brooke is feeling upset and anxious, she may not be eating properly or exercising. This may affect her fitness levels and her body weight (aspects of physical health and wellbeing).[10] If she gains weight, Brooke may not feel good about her body, which could cause a decrease in her level of self-esteem (mental health and wellbeing). Lower self-esteem could mean that she does not feel up to re-establishing connections with her old friends (social health and wellbeing). If she doesn’t develop meaningful relationships, she may feel that she lacks a sense of belonging and connection to her world (spiritual health and wellbeing). If she doesn’t feel connected to her world, she may experience a range of emotions, such as sadness and despair (emotional health and wellbeing).[11]

[9] If the question doesn’t specify, try to cover a range of dimensions of health and wellbeing.

[10] Link the example to the dimension of health and wellbeing.

[11] The other four dimensions of health and wellbeing are also addressed.

Practise the key skill

5. Explain how having chicken pox could affect the dimensions of health and wellbeing.
6. Use the condition 'depression' to explain how social and spiritual health and wellbeing relate.
7. Discuss how regular exercise could contribute to relationships between physical and mental health and wellbeing.
8. Brendan left school at the end of Year 10 to start an apprenticeship. Use this example to describe relationships between dimensions of health and wellbeing.

1.6.3 Explain the individual, national and global importance of health and wellbeing as a resource

tlvd-11287

KEY SKILL Explain the individual, national and global importance of health and wellbeing as a resource

Tell me

This skill requires links to be made between good health and wellbeing, and positive outcomes in an individual, national and global context.

The first step in developing this skill is understanding aspects of optimal health and wellbeing in relation to each dimension. For example, optimal mental health and wellbeing includes:

- low levels of stress
- high self-esteem
- positive thought patterns
- high levels of confidence.

Once aspects of optimal health and wellbeing are known, links can be made between each aspect and benefits for individuals, countries or the world.

- Low levels of stress allow individuals to focus on activities that improve their life, such as studying, working or socialising.
- Low levels of stress also improve immune system function and promote physical health and wellbeing by decreasing the risk of contracting infectious diseases. This decreases the amount of money that must be spent by the individual on health care, including doctors' consultations and medication.
- High self-esteem encourages people to do their best in all aspects of their life, including work. This can contribute to higher performance at work and a higher income. Income is a resource that can be used for health care, food, clothing, shelter and socialising, which all enhance quality of life.
- Positive thought patterns reduce the risk of developing mental illnesses such as depression. This decreases the economic costs to the community and country of treating these diseases.
- If a country experiences low levels of disease, the population can work more productively, which can increase the taxation revenue collected by the government. This money can then be invested in resources that benefit the population, such as public education and infrastructure.
- Confidence contributes to individuals challenging themselves and trying new things. This can assist in developing new industries around the world, which can lead to increased global trade and economic development worldwide.

Although the initial focus of a response may be on individuals, when linking to countries and the world, the benefit to large numbers of individuals around the world experiencing optimal health and wellbeing must be addressed in order to satisfy this skill. In this sense, the focus shifts from an individual perspective to a national or global context. Using terms such as 'all people in a country' or 'all people worldwide' can clarify the context of the response.

It is important to practise making links between each dimension of health and wellbeing and benefits for individuals and countries because a range of possible links exist.

Show me

Consider the following example in which the importance of optimal health and wellbeing is discussed in relation to individuals and the global population.

Optimal physical health and wellbeing means that a person is less likely to experience an infectious or chronic condition.[12] With less illness, individuals are more equipped to work and earn an income.[13] This income can then be used to provide resources such as food, shelter, clothing and adequate health care, which can further promote health and wellbeing by reducing levels of stress (mental health and wellbeing), provide adequate levels of energy for socialising (physical and social health and wellbeing), give the individual a sense of purpose in life (spiritual health and wellbeing), and assist in experiencing positive emotions such as satisfaction (emotional health and wellbeing).[14]

[12] An aspect of optimal health and wellbeing is identified.
[13] A link is made between the aspect of health and wellbeing and a benefit for the individual.
[14] Specific links to aspects of improved quality of life and increased health and wellbeing are made.

On a global scale,[15] reduced rates of communicable diseases such as malaria mean that fewer people experience the symptoms associated with this condition and therefore fewer people will die as a result.[16] With more people around the world in better physical health and wellbeing, they have an increased capacity to work and to be productive members of society. With more people being productive, a greater amount of resources such as food and shelter can be provided to meet the needs of the global community.[17] This works to decrease conflict between countries as more people are able to access the resources they need for a decent standard of living, and this increases the ability of all people worldwide to lead lives they value, promoting social development.[18]

[15] The fact that this discussion relates to the global context is clarified.
[16] An example of health and wellbeing in a global context is identified.
[17] Links are established between the example of health and wellbeing and the benefits for individuals and communities.
[18] Benefits of optimal health and wellbeing on a global scale are identified.

Practise the key skill

9. Explain how optimal social health and wellbeing can be a resource for individuals and countries.
10. Explain how spiritual health and wellbeing can be a resource nationally.
11. Explain how optimal health and wellbeing can promote economic development globally.
12. Besides economic development, outline two global benefits of optimal health and wellbeing.

1.7 EXTENDED RESPONSE — Build your exam skills

tlvd-11399

1.7.1 Breaking down the question

An essential skill in the Health and Human Development course is being able to answer extended response questions. On the Unit 3 and 4 VCE examination, there will be one question containing multiple pieces of stimulus material that will be worth approximately 15 marks.

Throughout this text, you will be provided with opportunities to develop this skill by practising the requirements of an extended response question. Note that the complexity of these activities will increase as we move through the course.

These questions often contain multiple requirements and all must be adequately addressed to ensure you are eligible for a high score. The first step in preparing to answer these questions is to break the question down into its components.

Consider the following question:

> Using the information provided and your own knowledge discuss the dynamic and subjective nature of health and wellbeing and illness and explain the benefits of optimal health and wellbeing individually, nationally and globally.

Step 1:
In order to achieve a high score for this question, all parts of the question must be addressed.

You can think of these requirements like a checklist:

- Use the information provided (at least one piece of information from each source)
- Use your own knowledge
- Discuss the dynamic and subjective nature of health and wellbeing
- Discuss the dynamic and subjective nature of illness
- Explain the benefits of optimal health and wellbeing individually
- Explain the benefits of optimal health and wellbeing nationally
- Explain the benefits of optimal health and wellbeing globally

Step 2:
You can create your own checklist by using strokes (forward slashes) to break the question down into parts.

> Using the information provided/and your own knowledge/discuss the dynamic and subjective nature of health and wellbeing/and illness/and explain the benefits of optimal health and wellbeing individually/nationally/and globally.

Step 3:

You can then place a tick next to each component when you feel you have adequately addressed it.

> Using the ✓information provided/and your ✓own knowledge/discuss the dynamic ✓and subjective nature of health and wellbeing/and ill✓ness/and explain the benefits of optimal health and wellbeing indivi✓dually/ ✓nationally/and ✓globally.

Practise this skill

Break each of the following questions down into their individual components.

1. Using the information provided and your own knowledge, explain how optimal mental and social health and wellbeing can provide benefits for individuals and the world.
2. Using relationships between dimensions of health and wellbeing as the basis of your response, explain how low levels of stress and adequate levels of energy can provide benefits for both individuals and countries.

1.8 Review

Hey students! Now that it's time to revise this topic, go online to:

Review your results

Watch teacher-led videos

Practise exam questions

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1.8.1 Topic summary

1.2 Concepts of health and wellbeing and illness

- Health and wellbeing is a concept that refers to the state of an individual's physical, social, emotional, mental and spiritual existence and is characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged.
- Health and wellbeing is a dynamic concept, which means it can change regularly and/or quickly.
- Health and wellbeing is viewed in many different ways and is therefore said to be subjective.
- A range of factors influence how an individual views health and wellbeing, including age, fitness, body weight, social networks, income, occupation, education and culture.
- Aboriginal and Torres Strait Islander Peoples place significant importance on the land and their ancestry in relation to their health and wellbeing.
- Illness relates to how a person experiences a disease or injury. It is dynamic because diseases and injuries can come and go, meaning levels of illness will change over time. It is also subjective because different people will experience diseases and injuries in different ways, due to factors such as age, their pain threshold, levels of social support and previous experience with the condition.

1.3 Dimensions of health and wellbeing

- The five dimensions of health and wellbeing are physical, social, emotional, mental and spiritual.
- Physical health and wellbeing relates to the state and functioning of the body and its systems; it includes the physical capacity to perform daily activities or tasks. Factors that relate to physical health and wellbeing include body weight, fitness, energy levels and the absence or presence of disease or illness.
- Social health and wellbeing relates to the state and quality of the interactions and relationships that an individual has with other people.
- Emotional health and wellbeing is defined as the ability to recognise, understand and effectively manage and express emotions, as well as the ability to display resilience.
- Mental health and wellbeing relates to the state of a person's mind or brain and the ability to think and process information. Optimal mental health and wellbeing enables an individual to positively form opinions, make decisions and use logic. It also relates to the current state of the mind, the nature of the thoughts experienced and how a person feels about themselves.
- Spiritual health and wellbeing relates to ideas, beliefs, values and ethics that arise in the minds and conscience of human beings. It includes the concepts of hope, peace, a guiding sense of meaning or value, and reflection on a person's place in the world. Spiritual health and wellbeing can also relate to organised religion, a higher power and prayer, values, a sense of purpose in life, connection or belonging.

1.4 The relationships between dimensions of health and wellbeing

- The five dimensions of health and wellbeing are related; that is, a change in one dimension has the ability to cause changes in the other four dimensions.
- Overall health and wellbeing is determined by the combined levels of health and wellbeing in the five dimensions.
- When all five dimensions are as good as they can be, health and wellbeing is said to be optimal.

1.5 Optimal health and wellbeing as a resource

- Optimal health and wellbeing is a resource for individuals, countries and the global population.
- For individuals, optimal health and wellbeing reduces illness and increases the capacity for people to work towards what they want out of life, such as employment, socialising and caring for others.
- For countries, optimal health and wellbeing reduces health-related expenditure, increases productivity and economic development, and promotes civic participation.
- Globally, optimal health and wellbeing promotes economic and social development and reduces the risk of conflict.

on Resources

Digital document Summary (doc-41364)

1.8.2 Key terms

chronic condition any disease or condition that lasts a long time (usually longer than six months). These are often incurable and require ongoing treatment and management. Examples include arthritis and asthma.
civic participation refers to involvement in a community group such as a union, professional association, political party, environmental or animal welfare group, human and civil rights group, or body corporate or tenants' association
communicable diseases infectious diseases that are transmitted from the environment, including through air, water, food and other infected organisms (including other humans)
dimensions of health and wellbeing the components that make up an individual's overall health and wellbeing. The dimensions are physical, social, emotional, mental and spiritual.
disease a physical or mental disturbance involving symptoms, dysfunction or tissue damage
dynamic continually changing
emotional health and wellbeing relates to the ability to express feelings in an appropriate way. Emotional health and wellbeing is about the positive management and expression of emotional actions and reactions, as well as the ability to display resilience. It is the degree to which an individual feels emotionally secure and relaxed in everyday life.
equilibrium a state of balance and/or calmness
health and wellbeing the state of a person's physical, social, emotional, mental and spiritual existence, characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged
illness a subjective concept related to personal experience of a disease or injury
infirmity the quality or state of being weak or ill; often associated with old age
mental health and wellbeing the current state of wellbeing relating to a person's mind or brain and the ability to think and process information. It includes thought patterns, self-esteem and levels of stress and anxiety.
optimal health and wellbeing the highest level of health and wellbeing an individual can realistically attain at any particular time, taking into account genetics and the different environments in which people live
pandemic the spread of infectious disease through human populations across a large region such as multiple continents or worldwide
physical health and wellbeing relates to the state and functioning of the body and its systems; it includes the physical capacity to perform daily activities or tasks
productivity relates to the efficiency of the production of goods and services. It is measured by the amount of output produced per unit of input.
social health and wellbeing relates to the state and quality of the interactions and relationships that an individual has with other people. It includes the ability to manage or adapt appropriately to different social situations.
spiritual health and wellbeing relates to ideas, beliefs, values and ethics that arise in the minds and conscience of human beings. It includes the concepts of hope, peace, a guiding sense of meaning or value, and reflection on your place in the world.
subjective influenced by or based on personal beliefs, feelings or opinions
vector a living thing that carries and transmits pathogens to other living things

1.8 Exercises

learnon

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1.8 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2022, Health and Human Development Exam, Q.2;* © VCAA

Patrick is 67 and recently retired from his job as an accountant. He found it difficult to adjust to retirement, especially the lack of interaction with colleagues. He found that he was bored, which affected his health and wellbeing, and he needed an opportunity to socialise with others. Patrick decided to join the Australian Men's Shed Association (AMSA), funded by the federal Department of Health and Aged Care, which promotes men's health and wellbeing. Men's Sheds provide an opportunity for men to meet and work together on projects such as building furniture that is donated to local charities. It also gives men the opportunity to discuss issues in their lives that are affecting their overall health and wellbeing.

Describe the relationship between two dimensions of Patrick's health and wellbeing.

Question 2 (2 marks)

Source: Adapted from *VCE 2022, Health and Human Development Exam, Q.10.a;* © VCAA

Outline the dimension of mental health and wellbeing.

Question 3 (4 marks)

Source: *VCE 2020, Health and Human Development Exam, Q.1;* © VCAA

a. Using one example, **outline** why health and wellbeing is said to be dynamic. **2 marks**

b. **Outline** one benefit of optimal health and wellbeing as a resource nationally. **2 marks**

Question 4 (4 marks)

a. Briefly **explain** what is meant by spiritual health and wellbeing. **2 marks**

b. Briefly **describe** the difference between mental and emotional health and wellbeing. **2 marks**

Question 5 (4 marks)

Darren was recently diagnosed with anxiety (a mental illness). Use Darren's condition to **show** the relationships between:

a. mental and social health and wellbeing **2 marks**

b. physical and emotional health and wellbeing. **2 marks**

on Resources

Digital document	Key terms glossary (doc-41363)
Interactivities	Crossword (int-9228) Definitions (int-9229)
Exam question booklet	Topic 1 Exam question booklet (eqb-0245)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 1 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

1.8 Summary (doc-41364) ☐
Key terms glossary (doc-41363) ☐

Teacher-led videos

1.5 Health and wellbeing as a resource (tlvd-0255) ☐
1.6 Key skill: Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness (tlvd-11286) ☐
Key skill: Describe the relationships between dimensions of health and wellbeing (tlvd-11289) ☐
Key skill: Explain the individual, national and global importance of health and wellbeing as a resource (tlvd-11287) ☐
1.7 Extended response: Breaking down the question (tlvd-11399) ☐

Interactivities

1.8 Crossword (int-9228) ☐
Definitions (int-9229) ☐

Exam question booklet

1.8 Topic 1 Exam question booklet (eqb-0245) ☐

To access these online resources, log on to **www.jacplus.com.au**

2 Measuring health status

LEARNING SEQUENCE

2.1 Overview

	Key knowledge	Key skills	Subtopic
	Indicators used to measure and understand health status:	Interpret and apply indicators used to measure health status	
	– incidence	Use data to evaluate the health status of Australians	2.4
	– prevalence		
	– morbidity		
	– burden of disease		2.5
	– disability-adjusted life year (DALY)		
	– years of life lost (YLL)		
	– years lived with disability (YLD)		
	– life expectancy		2.2
	– health-adjusted life expectancy (HALE)		
	– mortality (maternal, infant and under five)		2.3
	– self-assessed health status		2.2

Key terms

burden of disease

disability-adjusted life year (DALY)

health-adjusted life expectancy (HALE)

health indicators

health status

incidence

infant mortality rate

life expectancy

maternal mortality

maternal mortality ratio

morbidity

mortality

mortality rate

prevalence

self-assessed health status

trend

under-5 mortality rate (U5MR)

years lived with disability (YLD)

years of life lost (YLL)

Exam terminology

Apply Use your knowledge in the given case study/scenario

Evaluate Make a judgement, weigh up the pros and cons

Interpret Extract meaning from various sources such as arguments, perspectives, descriptions, diagrams, texts, or images, and assess their significance within a given context

on Resources

Digital document Key terms glossary (doc-41380)

Exam question booklet Topic 2 Exam question booklet (eqb-0246)

2.2 Self-assessed health status, life expectancy and health-adjusted life expectancy (HALE)

Key knowledge	Key skills
Indicators used to measure and understand health status: – life expectancy – health-adjusted life expectancy (HALE) – self-assessed health status	• Interpret and apply indicators used to measure health status • Use data to evaluate the health status of Australians

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by self-assessed health status, life expectancy and health-adjusted life expectancy.	• identify and describe self-assessed health status, life expectancy and health-adjusted life expectancy • analyse data (e.g. find trends, relationships, similarities and differences) relating to self-assessed health status, life expectancy and health-adjusted life expectancy • use correct values and units of measurement in data relating to self-assessed health status, life expectancy and health-adjusted life expectancy • make judgements about the health status of Australians based on data relating to self-assessed health status, life expectancy and health-adjusted life expectancy.

In topic 1, the concept of health and wellbeing and the five dimensions that contribute to overall health and wellbeing were examined. As well as exploring physical, social, mental, emotional and spiritual health and wellbeing, it is useful to be able to measure health outcomes experienced by groups or whole populations. Measurable aspects of health outcomes provide an ability to make judgements relating to the **health status** experienced by individuals, groups and countries.

For individuals, health status is usually measured by tests conducted by a health professional, including blood, heart rate, blood pressure, eye and urine tests. For populations and whole countries, health status is generally measured using **health indicators**, which are shown in **FIGURE 2.2**.

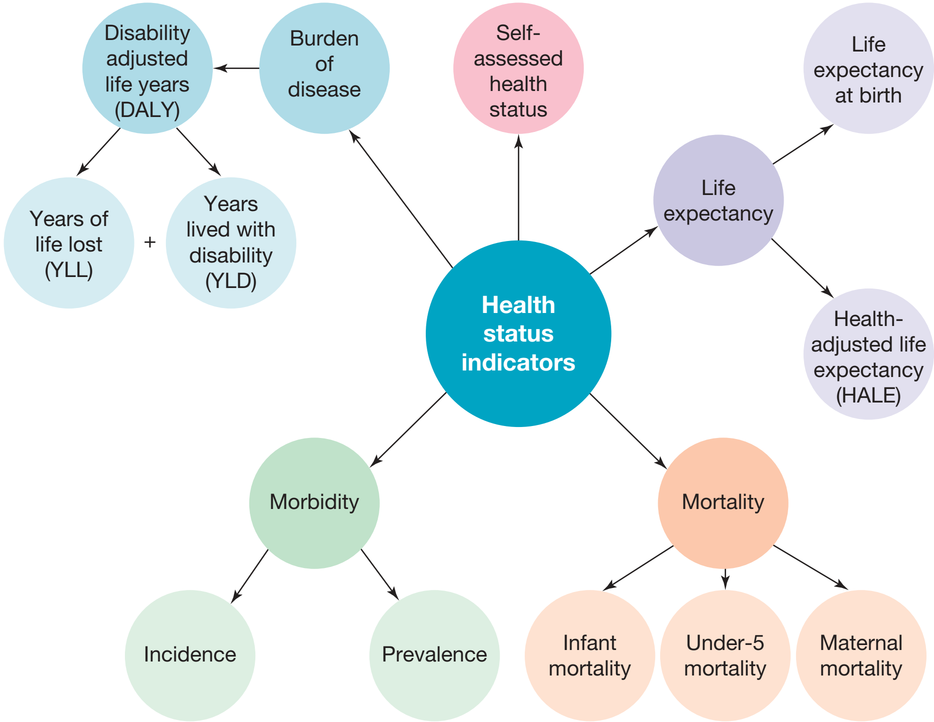
health status an individual's or population's overall level of health and wellbeing taking into account various indicators such as life expectancy, mortality and morbidity

health indicators standard statistics that are used to measure and compare health status (e.g. life expectancy, mortality rates, morbidity rates)

FIGURE 2.1 Health statistics are based on large groups of people and therefore do not give information about the health status of individuals.

int-9306

FIGURE 2.2 Health status indicators



EXAM TIP

When discussing health and wellbeing, one or more of the five dimensions should be the focus. When discussing health status, the health status indicators should be the focus. For example, if discussing how education can influence health and wellbeing and health status, the respective answers could be:

Health and wellbeing — educated individuals are more likely to understand the benefits of being socially connected and may therefore invest time in socialising, which can enhance the quality of relationships and *promote social health and wellbeing* [*shows link to a specific aspect of a dimension of health and wellbeing*].

Health status — education can mean that people have a greater understanding of healthy eating. This can promote healthy food intake, which can promote healthy body weight and reduce *the prevalence* of cardiovascular disease. In turn, this can decrease the rate of premature *mortality* from causes such as heart attack and increase *life expectancy* [*shows links to health status by making references to health status indicators*].

The various statistics give specific information and, when used together, can give accurate information about overall health status. It is useful to look at a range of statistics because one set of statistics will quite often provide only limited information about health status. Examining various health indicators allows governments and other groups to identify **trends** in health status and, if necessary, assist individuals, groups or populations in achieving optimal health and wellbeing.

These health indicators and data relating to each will be explored in this topic. Although some data exists relating to social, emotional, mental and spiritual health and wellbeing, data relating to physical ill health and wellbeing is generally the easiest to measure and therefore forms the basis of a majority of the health status data available. Where possible, data relating to the other dimensions will also be explored.

trend a general change or movement in a particular direction. For example, trends indicate a significant increase in obesity rates over the past 20 years.

The COVID-19 pandemic contributed to delays in data collection both nationally and globally. As a result, some data in this text are older than would normally be expected. However, data generally change slowly, so this information is still relevant when used to make judgements about health status in Australia today.

When exploring data, it is important to remember that statistics are based on averages and do not always accurately reflect the challenges faced by different groups and in different parts of the country.

on Resources

Teacher-led video Measurements of health status (tlvd-0260)

2.2.1 Self-assessed health status

Self-assessed health status is a commonly used indicator of health status that reflects a person's perception of their own health and wellbeing at a given point in time. Self-assessed health status data is often collected from population surveys and provides an indication of the overall level being experienced in relation to physical, social, emotional, mental and spiritual health and wellbeing.

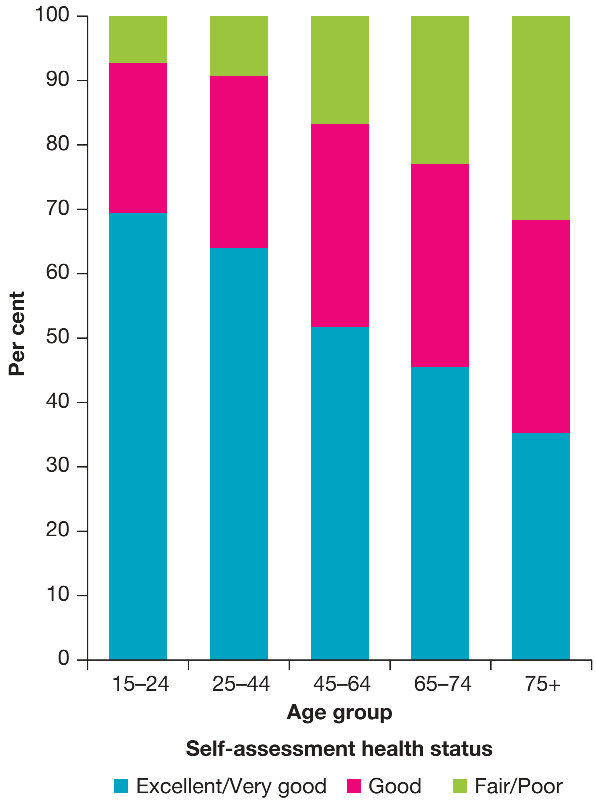
self-assessed health status 'An individual's own opinion about how they feel about their health, their state of mind and their life in general' (AIHW, 2018). It is commonly sourced from population surveys.

Survey participants are asked to classify their health status according to one of five levels:

- excellent
- very good
- good
- fair
- poor.

int-9258

FIGURE 2.3 Self-assessed health status, by age, 2022



Source: https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/latest-release#data-downloads

While self-assessed health status is a useful measure of a person's current health status and provides a broad picture of a population's overall health status, it is subjective. Health status that one person classifies as 'excellent', may be classified as 'very good' by another person. In 2022, over half (56.5 per cent) of all Australians aged 15 years and over considered themselves to have excellent or very good health and wellbeing, while 15.0 per cent rated their health and wellbeing as fair or poor (ABS, 2023).

As shown in **FIGURE 2.3**, the proportion of those assessing their health and wellbeing as excellent or very good decreases with age.

A range of factors can influence how an individual assesses their health status, including presence or absence of disease, disability, illness, energy levels, access to health care, social connections, mental state and thought patterns, sense of belonging within the community, and emotional health and wellbeing, including levels of resilience.

2.2.2 Life expectancy and health-adjusted life expectancy

Life expectancy

One of the most commonly used indicators of the overall health of a population is life expectancy.

Life expectancy is defined as 'the number of years of life, on average, remaining to an individual at a particular age if death rates do not change. The most commonly used measure is life expectancy at birth' (AIHW, 2018). Although life expectancy figures most commonly relate to a baby born at the present time, they can relate to a person of a different age. If life expectancy data are provided for people of different ages, they will be specified in the data.

life expectancy the number of years of life, on average, remaining to an individual at a particular age if death rates do not change. The most commonly used measure is life expectancy at birth (AIHW, 2018).

A male born in Australia in 2022 can expect to live (on average) to 81.2 years, whereas a male aged 65 in 2022 can expect to live to 85.2 years. For females, life expectancy at birth in 2022 was 85.3 years, while at the same time was 87.8 years for females aged 65. Both males and females in Australia compare well with the global average for life expectancy, which was around 73 years for a baby born in 2022. Although life expectancy at birth generally increases over time, Australia experienced a small decrease in 2022, largely due to the impact of COVID-19.

Since life expectancy is based on the average age at death, life expectancy increases as a person gets older (see **TABLE 2.1**). If a person survives the periods of birth, infancy, childhood and youth, their chance of reaching older age increases. Some people will not survive through their infancy, childhood, youth and adulthood stages, which brings the average down for those at birth.

Life expectancy has increased by more than 30 years over the last century, as indicated in **FIGURE 2.5**. Life expectancy continues to increase, but due to trends such as increasing rates of obesity, some people question the capacity of Australia to continue making improvements in life expectancy.

FIGURE 2.4 Life expectancy is increasing in Australia.

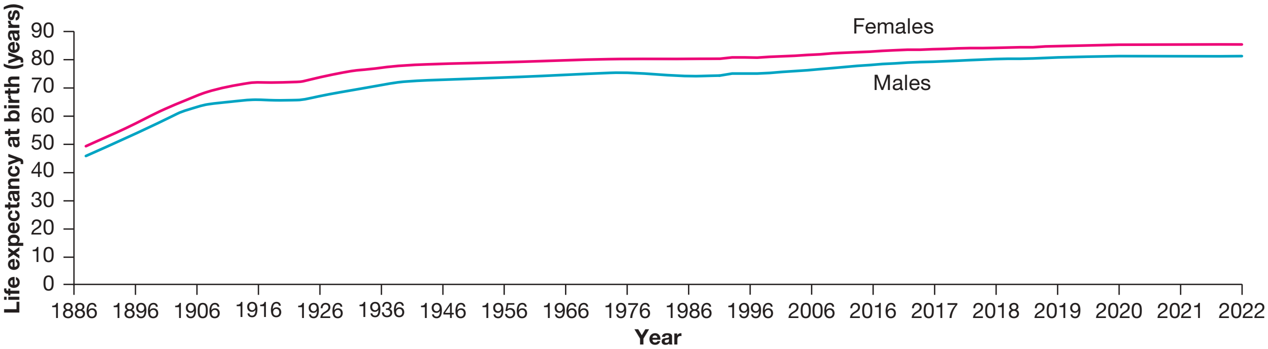
TABLE 2.1 Life expectancy for males and females of selected ages in Australia, 2022

Age	Males	Females
0 (birth)	81.2	85.3
15	81.6	85.6
30	82.1	85.8
45	82.8	86.2
60	84.4	87.3
75	87.6	89.4
90	94.3	95.0

Source: ABS, *Life tables, States, Territories and Australia, 2020–2022*.

Life expectancy is especially useful for comparing different countries and population groups, which can assist governments and non-government organisations in identifying areas for potential improvement.

FIGURE 2.5 Life expectancy of Australians, 1890–2022

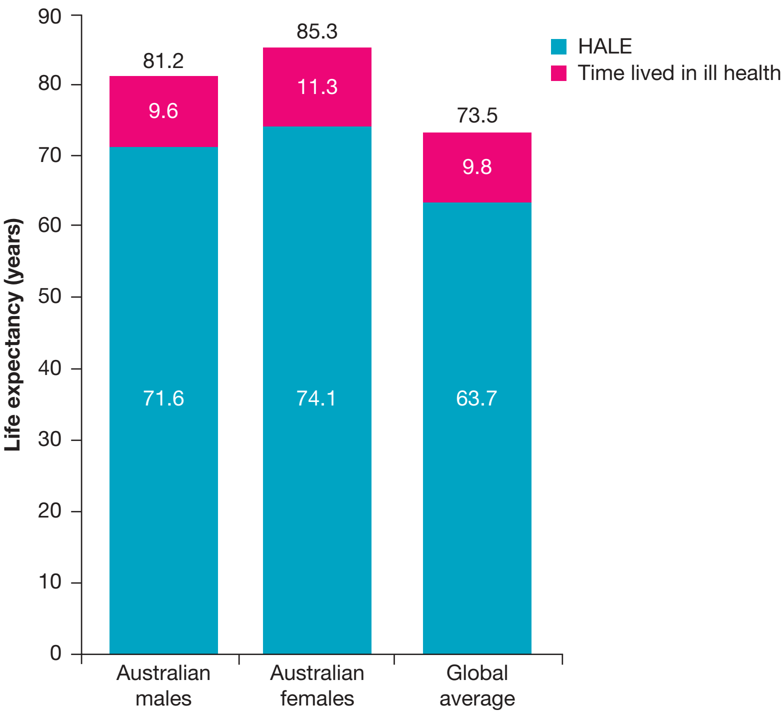


Source: ABS, *Life tables*, various years.

Health-adjusted life expectancy

Although it is an important health status indicator, life expectancy does not provide information on the quality of life, nor health issues facing a country or population groups, such as the level of ill health experienced, leading causes of death, or emerging diseases; it is based purely on the quantity, or length, of life. A measurement that considers life expectancy data and the impact of ill health in a population is **health-adjusted life expectancy**, or **HALE**. Health-adjusted life expectancy relates to the average length of time an individual at a specific age can expect to live in full health; that is, time lived without the health consequences of disease or injury. So, health-adjusted life expectancy refers to the number of years a person can expect to live without reduced functioning (including decreased mobility and the decline in the functioning of body systems) due to ill health, and is therefore an indicator of both quantity and quality of life.

FIGURE 2.6 Life expectancy at birth in full health (HALE) and ill health, 2019–2022



Source: https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/summary#HALE and Institute for Health Metrics Evaluation. Used with permission. All rights reserved.

The data in **FIGURE 2.6** indicates that the average male born in 2022 can expect to live to 81.2 years of age and spend 9.6 years of those years with ill health, giving a HALE of 71.6. A female born in 2022 can expect to live to 85.3 years of age and spend 11.3 of those years with ill health, meaning a HALE of 74.1 years. Although time lived with ill health is more likely to occur as people get older, it can happen at any age and HALE takes into account the average amount of time a person experiences ill health throughout their whole life.

health-adjusted life expectancy (HALE) the average length of time an individual at a specific age can expect to live in full health; that is, time lived without the health consequences of disease or injury (AIHW, 2018)

2.2 Activity

Access the **Joy of statistics** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Joy of statistics worksheet (doc-32189)

Weblink Joy of statistics

2.2 Exercises

2.2 Quick quiz on

2.2 Exercise

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Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 5	4, 6, 7, 9	8, 10, 11, 12

Test your knowledge

1. a. What is meant by 'health status'?
   b. Describe how health status is measured.
2. Explain what is meant by 'self-assessed health status'.
3. Explain the difference between life expectancy and health-adjusted life expectancy as health status indicators.
4. a. According to **FIGURE 2.6**, what was the life expectancy and health-adjusted life expectancy for males and females in Australia respectively?
   b. Explain what these numbers mean in relation to quantity and quality of life for males compared to females.
5. a. What is a trend?
   b. Identify two trends evident in **FIGURE 2.5**.

Apply your knowledge

6. a. Which dimension of health and wellbeing is generally the focus of health statistics?
   b. Identify why this would be the case.
   c. Identify a health status indicator that may reflect multiple dimensions of health and wellbeing and justify your choice.
7. Outline the difference between health and wellbeing and health status.
8. Brainstorm reasons why self-assessed health status may not be completely accurate in measuring the health status of a population.
9. a. Outline the relationship between age and the proportion of those assessing their health and wellbeing as excellent or very good according to **FIGURE 2.3**.
   b. Suggest reasons that may account for the relationship outlined in **part a**.
10. 'Life expectancy will continue to rise in the future.' To what extent do you agree with this statement?
11. Suggest reasons that might account for the lower life expectancy experienced by men compared with that of women.
12. Explain why life expectancy is higher for those aged 60 compared to those at birth.

2.2 Exam questions

Question 1 (4 marks)

Source: *VCE 2010, Health and Human Development Exam, Q.2;* © VCAA

Briefly **outline** two indicators that are used to measure the health status of populations.

Question 2 (1 mark)

Source: Adapted from *VCE 2009, Health and Human Development Exam, Q.3.a;* © VCAA

Briefly **explain** what is meant by life expectancy as a health status indicator.

Question 3 (4 marks)

Source: *VCE 2009, Health and Human Development Exam, Q.3.b;* © VCAA

Australian life expectancy at different ages: 1901–10 and 2003–05 for males

	1901–1910	2003–2005
From birth	55.2 years	78.5 years
From 30 years	66.5 years	79.7 years

Source: Adapted from Australian Institute of Health and Welfare, *Australia's Health 2008,* p. 27.

Explain two reasons why life expectancy has increased since 1901.

Question 4 (2 marks)

Source: *VCE 2009, Health and Human Development Exam, Q.3.c;* © VCAA

Australian life expectancy at different ages: 1901–10 and 2003–05 for males

	1901–1910	2003–2005
From birth	55.2 years	78.5 years
From 30 years	66.5 years	79.7 years

Source: Adapted from Australian Institute of Health and Welfare, *Australia's Health 2008,* p. 27.

Outline why life expectancy from 30 years of age is higher than life expectancy from birth.

More exam questions are available in your learnON title.

2.3 Mortality (including maternal, infant and under-5)

Key knowledge	Key skills
Indicators used to measure and understand health status: – mortality (maternal, infant and under five)	• Interpret and apply indicators used to measure health status • Use data to evaluate the health status of Australians

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:

- what mortality relates to, including:
  - maternal mortality
  - infant mortality
  - under-5 mortality.

You need to be able to:

- identify and describe mortality (including maternal, infant and under-5)
- analyse data (e.g. find trends, relationships, similarities and differences) relating to mortality (including maternal, infant and under-5)
- use correct values and units of measurement in data relating to mortality (including maternal, infant and under-5)
- make judgements about the health status of Australians based on data relating to mortality (including maternal, infant and under-5).

Self-assessed health status, life expectancy and HALE were explored in the previous subtopic. Although useful measures, these indicators do not reflect the rate of death at different ages or the causes of death within the population. For these reasons, it is also useful to explore mortality as a health indicator.

Mortality refers to death, often at a population level. The **mortality rate** is therefore the number of deaths, usually expressed per 1000 or 100 000 people in a 12-month period, from a specific cause or from all causes combined. For example, if the mortality rate for cancer in a population of one million is 50 per 100 000, there would be approximately 500 cancer deaths during that year. Expressing data 'per 1000' or 'per 100 000' people allows for comparisons to be made between population groups and between countries with different population sizes.

mortality relates to death, often at a population level
mortality rate the measure of the proportion of a population who die in a one-year period (usually per 100 000); sometimes referred to as 'death rate'

EXAM TIP

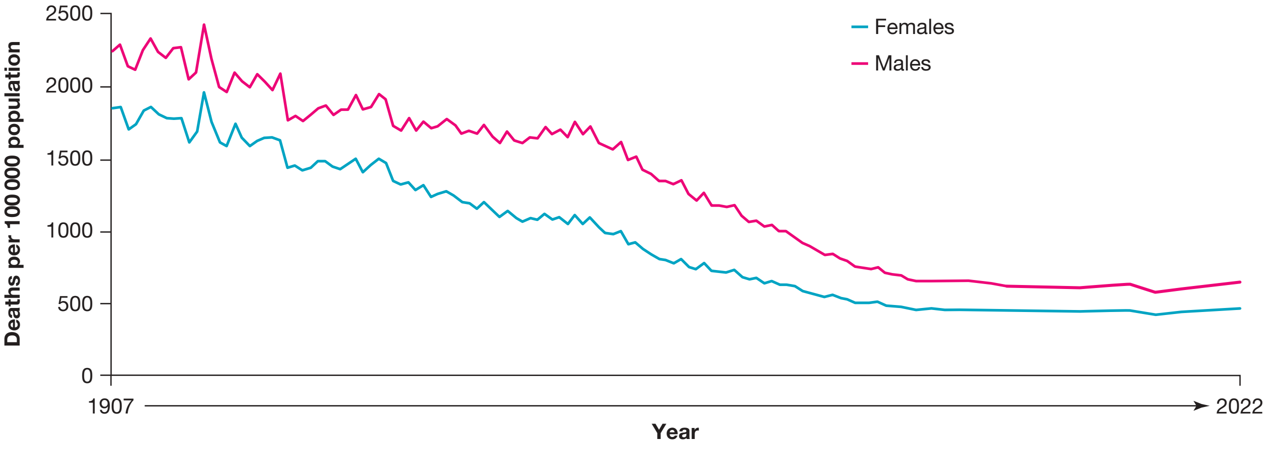
Ensure the correct unit of measurement is used when analysing health status data. For example, mortality data expressed per 1000 people produces very different figures compared to when it is expressed per 100 000 people. Including the relevant unit is important for ensuring that the discussion is factually correct.

Over time, mortality data allows trends in deaths to be identified. These trends can guide governments and other organisations in developing and funding strategies that attempt to reduce mortality rates from the leading causes of death (or those that have an increasing mortality rate).

In 2022, the mortality rate for males was 645 per 100 000 and for females was 461 per 100 000. This means that for every 100 000 males in Australia in 2022, 645 died. For females, 461 in every 100 000 died, meaning that males were 1.4 times more likely to die than females.

Despite an increase in the total number of deaths, there has been an overall fall in mortality rates per 100 000 people in Australia. From 1907 to 2022, the age-standardised death rate for males and females fell by around 75 per cent (see **FIGURE 2.7**).

FIGURE 2.7 Age-standardised death rates by sex, Australia, 1907–2022



Source: AIHW Australian Institute of Health and Welfare (2023) General Record of Incidence of Mortality (GRIM) books 2022: All causes combined, AIHW, Australian Government (accessed 2024).

WHAT ARE AGE-STANDARDISED RATES?

Age-standardised rates allow us to compare populations that have a different spread of ages. For example, Australia's population is ageing and, as a result, we would expect more deaths than a country with a younger population, because older people are more likely to die. Age standardising manipulates data to make the age groups of different populations relative so they can be compared more accurately.

Analysing the overall trend in the mortality rate is important, but it is also useful to identify the leading causes of death and trends that have occurred in relation to the causes of death over time. These trends give important feedback on the success of current interventions (policies, strategies and campaigns aimed at reducing the impact of health conditions) and allow predictions to be made about the future so relevant interventions can be put into place to improve health status.

The leading causes of death in Australia have changed markedly over the past century. Developments have been made with regard to the economy, technology and education. As a result, many diseases that were common causes of death 100 years ago, such as influenza and tuberculosis, cause relatively few deaths these days (see **TABLE 2.2**). This has helped to prolong life and give most Australians the opportunity to achieve optimal health and wellbeing.

TABLE 2.2 Five leading causes of death in 1907 and their contribution to mortality in 2022

	1907		2022	
	Per cent deaths	Rank[(a)]	Per cent deaths	Rank[(a)]
Cardiovascular diseases	20.0	1	23.6	2
Respiratory diseases	14.3	2	8.0	3
Infectious diseases	12.6	3	1.5	5
Cancer	7.8	4	27.2	1
Injury and poisoning	4.9	5	6.6	4
Other	40.3		33.2	

(a) In making these rankings, only the broad causes that were the top five in 1907 are considered.

Source: Adapted from AIHW, GRIM books.

As people live longer, they are more likely to die from lifestyle-related conditions. Diseases such as cardiovascular disease, cancers, dementia and respiratory diseases (including chronic obstructive pulmonary diseases) have emerged as the leading causes of death in Australia. Increasing rates of obesity are a significant contributor to these trends. The specific leading causes of death are shown in **FIGURE 2.9**. When analysing these figures, it is important to remember that they are based on all deaths. Since older people account for the majority of deaths in Australia, the causes of their deaths are the ones most likely to appear in these figures.

FIGURE 2.8 Although it was not a significant cause of ill health 100 years ago, obesity is now a major contributor to ill health.

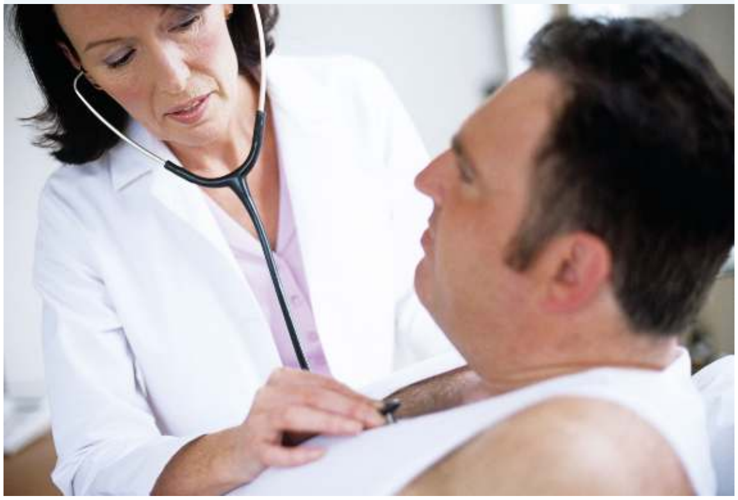


FIGURE 2.9 Leading causes of death for males and females, 2022

Cause	Males	Females	Description
1 Coronary heart disease	11 303	7340	• Occurs when the blood vessels feeding the heart with oxygen are damaged or blocked. A heart attack occurs if one of the vessels becomes completely blocked.
2 Dementia and Alzheimer's disease	6130	10 976	• An umbrella term for over 100 conditions characterised by progressive and irreversible loss of brain function. As brain function deteriorates, dementia interferes with normal behaviour patterns and affects memory, language, speech, attention and personality. As brain cells continue to die, dementia will eventually lead to complete dependency on other people and ultimately death.
3 COVID–19	5483	4373	• COVID-19 (also known as 'coronavirus' or 'COVID') is an infectious disease caused by a virus that contributes to respiratory illness.
4 Lung cancer	5142	3900	• Caused by the uncontrolled growth of abnormal cells in the lungs. These cells can eventually prevent the healthy cells from transferring oxygen to blood cells.
5 Cerebrovascular disease (including stroke)	4316	5513	• Occurs when the blood vessels feeding the brain with oxygen become damaged or blocked. A stroke occurs if one of the vessels becomes completely blocked.

Source: Adapted from ABS, 3303.0 *Causes of death, Australia, 2022*.

Other key trends in mortality figures reported by the Australian Institute of Health and Welfare (AIHW) are listed here.

- There has been a 95 per cent drop in deaths from infectious diseases (from around 140 per 100 000 in the early 1920s to 8.2 per 100 000 in 2022).
- Mortality rates from colorectal cancer have fallen by about 40 per cent since the 1980s.
- Cervical cancer deaths have fallen by about 75 per cent since the 1960s.
- Mortality rates due to dementia have increased by around 75 per cent since 2000.
- Male mortality rates from lung cancer are still higher than for females, but the mortality rate from lung cancer has fallen steadily for males since the 1980s. The rates for females have risen steadily since the 1960s.
- Mortality rates have fallen for cancer, cardiovascular disease, strokes, injury and asthma.
- Heart attack rates have fallen and survival rates have improved.
- The rate of type 2 diabetes is rising, with prevalence doubling in the past 20 years.
- Deaths from motor vehicle accidents have fallen by almost 80 per cent since the 1970s.

FIGURE 2.10 Safety features, such as airbags, have contributed to the decline in mortality rates from motor vehicle accidents over the past few decades.

In addition to data covering the whole population, mortality data can also be collected for particular age or population groups. Examples include:

- **infant mortality rate** — measures the rate of deaths of infants before their first birthday, usually expressed per 1000 live births
- **under-5 mortality rate (U5MR)** — measures the number of children that die before their fifth birthday, usually expressed per 1000 live births
- **maternal mortality ratio** — the number of mothers who die as a result of pregnancy, childbirth or associated treatment per 100 000 live births.

infant mortality rate the rate of deaths of infants before their first birthday, usually expressed per 1000 live births

under-5 mortality rate (U5MR) the number of deaths of children under five years of age per 1000 live births (WHO, 2008)

maternal mortality ratio the number of mothers who die as a result of pregnancy, childbirth or associated treatment per 100 000 women who give birth (or per 100 000 live births)

2.3.1 Infant mortality rates

Infant mortality relates to deaths in children between birth and their first birthday. The infant mortality rate measures the rate of deaths among children between birth and their first birthday, usually measured per 1000 live births. The mortality rates for infants and children are key indicators of the general health status of a population and the social and economic resources available. Infants and children rely on others to meet their needs for food, water, shelter and health care, and they often have underdeveloped immune and other body systems, which make them particularly susceptible to premature mortality. Mortality rates for infants and children therefore reflect the ability of a society to provide the resources required to sustain human life.

infant mortality deaths in children between birth and their first birthday

Infant and under-5 deaths are often preventable, so exploring the causes and rates of these deaths can help to improve the health status of children.

Infant mortality rates are low in Australia compared to other countries. Infant mortality rates have decreased over time for both males and females, and the difference between males and females has also narrowed (see **FIGURE 2.11**).

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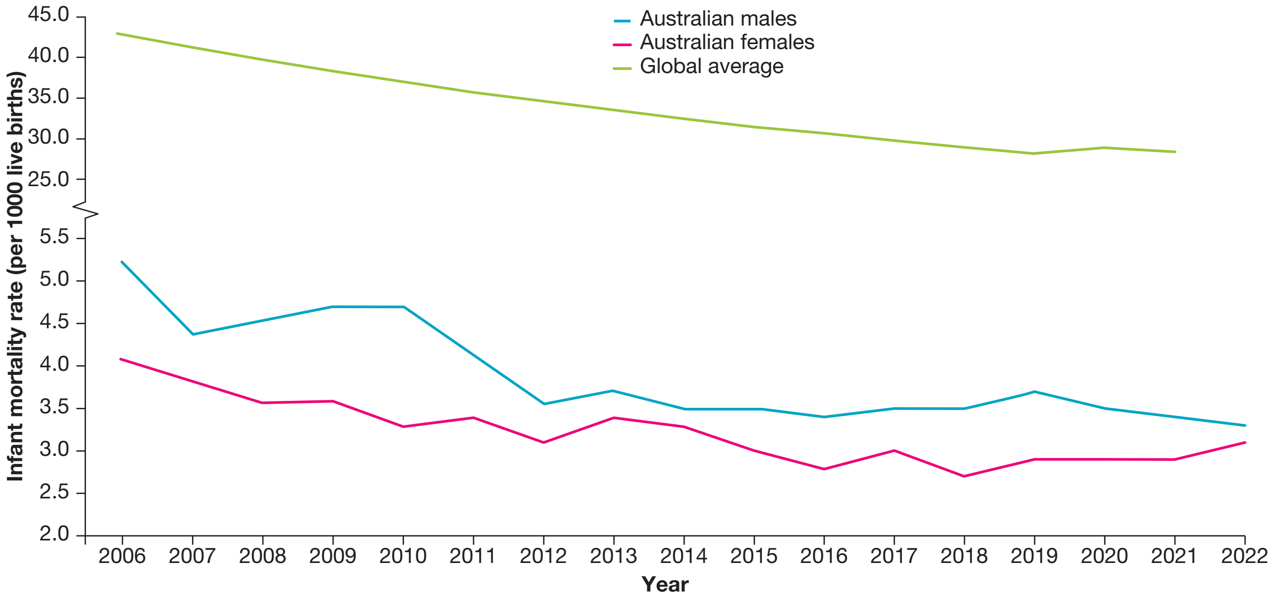
FIGURE 2.11 Infant mortality rates in Australia and the global average over time



Source: Adapted from *AIHW Children's headline indicators*, ABS, *Deaths*, Australia 2022, and WHO GHO and https://unstats.un.org/sdgs/indicators/database/

Much of the decrease in infant mortality has been due to reductions in deaths from sudden infant death syndrome (SIDS). SIDS is the unexplained death of an apparently healthy infant. It is only diagnosed when other causes are ruled out. Although the exact causes of SIDS are unknown, there are a number of factors that increase the risk of SIDS for an infant. These include being male (70 per cent of SIDS deaths are usually males) and sleeping on the stomach.

FIGURE 2.12 Infant mortality is decreasing in part due to reductions in deaths from sudden infant death syndrome (SIDS).

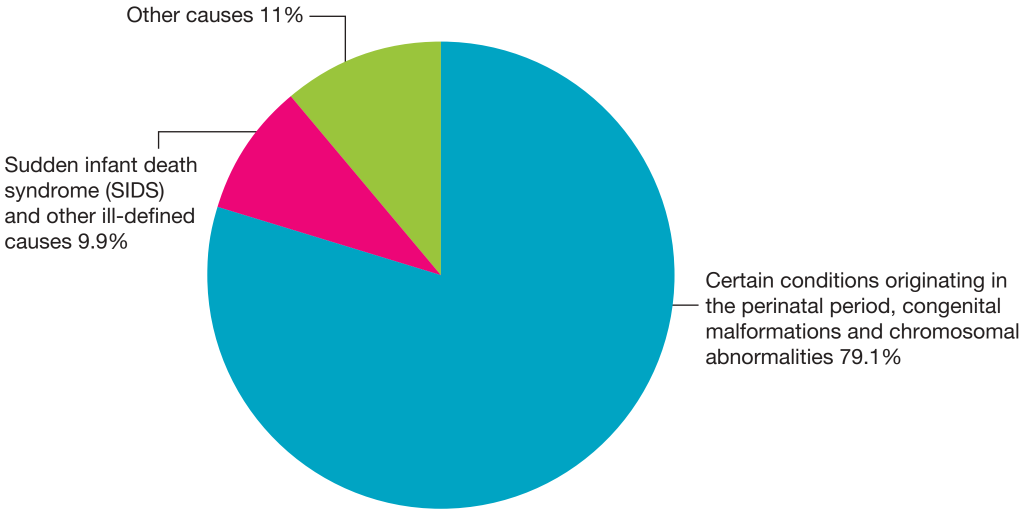
Most cases of infant mortality arise from problems associated with the birth or pregnancy itself. As a result of this, a majority of infant deaths occur in the period directly after birth. As infants and children get older, the risk of death decreases.

Specific causes of death in the first year of life are outlined in **FIGURE 2.13**. Conditions originating in the perinatal period, **congenital malformations** and chromosomal abnormalities account for almost 80 per cent of all infant deaths.

These include:

- conditions originating in the perinatal period relate to conditions that cause death in the first 28 days of life including complications of the placenta or umbilical cord, infections, birth injury, **asphyxia** and problems relating to premature births
- congenital malformations, sometimes referred to as 'birth defects', which often result from missing or ill-formed body structures. They may have a genetic, infectious or environmental origin, although in most cases it is difficult to identify their cause.
- chromosomal abnormalities during the creation of sperm and ova that can cause a range of conditions in the developing baby. Most often, these conditions arise as a result of too many or too few chromosomes. Some chromosomal abnormalities lead to physical defects that result in death.

FIGURE 2.13 Causes of infant mortality in Australia, 2022



Source: Adapted from ABS, Deaths, 2022.

2.3.2 Under-5 mortality rate

Under-5 mortality relates to deaths in children between birth and their fifth birthday. The under-5 mortality rate measures the rate of deaths in children under five, usually measured per 1000 live births. Like the infant mortality rate, the under-5 mortality rate has decreased over time in Australia (see **FIGURE 2.14**) and is low compared to most other countries. The reduction in infant mortality is partially responsible for the decrease in the under-5 mortality rate in Australia. Other contributing factors include greater awareness of risk factors for illness and injury, national childhood vaccination programs and improved health services and technology.

Although the overall rate of the under-5 mortality has decreased, it is important to remember that the figures are based on averages and that some disadvantaged groups experience higher rates than the country as a whole.

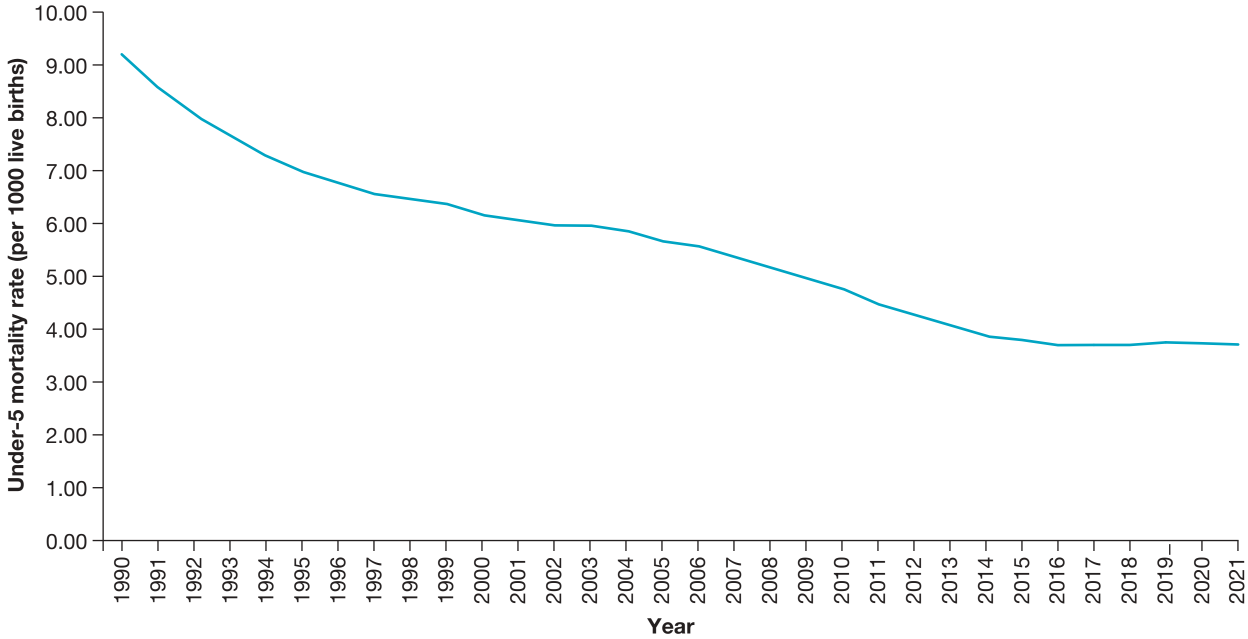
The significant proportion of causes of mortality for those under five are termed 'injuries' and are accidental in nature (see **FIGURE 2.15**). Injuries include falls, drowning, suffocation, poisoning, transport accidents and burns.

congenital malformations physical defects developing either in the uterus or dating from birth

asphyxia interrupted breathing leading to low levels of oxygen in the body, unconsciousness and often death

under-5 mortality relates to deaths in children between birth and their fifth birthday

FIGURE 2.14 Under-5 mortality rate in Australia over time



Source: https://childmortality.org/data/Australia

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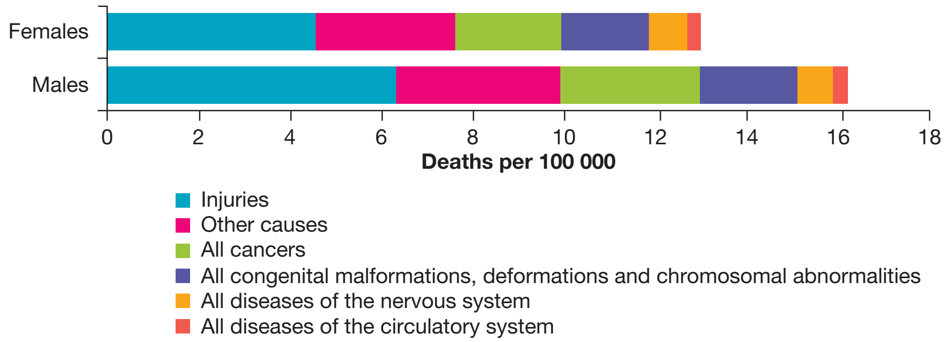
FIGURE 2.15 Leading causes of death for those aged 1–4 in Australia, 2019



Source: Adapted from: https://vizhub.healthdata.org/gbd-compare/ (accessed January 2024).

2.3.3 Maternal mortality rate

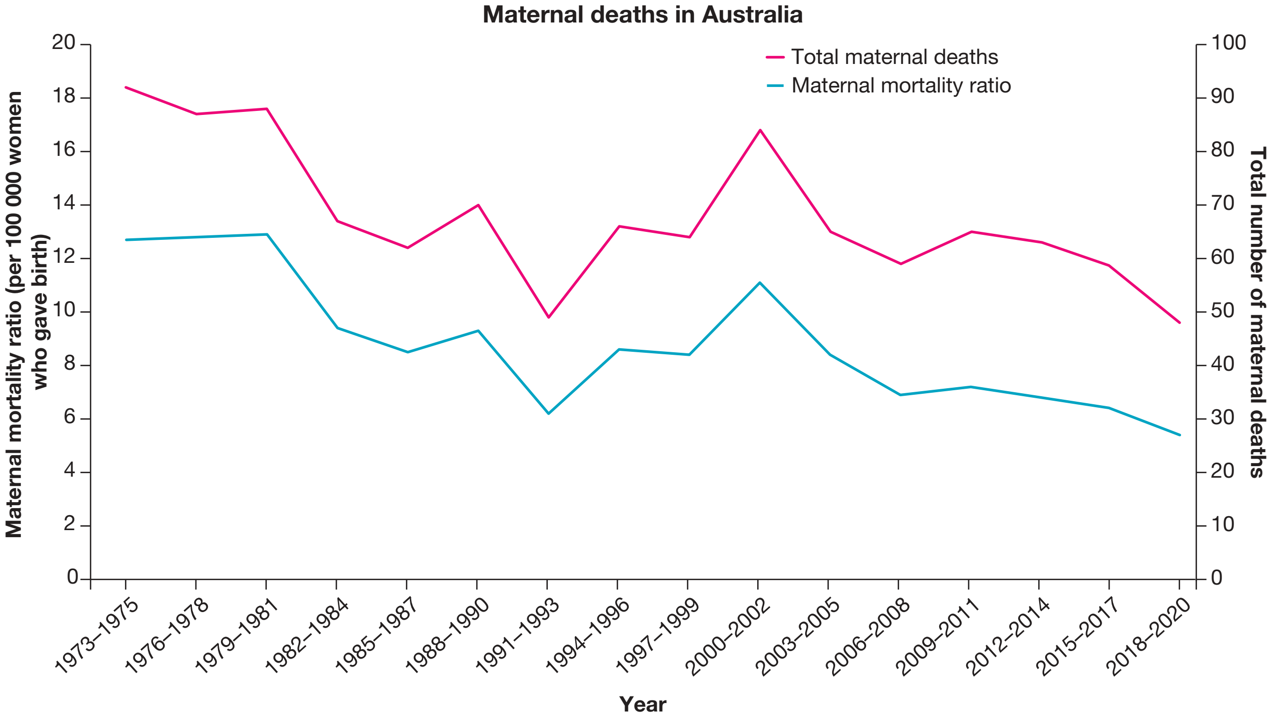
Maternal mortality relates to the deaths of mothers as a result of pregnancy or childbirth, up to six weeks after delivery. The maternal mortality ratio (or rate) relates to the number of mothers who die as a result of pregnancy, childbirth or associated treatment, usually measured per 100 000 women who give birth or per 100 000 live births.

Analysing maternal mortality rates allows trends to be identified so interventions can be put in place to reduce the risk of death as a result of pregnancy or childbirth.

maternal mortality death of a mother during pregnancy, childbirth or within six weeks of delivery

Pregnant women in Australia experience low maternal mortality rates compared to most other countries, although there is some variation among groups within Australia, with Aboriginal and Torres Strait Islander mothers experiencing a maternal mortality ratio three times higher than the rest of the population. Although maternal deaths in Australia are relatively rare, both the number and rate of maternal mortality fluctuate over time (see **FIGURE 2.16**). A range of factors contribute to these changes, including technological developments, improvements in the identification and reporting of maternal deaths, increasing rates of obesity (contributing to higher rates of cardiovascular disease among pregnant women) and increases in the average age of women giving birth.

FIGURE 2.16 Number and rate of maternal deaths in Australia over time



Source: https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/data

Leading causes of maternal mortality in Australia include:

- cardiovascular disease — the increased demands on the heart and blood vessels that occurs during pregnancy can contribute to cardiovascular diseases that were not present prior to pregnancy. Cardiovascular diseases are the most common cause of maternal deaths in Australia.
- **obstetric haemorrhage** — excessive bleeding during pregnancy, labour or after birth can lead to maternal death.

obstetric haemorrhage heavy bleeding occurring as a result of pregnancy or childbirth

on Resources

Weblink Interactive data on mortality in Australia

2.3 Exercises

2.3 Quick quiz on | **2.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 5, 7	4, 8, 9, 11, 12, 13	6, 10, 14

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Test your knowledge

1. Define the following:
   a. mortality
   b. infant mortality

c. infant mortality rate
d. maternal mortality
e. maternal mortality ratio
f. mortality rate
g. under-5 mortality rate.

2. Identify the top three causes of death for men and women.
3. a. Describe how the causes of death have changed over the past century in Australia.
   b. Brainstorm factors that may have contributed to the change outlined in **part a**.
4. Explain why the mortality rates for infants and children are key indicators of the general health status of the population.
5. Outline the difference in causes of mortality for infants compared to 1–4 year olds.

Apply your knowledge

6. Discuss the advantages of using mortality data in addition to life expectancy data when making judgements about the health status of a population.
7. Explain what a mortality rate of 150 per 100 000 people means for a population.
8. If a population has 1 000 000 people and the mortality rate is 500 per 100 000 people, how many people on average would die each year?
9. Outline two trends as shown in **FIGURE 2.7**.
10. Describe factors that may have contributed to the trends in mortality identified at the end of subtopic 2.3.
11. Outline the change in infant mortality rates for males and females that occurred between 2006 and 2022 in Australia according to **FIGURE 2.11**.
12. Outline the change in the under-5 mortality rate in Australia over time according to **FIGURE 2.14**.
13. a. Identify approximately how many maternal deaths there were in 2018–20 according to **FIGURE 2.16**.
    b. Identify approximately what the maternal mortality ratio was in 2018–20 according to **FIGURE 2.16**.
14. Dementia is a condition that has seen significant increases over time in Australia. Including references to changes in life expectancy and mortality rates, explain possible reasons for this change.

2.3 Exam questions

Question 1 (2 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.1.b*; © VCAA

	Share of births attended by skilled health staff (2017)	Maternal mortality ratio (no. of maternal deaths per 100 000 live births) (2017)
Australia	96.7%	6
Ghana	78.1%	308
Haiti	41.6%	480

Data: adapted from M Roser and H Ritchie, 'Maternal mortality', 2013, published online at <https://ourworldindata.org>

Using data from the table above, **outline** the relationship between access to skilled health staff and maternal mortality.

Question 2 (1 mark)

Briefly **explain** the difference between mortality and the mortality rate.

Question 3 (1 mark)

Identify the indicator that focuses on the mortality of children under the age of one.

Question 4 (4 marks)

Identify and briefly **describe** two causes of maternal mortality in Australia.

Question 5 (2 marks)

Outline two reasons why identifying trends in mortality data over time is important.

More exam questions are available in your learnON title.

2.4 Morbidity (including incidence and prevalence)

Key knowledge	Key skills
Indicators used to measure and understand health status: – incidence – prevalence – morbidity	• Interpret and apply indicators used to measure health status • Use data to evaluate the health status of Australians

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by morbidity, including: – incidence – prevalence.	• identify and describe morbidity, incidence and prevalence • analyse data (e.g. find trends, relationships, similarities and differences) relating to morbidity, including incidence and prevalence • use correct values and units of measurement in data relating to morbidity, including incidence and prevalence • make judgements about the health status of Australians based on data relating to morbidity, including incidence and prevalence.

Mortality rates were examined in subtopic 2.3. Although these are important statistics, they tell only part of the story. Many people experience conditions that impact significantly on health outcomes but do not lead to death. Many causes of mortality also contribute to significant illness prior to causing death. Therefore, looking at levels of ill health and disability is important in making judgements about overall health status.

Morbidity refers to 'ill health in an individual and levels of ill health within a population (often expressed through incidence [and] prevalence)' (AIHW, 2018). Therefore, the morbidity rate is a measure of how many people suffer from a particular condition during a given period of time. As stated in the Australian Institute of Health and Welfare (AIHW) definition, morbidity rates can look at **incidence** (the number or rate of **new** cases of a disease during a specified time, usually a 12-month period) or **prevalence** (the **total** number or proportion of cases of a particular disease or condition present in a population at a given time).

Incidence and prevalence provide two ways of looking at the impact of diseases. Unlike most infectious diseases, many chronic conditions, such as cardiovascular disease and cancer, are long-lasting and may have effects that may never be cured completely. As a result, they may require long-term care. People generally only receive a diagnosis for these conditions once; this represents their 'incident year'. Because these conditions can be long-lasting, prevalence data provides information about the total number of people with a particular condition at a given time, not just those who have been newly diagnosed. Prevalence data provides valuable information relating to the health care required to treat all people experiencing particular conditions.

As mortality rates have fallen, morbidity rates for many causes have increased. As people are living longer, there is more time for a range of factors to have a negative impact on health outcomes. There have also been increases in conditions such as obesity that result in an increased rate of associated conditions, such as type 2 diabetes, cardiovascular disease and some cancers. Even though the rates

FIGURE 2.17 Morbidity includes both incidence and prevalence rates.

morbidity ill health in an individual and levels of ill health within a population (often expressed through incidence and prevalence) (AIHW, 2018)

incidence refers to the number (or rate) of new cases of a disease/condition in a population during a given period (usually 12 months)

prevalence the total number or proportion of cases of a particular disease or condition present in a population at a given time (AIHW, 2008) of some of these conditions have increased, there are other, non-life-threatening conditions that affect many more people, such as arthritis and osteoporosis.

According to the AIHW estimates, around 78 per cent of Australians experience a long-term health condition. The proportion of people experiencing one or more long-term conditions increases with age. The most commonly reported conditions are outlined in **TABLE 2.3**. Many of the causes shown do not contribute to death, but they may reduce the quality of life over a long period.

FIGURE 2.18 As well as disease, morbidity includes injuries and disabilities.

TABLE 2.3 The most commonly reported long-term conditions, 2022

Condition	Males		Females	
	Per cent	Rank	Per cent	Rank
Long-sightedness[a]	27.0	1	33.7	1
Short-sightedness[b]	24.1	2	32	2
Hay fever	23.1	3	24.7	3
Back problems	16.4	4	16.5	6
Anxiety-related disorders	15.3	5	22.5	4
Arthritis	12	6	17.0	5
Deafness	11.8	7	7.4	16
Hypertension	11.7	8	11.6	10
Allergies	11.5	9	15	7
Depression and mood (affective) disorders	10.8	10	14.7	8
Asthma	9.4	11	12.2	9

[a] a sight condition where close objects appear blurry
[b] a sight condition where distant objects appear blurry

Source: https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022#data-downloads

Morbidity figures represent a snapshot of the whole population. Australians are living longer than ever, so some of these conditions are very common in the older population, but virtually non-existent in the younger population. As a result, it is also useful to examine the most reported long-term conditions for different age groups (see **TABLE 2.4**). This allows government and non-government organisations to develop appropriate strategies and allocate funds to address the most common conditions in each age group.

FIGURE 2.19 Vision problems are among the most common health conditions in Australia.

TABLE 2.4 Five most common conditions by age group, 2022

Age group	Condition	Per cent	Age group	Condition	Per cent
0–14	Mental and behavioural problems	14.7	45–54	Long-sightedness	49.4
	Hay fever	12.7		Short-sightedness	35.8
	Asthma	8.2		Mental and behavioural problems	28.7
	Food allergy	6.5		Hay fever	27.7
	Short-sightedness	6.2		Back problems	20.3
15–24	Mental and behavioural problems	36.3	55–64	Long-sightednedness	62.5
	Short-sightedness	27.9		Short-sightedness	38.9
	Hay fever	26.8		Arthritis	30.5
	Long sightedness	11.6		Hay fever	28.3
	Asthma	10.7		Back problems	26.9
25–34	Mental and behavioural problems	30.9	65+	Long-sightedness	63.8
	Short-sightedness	27.2		Arthritis	44.6
	Hay fever	25.3		Short-sightedness	40.1
	Back problems	12.8		Hypertension	39.0
	Long-sightedness	11.8		Deafness	32.0
35–44	Short-sightedness	28.2			
	Hay fever	27.6			
	Mental and behavioural problems	27.1			
	Back problems	18.9			
	Long-sightedness	16.0			

Source: https://www.abs.gov.au/statistics/health/health-conditions-and-risks/health-conditions-prevalence/latest-release

Trends in morbidity

A number of morbidity trends are emerging that are worth considering. The long-term effects of some of these trends will influence future mortality and morbidity rates, but this takes time. Some of the key trends identified by the AIHW include:

- a significant increase in the prevalence of overweight and obese people over the past 20–30 years (see **FIGURE 2.20**)
- increased rates of impaired glucose regulation (a precursor to type 2 diabetes) since 1980
- trebled rates of diabetes in the past two decades
- increased rates of kidney disease (attributed to the increased rates of diabetes).

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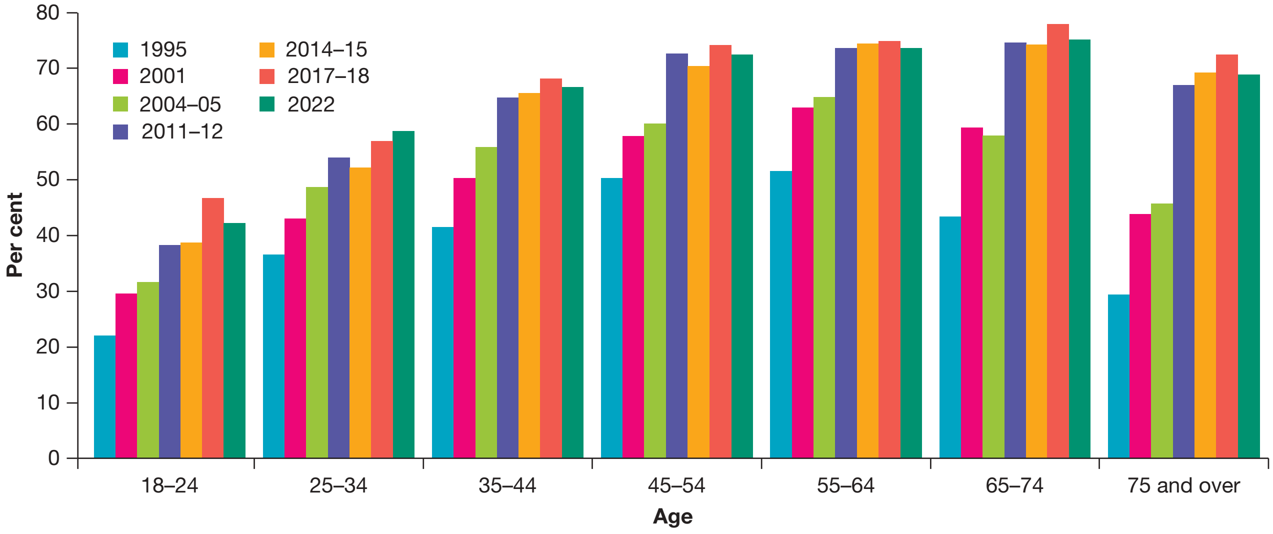
FIGURE 2.20 Trends in overweight and obesity prevalence, 1995–2022



2.4 Exercises

2.4 Quick quiz on | **2.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 4, 5	3, 6, 7, 8, 11	9, 10, 12

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Test your knowledge

1. Explain what is meant by 'morbidity'.
2. Explain the difference between incidence and prevalence.
3. Explain why morbidity rates have increased as mortality rates have decreased.
4. a. Briefly outline the overall change in rates of overweight and obesity between 1995 and 2022 according to **FIGURE 2.20**.
   b. Identify factors that may have led to these trends.
   c. Which age groups are most likely to be overweight or obese according to this figure?
5. a. State one difference between the long-term conditions of males and females as shown in **TABLE 2.3**.
   b. Identify factors that may have led to this difference.
6. Describe how the causes of morbidity change over the life span as shown in **TABLE 2.4**.
7. a. What are the most reported conditions in the 15–24 age group as shown in **TABLE 2.4**?
   b. Identify which of these conditions could be considered life-threatening.

Apply your knowledge

8. When looking at morbidity rates, explain why it is important to consider both incidence and prevalence rates.
9. 'Breast cancer — incidence up, death rate down, survival rates improve.' Is this headline possible? Explain your response.
10. Look at **FIGURE 2.18**. This person's physical health and wellbeing has been affected. How might their social, emotional, mental and spiritual health and wellbeing be affected? Are they all negative effects?
11. Describe how increasing rates of obesity could have a large impact on mortality and morbidity statistics in the future.
12. Explain how living with cancer could affect mental and spiritual health and wellbeing.

2.4 Exam questions

Question 1 (1 mark)

Source: *VCE 2021, Health and Human Development Exam, Q.3.a*; © VCAA

> Around 4 in 10 people aged 65 and over say they are in excellent or very good health.
> …
> It is estimated that 400 000 to 459 000 Australians are living with dementia. This number is expected to increase to between 550 000 and 590 000 by 2030, in line with the continued growth and ageing of Australia's population.

Source: Australian Institute of Health and Welfare (AIHW), *Australia's Health 2020: In Brief,* 'Australia's Health' series no. 17, cat. no. AUS 232, AIHW, Canberra, pp. 3 and 15

What is the difference between self-assessed health status and morbidity?

Question 2 (2 marks)

Source: *VCE 2013, Health and Human Development Exam, Q.5.c*; © VCAA

Death rates are one way in which health status can be measured. Incidence and prevalence are other measurements of health status.

Outline the difference between incidence and prevalence.

Question 3 (2 marks)

Source: *VCE 2013, Health and Human Development Exam, Q.1.b;* © VCAA

Outline the difference between mortality and morbidity as measurements of health status.

Question 4 (2 marks)

Source: Adapted from *VCE 2011, Health and Human Development Exam, Q.6;* © VCAA

Briefly **explain** what is meant by the following terms as health status indicators.

- under-5 mortality rate
- morbidity

Question 5 (4 marks)

> 'Swine flu has been called a pandemic by the World Health Organization because the disease has spread to affect people in 77 countries and has caused 254 206 cases and 2837 deaths. In Victoria, with a population of about 5 million, 2420 people have been diagnosed with the disease, and 30 new cases are being diagnosed each day. Swine flu has killed 24 people in Victoria.'

From the passage above, **identify** an example of each of incidence, prevalence, mortality and morbidity.

More exam questions are available in your learnON title.

2.5 Burden of disease including disability-adjusted life year (DALY), years of life lost (YLL) and years lived with disability (YLD)

Key knowledge	Key skills
Indicators used to measure and understand health status: – burden of disease – disability-adjusted life year (DALY) – years of life lost (YLL) – years lived with disability (YLD)	• Interpret and apply indicators used to measure health status • Use data to evaluate the health status of Australians

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by burden of disease, including: – disability-adjusted life year (DALY) – years of life lost (YLL) – years lived with disability (YLD).	• identify and describe burden of disease (including DALY, YLL and YLD) • analyse data (e.g. find trends, relationships, similarities and differences) relating to burden of disease (including DALY, YLL and YLD) • use correct values and units of measurement in data relating to burden of disease (including DALY, YLL and YLD) • make judgements about health status of Australians based on data relating to burden of disease (including DALY, YLL and YLD).

Burden of disease statistics take the impact of both mortality and morbidity into account and therefore provide a way of examining the total burden that a condition places on society. Specifically, burden of disease measures the gap between current health status and an ideal situation in which everyone lives to an old age free of disease and disability.

FIGURE 2.21 Burden of disease data allow us to compare the overall burden of conditions such as arthritis (which rarely causes death) with conditions that lead to many deaths.

In the past, if someone wanted to examine mortality and morbidity data to compare the effects that asthma and cancer have on Australians, it would have been difficult. How could a comparison be made between asthma (which affects more people than cancer and can last a lifetime, but causes relatively few deaths) and cancer (which causes thousands of deaths per year)? To overcome this problem, scientists and health professionals devised a system that allows a comparison of conditions that cause death, conditions that cause illness or disability, and those that cause both.

Burden of disease is measured in a unit called **disability-adjusted life year** or **DALY** (pronounced 'dally'), where one DALY is the equivalent of one year of life lost due to premature death or the equivalent time of healthy years lost as a result of living with a disease or disability. If 1000 DALY were lost due to asthma in a population, it means that 1000 years of healthy life have been lost as a result of premature death or by people suffering from the condition who experienced a reduced quality of life. If 2000 DALY were lost due to mental illness in the same population, it means that mental illness was twice the burden of asthma.

burden of disease a measure of the impact of diseases and injuries, specifically the gap between current health status and an ideal situation where everyone lives to an old age free of disease and disability. Burden of disease is measured in a unit called the DALY (VCAA).

disability-adjusted life year (DALY) a measure of burden of disease. One DALY is equal to one year of healthy life lost due to illness and/or death. DALYs are calculated as the sum of the years of life lost due to premature death and the years lived with disability for people living with the health condition or its consequences (AIHW, 2018).

DALY are useful for comparing population groups and can provide valuable information about trends and where interventions are required. DALY can also be used to work out the contribution of various risk factors to the overall burden of disease experienced. DALY are often calculated for a range of conditions and added to produce a grand total. In 2023, 5.6 million years of 'healthy' life were lost in Australia.

DALY is calculated by adding **years of life lost (YLL)** due to premature death and the number of **years lived with disability (YLD)**, illness or injury (see **FIGURE 2.22** and the following sections).

FIGURE 2.22 The equation for calculating burden of disease

YLL + YLD = DALY

2.5.1 Years of life lost (YLL)

Years of life lost (YLL) are the fatal component of DALY. Each YLL represents one year of life lost due to premature death. YLL can be calculated for any condition that causes death. The younger a person is when they die from a condition, the greater the number of YLL will be added for that condition. If a person dies from cancer at 60, and life expectancy for a 60-year-old is 85, then 25 years of life have been lost. An infant who does not survive past the age of one will contribute significantly more YLL than a 60-year-old because the life expectancy for a one-year-old is around 82 years, which means 81 YLL are added.

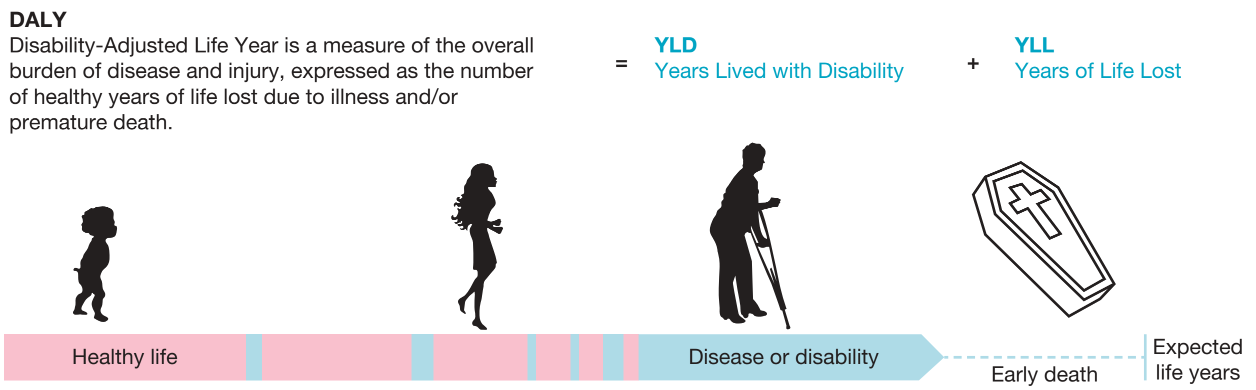
2.5.2 Years lived with disability (YLD)

Years lived with disability (YLD) (also referred to as 'Years lost due to disability') are the non-fatal component of DALY. A complex formula is used to calculate YLD because conditions vary in their severity. For example, Alzheimer's disease generally has a greater impact on a person's life than asthma, and this needs to be considered when calculating YLD. Because the formula used to calculate YLD takes such considerations into account, it is possible to make a more accurate comparison. If a person suffers for 10 years from a disease that makes them only 'half well', then they have lost five 'healthy' years due to this condition. Although ill health generally has greater impacts towards the end of life, YLD can be contributed at any stage of a person's life.

years of life lost (YLL) a measure of how many years of expected life are lost due to premature death

years lived with disability (YLD) a measure of how many healthy years of life are lost due to disease, injury or disability

FIGURE 2.23 DALY are calculated by adding the fatal and non-fatal impacts of disease and injury.



Source: https://commons.wikimedia.org/wiki/File%3ADALY_disability_affected_life_year_infographic.svg

YLL and YLD are equal in value in that both represent one year of healthy life lost. However, YLL is from premature death whereas YLD is from illness, injury or disability.

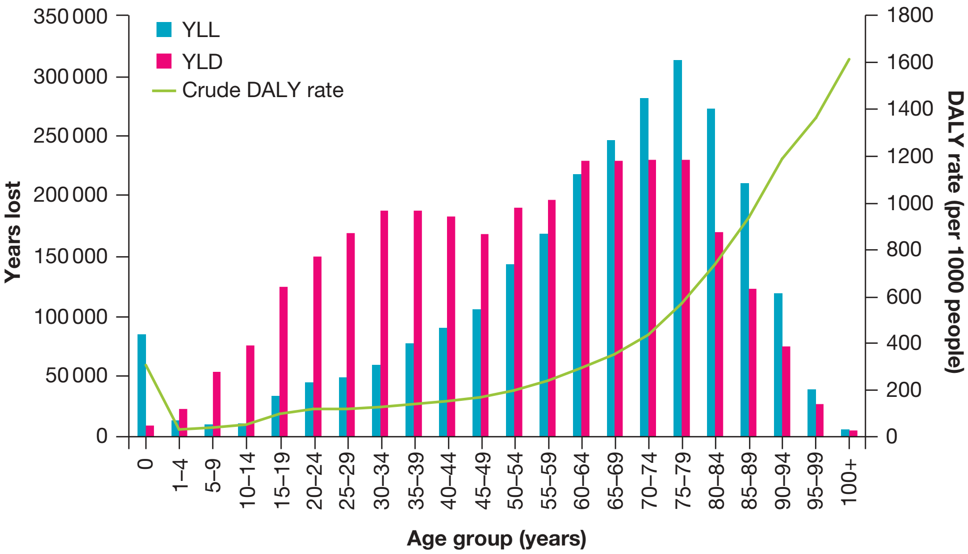
The number of YLL and YLD change across the life span, as shown in **FIGURE 2.24**. Those aged under one contribute significantly more YLL than other young people. Most of the total burden is from non-fatal causes up to the age of 64, after which the fatal burden is higher. The number of YLL increases gradually until reaching its maximum in the 75–79 age group. If an individual dies after the age of 79, they contribute a smaller number of YLL than younger people, but many people die after this age, accounting for the relatively high number of YLL in the older age groups.

The number of YLD gradually increases from birth until the age of around 35–39 and then fluctuates until reaching a peak in the 75–79 age group before gradually decreasing. There is a large number of people in the 35–79 age groups who experience chronic illness, which contributes to this trend.

The overall rate of DALY is relatively high (around 300 per 1000 people) in the first year of life, after which it declines significantly in early childhood to around 30 per 1000 people. There is then a gradual increase to around age 64, followed by rapid increases throughout the remainder of the life span until the overall rate reaches around 1600 per 1000 people for those aged 95 and over.

int-9255

FIGURE 2.24 Fatal and non-fatal composition of the total burden of disease, by age, 2023



Source: https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2023/data

2.5.3 Burden of disease in Australia

Australians' health status is among the best in the world and continues to improve. However, the prevalence and incidence of certain diseases and conditions have not improved and have actually deteriorated. Many of these are largely preventable conditions that occur as a result of the choices people make throughout their lives. These 'lifestyle' diseases are now the focus of many government and non-government initiatives.

By looking at burden of disease data, a more complete picture of the conditions that are having the largest impact on the Australian population can be gained.

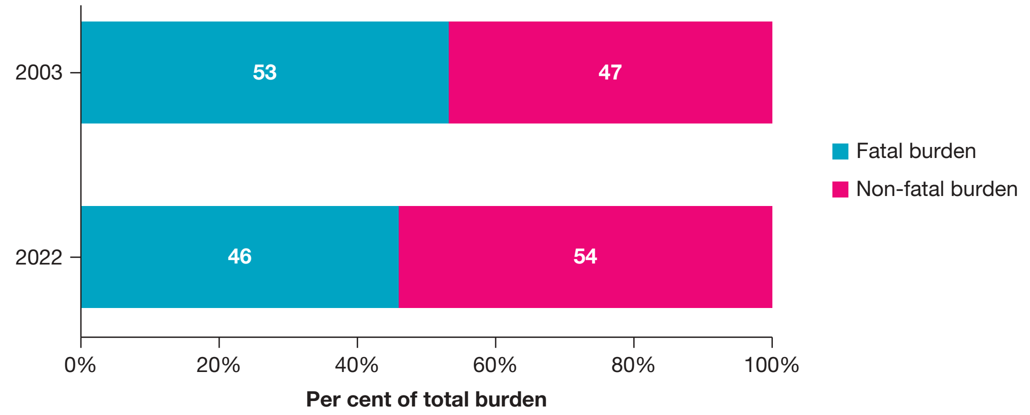
In 2023, around 5.6 million healthy years were lost due to premature death and people living with disease and disability. In 2023, around 46 per cent of the total burden was due to fatal outcomes and around 54 per cent was due to non-fatal outcomes. This represents a significant change from 2003 (see **FIGURE 2.25**). The five disease groups causing the most burden were:

- cancer
- mental and substance use disorders

- musculoskeletal disorders
- cardiovascular diseases
- neurological disorders (including dementia).

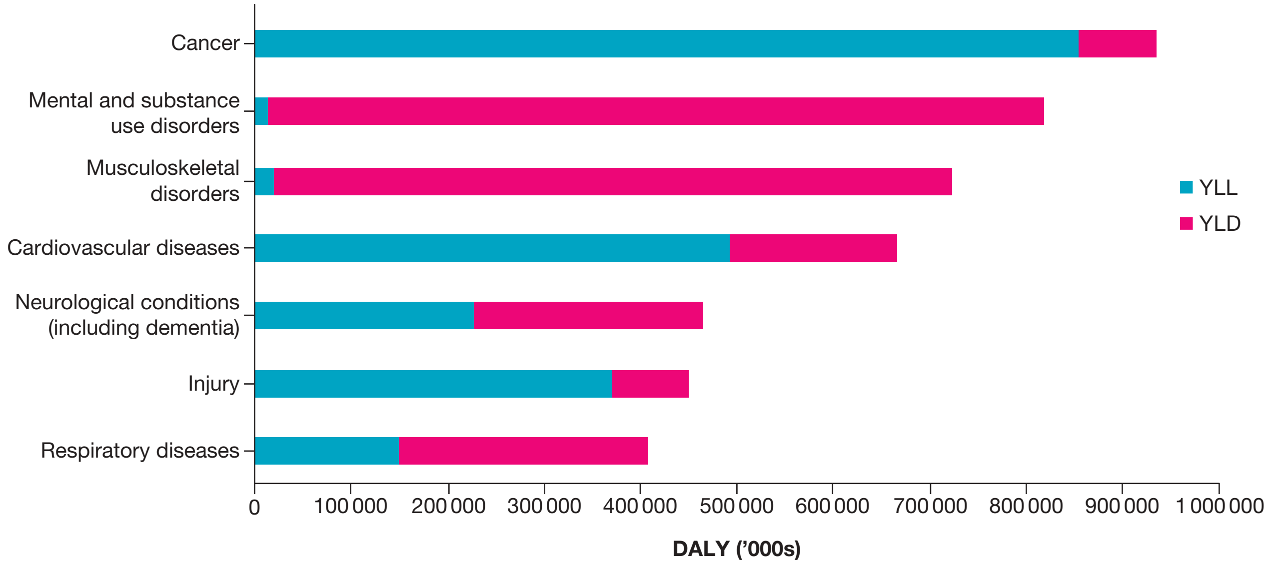
Together, these accounted for around 65 per cent of the total burden.

FIGURE 2.25 Propotion (%) of total burden due to fatal and non-fatal burden in 2003 and 2023



The largest contributors to overall burden of disease are shown in **FIGURE 2.26**. This graph shows the total burden (DALY), the burden contributed by the fatal component (YLL) and the burden contributed by the non-fatal (YLD) component of each condition.

FIGURE 2.26 Burden (YLL, YLD and DALY) of major disease groups, 2023



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2023/data

The overall burden of disease is different for different age groups. The total number of DALY is relatively low in the younger age groups and gradually increases until reaching the highest point for those aged 75–79 (see **FIGURE 2.27a**). The contribution of various conditions also changes for people of different ages. **FIGURE 2.27b** shows that infant/congenital conditions (shown in dark purple) have their greatest impact in the first year of life and then decrease as age increases. Mental conditions (shown in light purple) and injuries (light blue) account for a relatively high proportion of DALY up to around 50 years of age, after which cancer (dark pink) and cardiovascular diseases (dark blue) increase in proportion of total burden.

int-9256

FIGURE 2.27 Number (a) and relative proportion (b) of the total burden (DALY), by disease group and age, 2023

(a)

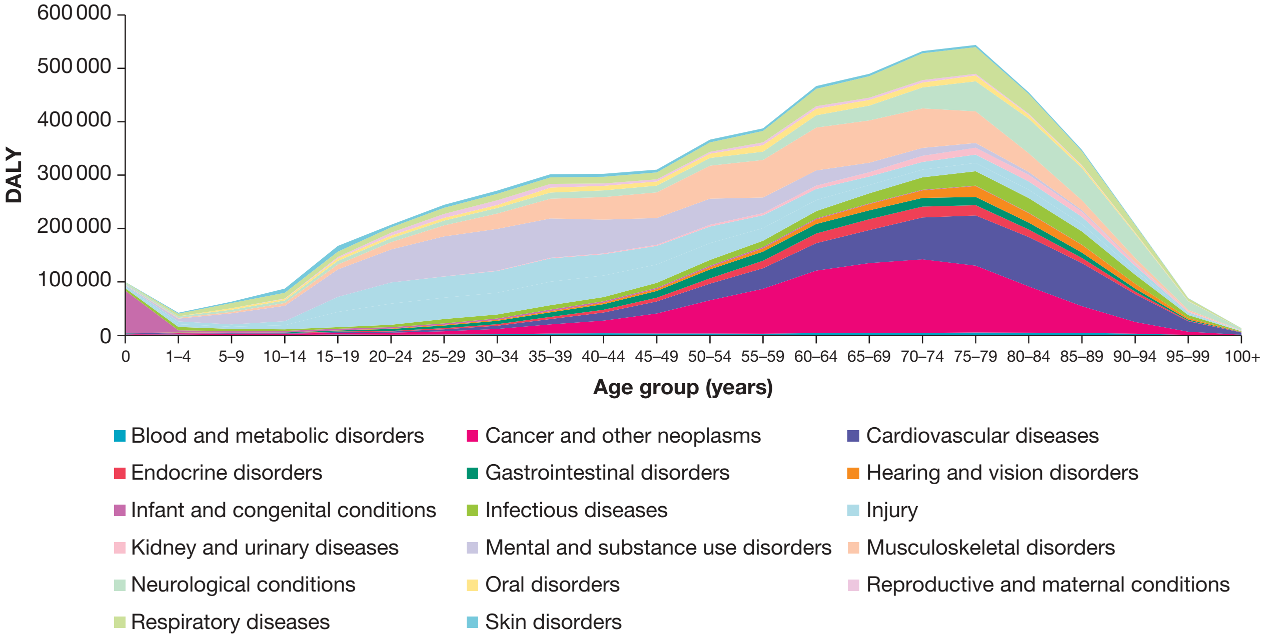
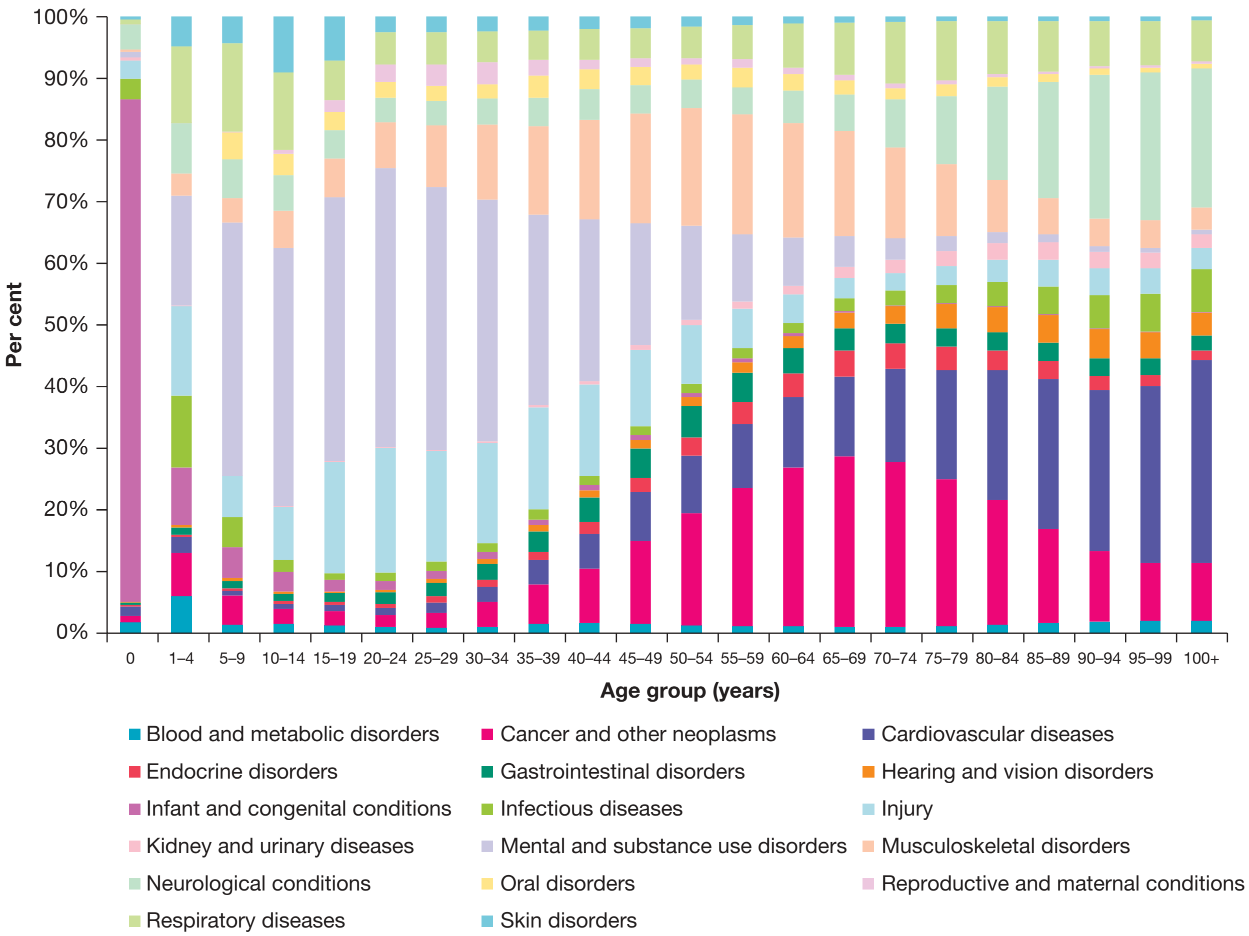


FIGURE 2.27a is an example of a stacked area graph. This type of graph shows:

- the total DALY for each age group.
- the contribution that each disease group makes to the total.
- For example, for those in the 0 age group, there were close to 100 000 DALY in total.
- Of these, around 75 000 were caused by infant and congenital conditions (dark purple).
- For those aged 15–19, there were around 150 000 DALY in total.
- Around 30 000 of these were due to injuries (light blue) and around 60 000 were due to mental and substance use disorders (light purple).

(b)



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2023/data

FIGURE 2.27b is a 100 per cent stacked bar graph.

- Like the stacked area graph, it shows the contribution of various diseases.
- Here it shows the proportion that each disease contributes to the total, as opposed to the total DALY that each disease contributes.
- This graph does not indicate what the total DALY was for each group, just the proportion of the total contributed by various diseases.
- For example, around 80 per cent of the total DALY for those in the 0 age group were contributed by infant and congenital conditions (dark purple).
- For the 15–19 age group, around 20 per cent of total DALY were caused by injuries (light blue) and around 40 per cent) were due to mental and substance use disorders (light purple).

2.5.4 Trends in burden of disease

The following trends in burden of disease have been observed in Australia over time:

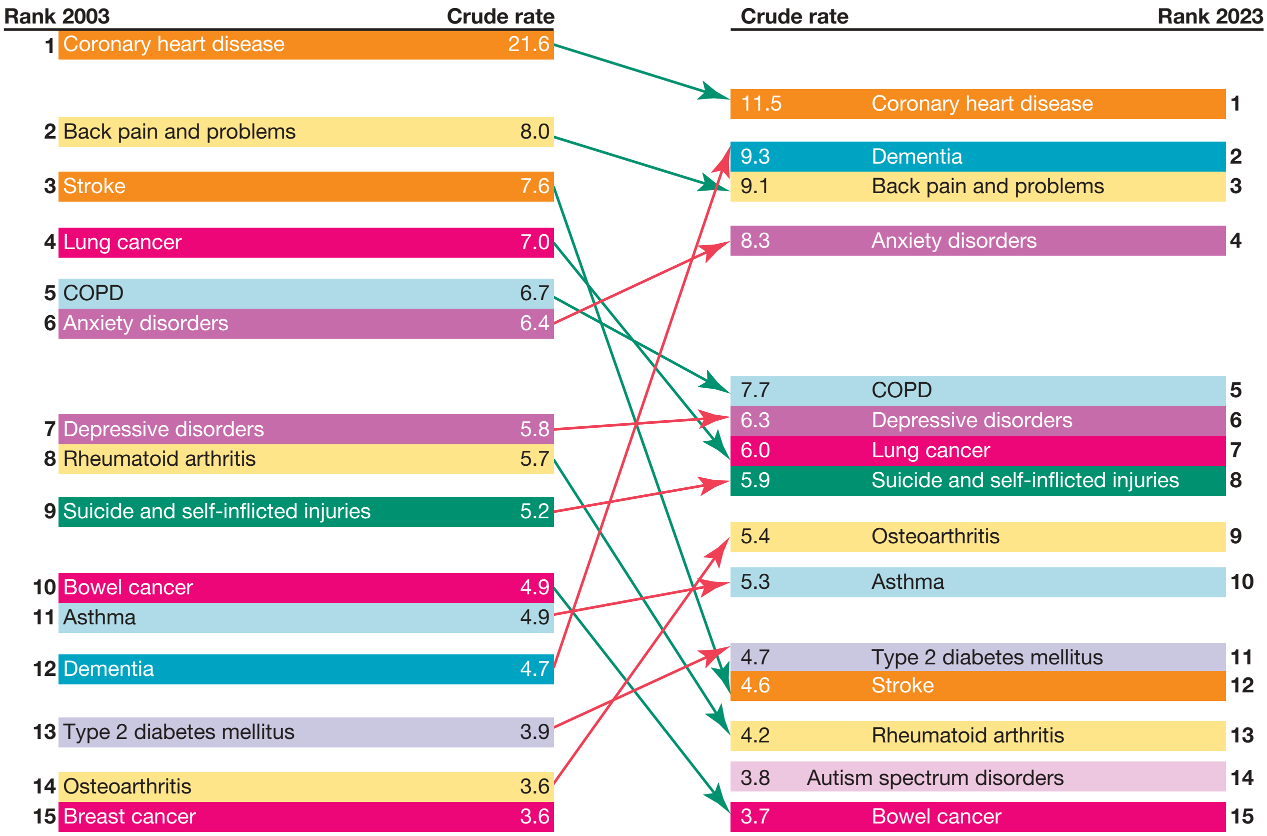
- When the impact of the increasing age and size of the population is taken into account, the rate of burden decreased 11 per cent between 2003 and 2023 from 209 to 186 DALY per 1000 people. The non-fatal burden increased by around 6 per cent between 2003 and 2023 (99 YLD per 1000 and 105 YLD per 1000 population respectively) and fatal burden decreased 27 per cent (from 111 to 81 YLL per 1000 people).

- For disease groups, most rates of burden of disease decreased or stayed relatively unchanged between 2003 and 2023, although there were increasing rates for:
  - mental and substance use disorders, which increased by around 27 per cent
  - neurological conditions (including dementia), which increased by around 15 per cent
  - hearing and vision disorders, which increased by around 13 per cent.
- For non-fatal burden, rates increased for anaemia, type 1 and 2 diabetes, eating disorders and osteoarthritis.
- There was a large decrease in the rate of fatal burden for cardiovascular diseases and cancer.

Changes in disease ranking for total burden (DALY per 1000) between 2003 and 2023 are shown in **FIGURE 2.28**.

int-9257

FIGURE 2.28 Change in disease ranking by total burden (DALY per 1,000 population), 2003 and 2023



Source: https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/summary#Changes

FIGURE 2.28 represents the top 15 causes of burden of disease ranked from highest to lowest.
- A green arrow (as seen for coronary heart disease) represents a decrease in DALY from 2003 to 2023.
- A red arrow (as seen for anxiety disorders) represents an increase in DALY over the same period of time.
- The size of the gap between diseases reflects the difference in the rate of DALY between those two conditions.
- A large gap (as seen between coronary heart disease and back pain and problems in 2003) means a greater difference in the rate of DALY compared to a smaller gap (as seen between coronary heart disease and back pain and problems in 2023).

2.5 Activity

Create a mind map of the health indicators covered in this subtopic.

2.5 Exercises

2.5 Quick quiz on

2.5 Exercise

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Learning pathways

LEVEL1	LEVEL 2	LEVEL 3
1, 2, 3	4, 5, 6, 8	7, 9, 10

Test your knowledge

1. a. What is meant by the term 'burden of disease'?
   b. Outline the benefit of using burden of disease as a health indicator.
   c. State the unit of measurement for burden of disease data.
2. a. What is one DALY equal to?
   b. Describe how DALY are calculated.
3. Explain the difference between YLL and YLD.
4. Refer to **FIGURE 2.26**.
   a. What are the top three contributors to YLL in Australia?
   b. What are the top three contributors to YLD in Australia?
   c. What are the top three contributors to overall burden of disease in Australia?
5. Refer to **FIGURE 2.27**.
   a. Identify the age group that contributed the most DALY in 2023. Approximately how many DALY were contributed by this age group?
   b. Identify the age group that contributed the least DALY in 2023.
   c. Identify the age group that had the greatest proportion of DALY contributed by neurological conditions.
   d. Identify the age group that had the greatest proportion of DALY contributed by injuries.
6. According to **FIGURE 2.27**, approximately how many DALY were contributed by infants as a result of infant/congenital conditions?

Apply your knowledge

7. Explain how one condition can cause more deaths yet contribute fewer YLL than another condition.
8. Describe how the social health and wellbeing of an individual may be affected when suffering from cancer.
9. If you were the Minister for Health and could select three conditions on which to focus resources, which would you pick? Justify your choice.
10. Which health indicator do you believe provides the most accurate picture of health status in Australia? Justify your choice.

2.5 Exam questions

Question 1 (3 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.7.a*; © VCAA

> The leading causes of burden of disease in Australia in 2015 were cancer (18%) and cardiovascular disease (14%).

Data: Australian Institute of Health and Welfare (AIHW), *Australia's Health 2020: In Brief,* 'Australia's Health' series no. 17, cat. no. AUS 232, AIHW, Canberra, p. 7

Describe burden of disease as a measure of health status.

Question 2 (2 marks)

Source: Adapted from *VCE 2014, Health and Human Development Exam, Q.1.a*; © VCAA

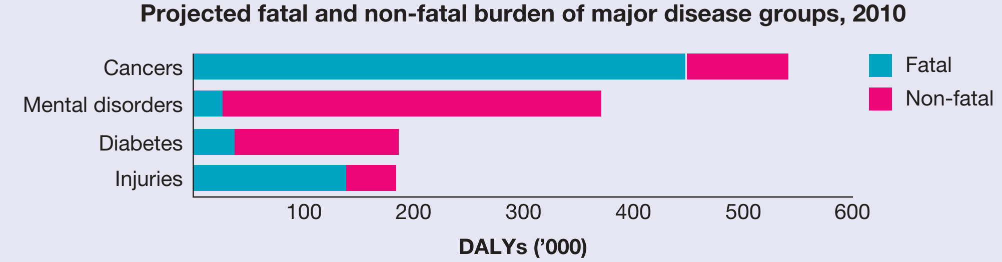
Briefly **explain** what is meant by 'disability-adjusted life year (DALY)' as a health status indicator.

Question 3 (3 marks)

Source: Adapted from *VCE 2011, Health and Human Development Exam, Q.3*; © VCAA

A measure known as the burden of disease shows the impact of different health problems.

The graph below shows the projected fatal and non-fatal burden of some major disease groups in Australia.



Briefly **explain** what is meant by burden of disease as a health status indicator and use an example from the graph to illustrate its meaning.

Question 4 (1 mark)

Source: *VCE 2007, Health and Human Development Exam, Q.2.a.i*; © VCAA

TABLE 2 shows the disability-adjusted life years (DALYs) by age, sex and cause in Victoria 2001.

TABLE 2 DALYs by age, sex and cause, Victoria, 2001

Broad disease group	Males by age group (years)					Females by age group (years)				
	0–14	15–34	35–54	55–74	75+	0–14	15–34	35–54	55–74	75+
Cancer	592	1 581	11 849	38 954	18 165	373	2 098	15 660	28 248	17 632
Diabetes	175	496	5 450	7 017	2 177	169	381	4 180	5 818	3 320
Mental disorders	4 408	25 421	12 665	3 429	467	2 477	23 376	17 074	4 570	530
Cardiovascular disease	121	1 488	9 869	26 332	22 579	220	1 188	4 567	16 821	31 868
Musculoskeletal diseases	63	592	2 613	3 648	1 239	66	724	3 555	5 335	2 814
Injuries	2 138	14 479	8 830	3 209	1 050	1 207	4 172	3 340	1 793	1 690
Other	21 575	9 056	16 641	33 024	27 017	16 869	13 450	15 115	25 638	38 393
Total	29 072	53 113	67 917	115 613	72 694	21 381	45 389	63 491	88 223	96 247

Source: Adapted from Public Health Group, Rural and Regional Health and Aged Care Services Division, 2005, *Victorian Burden of Disease Study, Mortality and morbidity in 2001*, Victorian Government Department of Human Services, Melbourne, p. 177.

Which disease group contributes most to the DALYs for the 15–34 year age group for males and females?

Question 5 (3 marks)

Source: *VCE 2007, Health and Human Development Exam, Q.2.a.ii*; © VCAA

Refer to **TABLE 2** in question 4.

Are mental disorders likely to contribute more to DALYs through years of life lost to premature death (YLL), or healthy years lived with disability (YLD)? **Explain** why.

More exam questions are available in your learnON title.

2.6 KEY SKILLS

2.6.1 Interpret and apply indicators used to measure health status

tlvd-11400

KEY SKILL Interpret and apply indicators used to measure health status

Tell me

The ability to interpret and apply key health status indicators means being able to understand the key health status indicators, including the information they provide. This includes being able to describe what each indicator relates to and to discuss similarities and/or differences in relation to the information they provide. When defining key health status indicators, it is important to include all the crucial aspects of the definition. Frequent use of these terms is a good way to gain an understanding of what they mean and when they should be used. When defining a key term, try to avoid a definition that is too narrow. For example, a definition of life expectancy requires two components to make it complete.

1

Life expectancy: The number of years of life, on average, remaining to an individual at a particular age if death rates do not change.

2

Once the meanings of the key health status indicators are known, it is important that the information provided by each indicator is understood so that they can be used to accurately discuss characteristics of the health status of populations.

Show me

An example of a response discussing differences in health status between males and females could be:

Females experience a higher life expectancy and health-adjusted life expectancy[1] than males. This means that on average, females are expected to live longer than males if current death rates don't change.[2] It also means that females on average will live longer in full health and without reduced functioning, compared to males.[3]

[1] Two relevant health indicators are identified.
[2] A comparison between males and females is made.
[3] An understanding of the health indictors is shown.

Practise the key skill

1. Explain burden of disease.
2. Explain the difference between life expectancy and health-adjusted life expectancy.
3. Making reference to two health status indicators, explain the health status of Australians.

2.6.2 Use data to evaluate the health status of Australians

tlvd-11401

KEY SKILL Use data to evaluate the health status of Australians

Tell me

The use and interpretation of data is a skill that is required throughout this course and will be revisited at various times throughout the key skill sections.

Health status data can help to identify trends over time, or compare countries or population groups. Effective interpretation of this data is important for improving the health status of the individuals or groups in question. Data in the form of tables, graphs and charts are useful for comparing the health status experienced in different countries or between different groups.

To become proficient at interpreting data, it is important to be able to read and interpret a range of graphs and tables. Take time to work out exactly what the graph is about and what information needs to be extracted from it.

The following steps provide a systematic way of reading graphs and tables.

1. Read the *title* of the graph. The title usually gives an indication of the kind of information presented in the graph. It might be located at the top of the graph or next to the figure number.
2. Read the *horizontal* and *vertical axes* (of a bar graph, for example) and look at the units; for instance, the units might represent a percentage, year, number, rate, proportion or dollars. Use the correct unit when referring to data (see also step 6 below).
3. Look at the *key* if there is one. This helps identify various elements of the data.
4. Read any *notes that relate to the data*. There may be additional written information at the bottom of the graph explaining various elements of the graph. An element of the data that might not make sense might become clear after reading these notes.
5. Look for *trends, similarities and differences between the data*. This will enable a better understanding of the data that the graph is presenting.
6. When commenting on data, try to avoid making general statements such as 'more' and instead try to use data from the graph to support your statement; for instance, use 'around 75 deaths per 100 000 compared to around 150 deaths per 100 000', making sure to refer to the correct unit of measurement.

Show me

Once interpreted, data can be used to evaluate the health status of Australians.

Evaluating data often involves making judgements based on the information provided. This frequently requires drawing conclusions, finding similarities and differences, and identifying trends and relationships.

FIGURE 2.29 contains data that can be used to evaluate the health status of Australians in regard to mortality rates.

Although the gap between male and female mortality rates has narrowed over time, males in Australia experienced higher mortality rates than females every year.[4] The mortality rate for males aged 65–69 decreased from around 3350 per 100 000 population in 1980 to around 1100 per 100 000 in 2021. For females in the same age group, rates decreased from around 1600 per 100 000 in 1980 to around 650 per 100 000 in 2021.[5]

Those aged 65–69 and over were significantly more likely to die than those aged 60–64 in 2021[6] For example, the mortality rate for males aged 60–64 was around 700 per 100 000 compared to around 1100 per 100 000 males aged 65–69. For females, the mortality rate was around 250 deaths per 100 000 higher for the 65–69 age group compared to the 60–64 age group.[7]

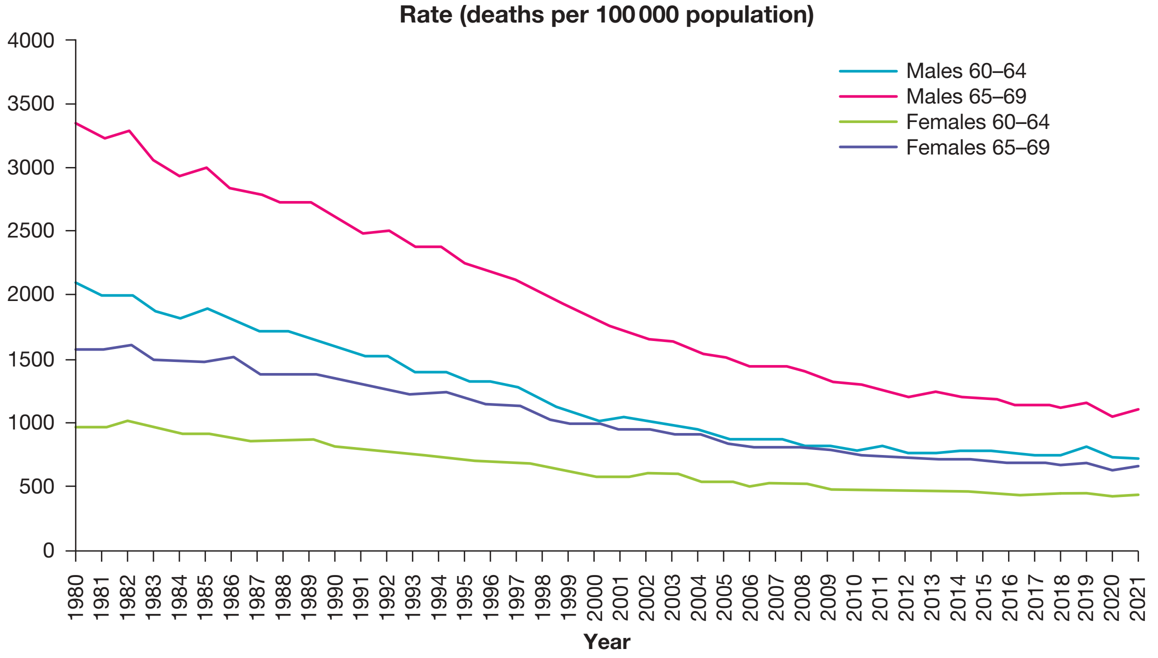
[4] A general statement identifying a trend and a comparison of males and females is made.

[5] Data from the graph is used to support the initial statement. Because exact numbers cannot be obtained from the information provided, terms such as 'approximately' and 'around' ensure that the statements are not definite.

[6] A second statement identifying a difference between the age groups is made.

[7] Data from the graph is used to clarify the second statement and correct units are used.

FIGURE 2.29 Mortality rates, people aged 60–64 and 65–69 by sex, 1980–2021

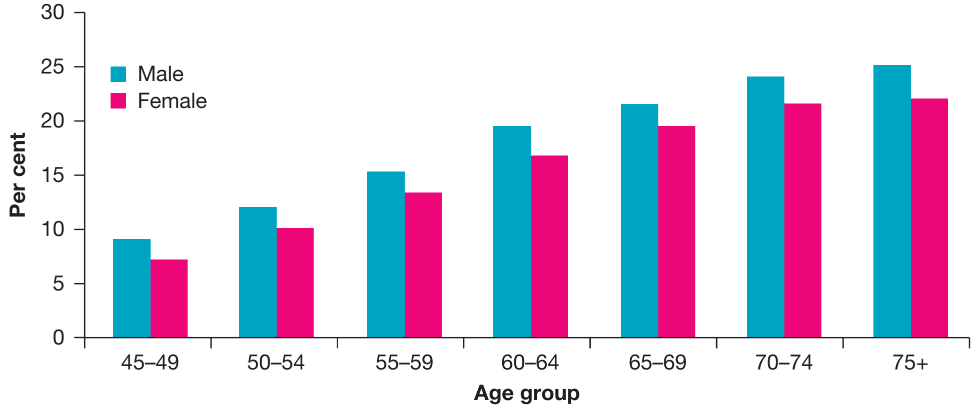


Source: AIHW, GRIM Books, 2023.

Practise the key skill

4. Refer to **FIGURE 2.30**, which shows the prevalence of type 2 diabetes for males and females aged 45 and over, to answer the following.
   a. Outline one similarity and one difference in health status between males and females in Australia.
   b. Outline the relationship between age and the prevalence of type 2 diabetes in Australia.

FIGURE 2.30 Prevalence of type 2 diabetes among people aged 45 years and over, according to sex, 2019



Source: Adapted from IHME, 2021.

2.7 EXTENDED RESPONSE — Build your exam skills

tlvd-11402

In topic 1, you were provided with opportunities to break extended response questions down into their components. In this subtopic, you will build on this skill by breaking questions down and brainstorming the sorts of things you might link to for each part. For example, consider the following question:

Identify and briefly explain two health status indicators and, using your own knowledge, draw a conclusion about the health status of males compared to females.

Step 1:

This question can be broken down into the following parts:

Identify and / briefly explain two health status indicators / and, using your own knowledge, / draw a conclusion about the health status of males compared to females.

As can be seen, the four requirements of this question are:
- identify two health status indicators
- explain what each of the indicators mean
- use your own knowledge
- draw a conclusion about the health status of males compared to females.

Step 2:

To build on this skill, it is possible to brainstorm the sorts of things that might be included in each part. For example:

Requirement of the question	Concepts that might be included for the requirement
Identify two health status indicators	• Self-assessed health status • Life expectancy • Health-adjusted life expectancy • Mortality (maternal, infant and/or under-5) • Morbidity (incidence and/or prevalence) • Burden of disease (DALY, YLL and/or YLD).

Explain what each of the indicators mean	This will depend on the indicators selected. For example:
	• HALE: relates to how long a person can expect to live in full health/free from disease, injury and disability based on current rates of mortality and morbidity
	• DALY:
	  • a measure of burden of disease
	  • one DALY is equal to one healthy year of life lost
	  • includes both fatal and non-fatal components.

Requirement of the question	Concepts that might be included for the requirement

Use your own knowledge	• Males have lower HALE than females.
	• Overall, males experience a higher rate of burden of disease than females.
	• Males experience a higher rate of DALY for a range of conditions, including:
	  • injuries
	  • cancer
	  • cardiovascular disease.
	• Females experience a high rate of some conditions, including:
	  • musculoskeletal conditions
	  • neurological conditions
	  • blood and metabolic disorders
	  • reproductive and maternal problems.

Draw a conclusion about the health status of males compared to females	• Males generally have a lower level of health status compared to females. • Males tend to have a higher rate of DALY due to conditions that cause death. • Females experience higher rates of some conditions that contribute more to YLD.

Practise this skill

For the following questions, break each one down into its parts and brainstorm the sorts of things that could be included in each part.

1. Briefly explain the difference between infant and under-5 mortality rates and, using examples of factors that influence each, explain why these measures may be good indicators of the overall state of a society.
2. Identify and briefly explain three health status indicators and outline one strength and one weakness of each in relation to portraying overall health status in Australia.
3. Using examples, explain why numerous health status indicators are required to provide an overall picture of health status in Australia.

2.8 Review

Hey students! Now that it's time to revise this topic, go online to:

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2.8.1 Topic summary

2.2 Self-assessed health status, life expectancy and health-adjusted life expectancy (HALE)

- Health status can be measured using a number of health indicators, including self-assessed health status, life expectancy, health-adjusted life expectancy (HALE), mortality (including infant, under-5 and maternal) morbidity (including incidence and prevalence), and burden of disease. The statistics relate to averages, so their use is limited when predicting the health outcomes of an individual.
- The health status of Australians is excellent overall and is constantly improving. Australia has one of the highest life expectancy rates and one of the lowest mortality rates in the world. However, Australia could improve, most notably in the rates of obesity and related conditions, such as type 2 diabetes.
- The majority of Australians assess their health status as excellent or very good, although this proportion decreases with age.
- Life expectancy at birth in Australia is about 81.3 for males and 85.4 for females. Life expectancy has generally increased for both sexes over time, although there was a small decease in 2022, largely due to the impact of COVID-19.

2.3 Mortality (including maternal, infant and under-5)

- Mortality refers to death, often at a population level. The mortality rate measures the rate of deaths from a specific condition or all conditions combined, often expressed per 1000 or 100 000 people in a 12-month period.
- Cardiovascular disease and cancer are the leading causes of mortality in Australia. Many of the causes of these conditions are preventable.
- Infant mortality rates are low in Australia compared to other countries.
- Pregnant women in Australia experience low maternal mortality rates compared to most other countries.

2.4 Morbidity (including incidence and prevalence)

- Morbidity is defined as ill health in an individual and levels of ill health within a population.
- The morbidity rate is a measure of how many people suffer from a particular condition during a given period of time.
- An overall decrease in mortality rates has resulted in an increase in morbidity rates for many conditions.
- Obesity is emerging as a major health concern in Australia, as are other lifestyle conditions.

2.5 Burden of disease including disability-adjusted life year (DALY), years of life lost (YLL) and years lived with disability (YLD)

- Burden of disease measures the gap between current health status and an ideal situation in which everyone lives to an old age free of disease and disability.
- Burden of disease is measured in a unit called disability-adjusted life year (or DALY) where one DALY equals one year of healthy life lost to premature death and/or time lived with illness or disability. DALY are calculated by adding the years of life lost (YLL) and years lived with disability (YLD).
- Years lived with disability (YLD) are the non-fatal component of DALY.
- Years of life lost (YLL) are the fatal component of DALY. Each YLL represents one year of life lost due to premature death.

- Cancer contributes most to the YLL and DALY overall.
- Mental and substance use disorders contribute most to the YLD, closely followed by musculoskeletal disorders (including arthritis, osteoporosis and back pain).

on Resources

Digital document Summary (doc-41381)

2.8.2 Key terms

asphyxia interrupted breathing leading to low levels of oxygen in the body, unconsciousness and often death
burden of disease a measure of the impact of diseases and injuries, specifically the gap between current health status and an ideal situation where everyone lives to an old age free of disease and disability. Burden of disease is measured in a unit called the DALY (VCAA).
congenital malformations physical defects developing either in the uterus or dating from birth
disability-adjusted life year (DALY) a measure of burden of disease. One DALY is equal to one year of healthy life lost due to illness and/or death. DALYs are calculated as the sum of the years of life lost due to premature death and the years lived with disability for people living with the health condition or its consequences (AIHW, 2018).
health-adjusted life expectancy (HALE) the average length of time an individual at a specific age can expect to live in full health; that is, time lived without the health consequences of disease or injury (AIHW, 2018)
health indicators standard statistics that are used to measure and compare health status (e.g. life expectancy, mortality rates, morbidity rates)
health status an individual's or population's overall level of health and wellbeing taking into account various indicators such as life expectancy, mortality and morbidity
incidence refers to the number (or rate) of new cases of a disease/condition in a population during a given period (usually 12 months)
infant mortality deaths in children between birth and their first birthday
infant mortality rate the rate of deaths of infants before their first birthday, usually expressed per 1000 live births
life expectancy the number of years of life, on average, remaining to an individual at a particular age if death rates do not change. The most commonly used measure is life expectancy at birth (AIHW, 2018).
maternal mortality death of a mother during pregnancy, childbirth or within six weeks of delivery
maternal mortality ratio the number of mothers who die as a result of pregnancy, childbirth or associated treatment per 100 000 women who give birth (or per 100 000 live births)
morbidity ill health in an individual and levels of ill health within a population (often expressed through incidence and prevalence) (AIHW, 2018)
mortality relates to death, often at a population level
mortality rate the measure of the proportion of a population who die in a one-year period (usually per 100 000); sometimes referred to as 'death rate'
obstetric haemorrhage heavy bleeding occurring as a result of pregnancy or childbirth
prevalence the total number or proportion of cases of a particular disease or condition present in a population at a given time (AIHW, 2008)
self-assessed health status 'An individual's own opinion about how they feel about their health, their state of mind and their life in general' (AIHW, 2018). It is commonly sourced from population surveys.
trend a general change or movement in a particular direction. For example, trends indicate a significant increase in obesity rates over the past 20 years.
under-5 mortality relates to deaths in children between birth and their fifth birthday
under-5 mortality rate (U5MR) the number of deaths of children under five years of age per 1000 live births (WHO, 2008)
years lived with disability (YLD) a measure of how many healthy years of life are lost due to disease, injury or disability
years of life lost (YLL) a measure of how many years of expected life are lost due to premature death

2.8 Exercises

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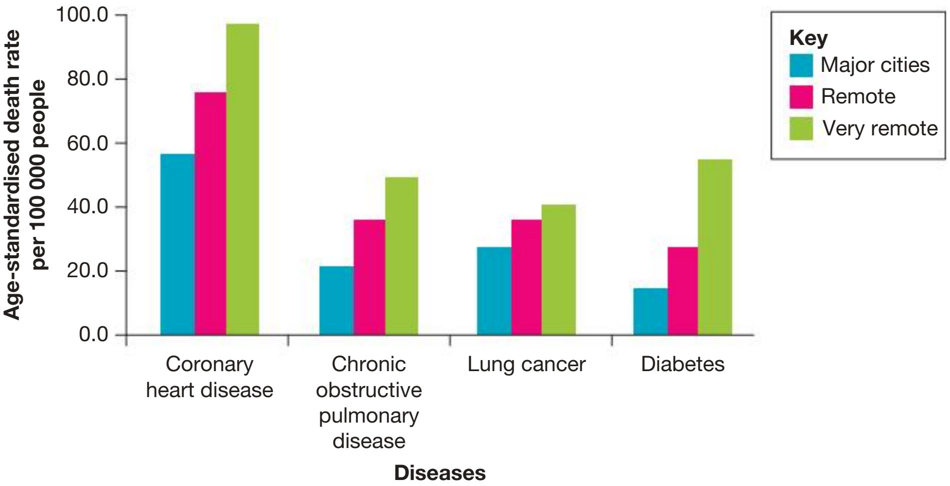
2.8 Exam questions

Question 1 (1 mark)

Source: *VCE 2022, Health and Human Development Exam, Q.4.a*; © VCAA

Death rate by cause and ASGS remoteness for selected diseases, (2015–2019)



Identify a trend in the graph above.

Question 2 (2 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.8.a*; © VCAA

Describe disability-adjusted life year (DALY) as a measure of health status.

Question 3 (2 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.1.a*; © VCAA

Explain the difference between life expectancy and health-adjusted life expectancy.

Question 4 (1 mark)

Source: Adapted from *VCE 2013, Health and Human Development Exam, Q.1.a*; © VCAA

Briefly **explain** what is meant by health status.

Question 5 (9 marks)

Refer to **FIGURE 2.31a**.

a. Explain what is meant by DALY. **1 mark**

b. Identify the disease group that contributed the greatest proportion of DALY through fatal outcomes. **1 mark**

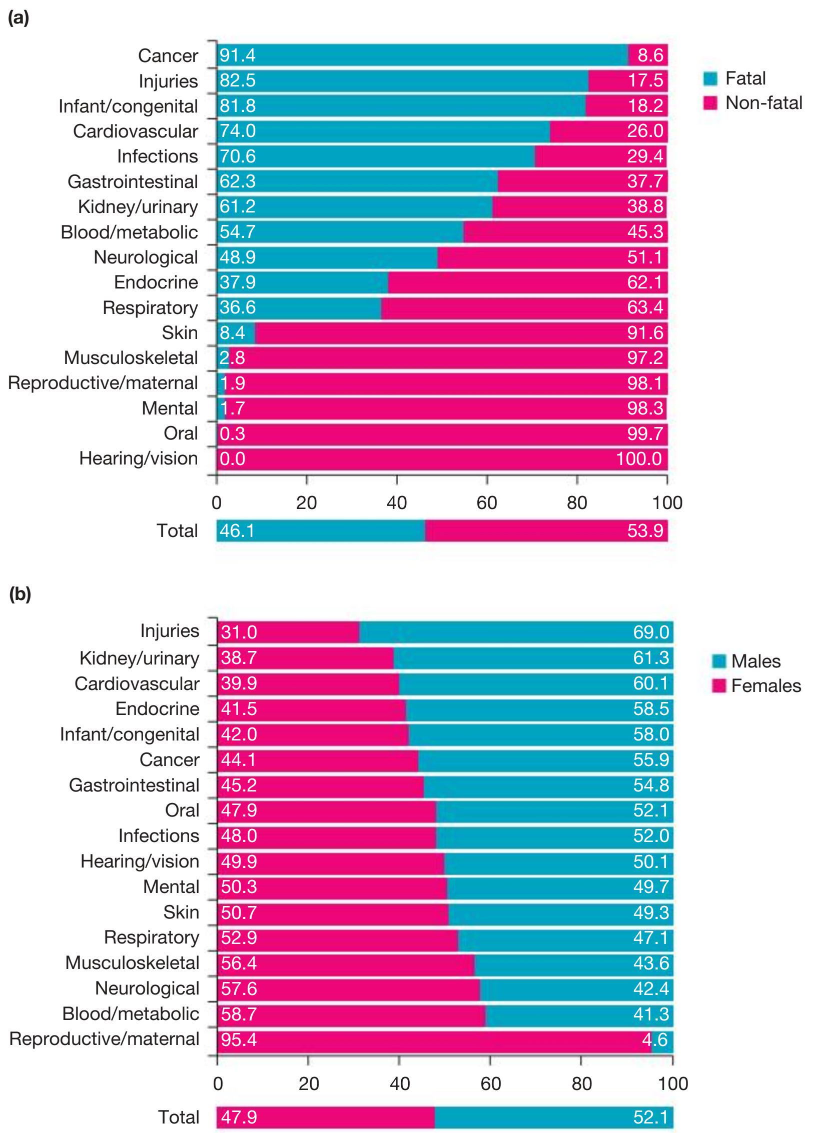
c. Identify the disease group that contributed the greatest proportion of DALY through non-fatal outcomes. **1 mark**

d. Identify the disease group for which males had the highest proportion of DALY. **1 mark**

e. Identify the disease group for which males had the lowest proportion of DALY. **1 mark**

f. Referring to data in **FIGURE 2.31b**, **compare** the health status of males and females in Australia. **4 marks**

FIGURE 2.31 Proportion (%) of total burden by fatal versus non-fatal (a) and sex (b), by disease group



Source: Adapted from https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/burden-of-disease/data

Resources

Digital document	Key terms glossary (doc-41380)
Interactivities	Crossword (int-9230) Definitions (int-9231)
Exam question booklet	Topic 2 Exam question booklet (eqb-0246)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 2 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- **2.2** Joy of statistics worksheet (doc-32189) ☐
- **2.8** Summary (doc-41381) ☐
- Key terms glossary (doc-41380) ☐

Interactivities

- **2.2** Health status indicators (int-9306) ☐
- Self-assessed health status, by age, 2022 (int-9258) ☐
- **2.3** Infant mortality rates in Australia and the global average over time (int-9254) ☐
- Leading causes of death for those aged 1–4 in Australia, 2019 (int-8488) ☐
- **2.4** Trends in overweight and obesity prevalence, 1995–2022 (int-9259) ☐
- **2.5** Fatal and non-fatal composition of the total burden of disease, by age, 2023 (int-9255) ☐
- Number (a) and relative proportion (b) of the total burden (DALY), by disease group and age, 2023 (int-9256) ☐
- Change in disease ranking by total burden (DALY per 1,000 population, 2003 and 2023 (int-9257) ☐
- **2.8** Crossword (int-9230) ☐
- Definitions (int-9231) ☐

Teacher-led videos

- **2.2** Measurements of health status (tlvd-0260) ☐
- **2.6** Key skill: Interpret and apply indicators used to measure health status (tlvd-11400) ☐
- Key skill: Use data to evaluate the health status of Australians (tlvd-11401) ☐
- **2.7** Extended response: Build your exam skills (tlvd-11402)

Weblinks

- **2.2** Joy of statistics ☐
- **2.3** Interactive data on mortality in Australia ☐

Exam question booklet

- **2.8** Topic 2 Exam question booklet (eqb-0246) ☐

To access these online resources, log on to **www.jacplus.com.au**

3 Factors influencing Australia's health status

LEARNING SEQUENCE

3.1 Overview

	Key knowledge	Key skills	Subtopics
◯	The contribution to Australia's health status of: – smoking and vaping – alcohol – overweight and obesity – nutritional imbalance (under-consumption of fruit and vegetables, and dairy foods; high intake of fat, salt and sugar; low intake of fibre).	*The Key skill that relates to this dot point also relates to the population group point in Topic 4 and has been covered there.*	**3.2, 3.3, 3.4, 3.5, 3.6**

Key terms

anaemia
antioxidants
atherosclerosis
cholesterol
dental caries
energy dense
fortified
hypertension
nutrient dense

on Resources

Digital document Key terms glossary (doc-41382)

Exam question booklet Topic 3 Exam question booklet (eqb-0247)

3.2 The impact of smoking and vaping on health status in Australia

Key knowledge

The contribution to Australia's health status of:
– smoking and vaping

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• how smoking and vaping can contribute to specific diseases and how this impacts health status.	• explain how smoking and vaping can contribute to specific diseases • make meaningful links from specific diseases caused by smoking and vaping to relevant health status indicators.

3.2.1 Introduction

As explored in topic 2, health status in Australia is very good and improvements continue to be made. Each year, however, there are around 5.5 million years of healthy life lost due to premature death and time lived with illness or disability in Australia, indicating that more improvements can be made.

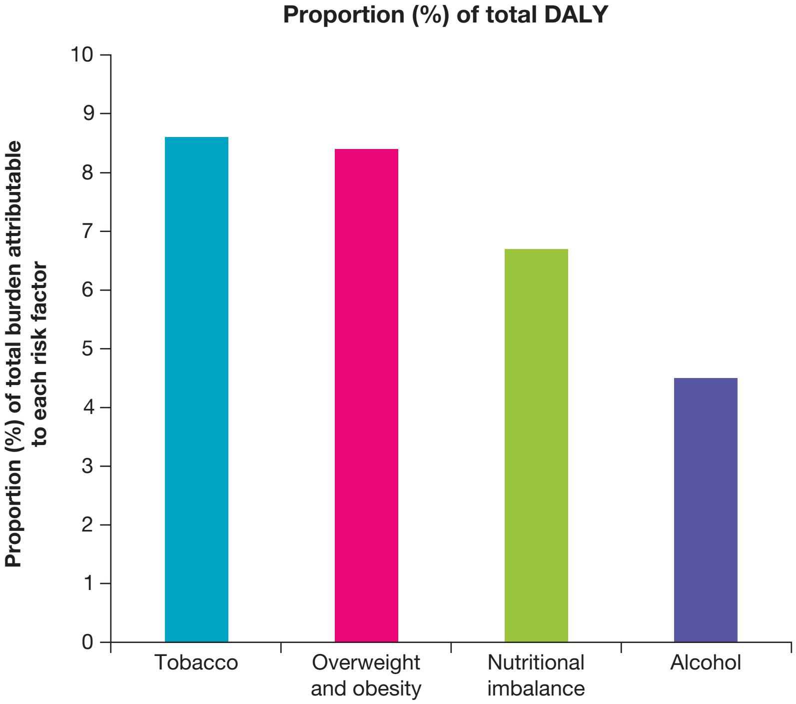
FIGURE 3.1 Reducing tobacco and alcohol use could contribute to significant health gains in Australia.

The health status of individuals and populations is the product of a range of factors, some of which can be modified by behaviour and lifestyle changes. Four factors are particularly influential and relevant from an Australian perspective and will be explored in detail in the coming subtopics:

- smoking and vaping
- alcohol
- overweight and obesity
- nutritional imbalance (under-consumption of fruit and vegetables and dairy foods; high intake of fat, salt and sugar; and low intake of fibre).

Together, these factors account for around 25 per cent of the total burden of disease in Australia (see **FIGURE 3.2**). Being largely modifiable, these factors highlight areas where significant progress can be made in relation to health status.

FIGURE 3.2 Proportion (%) of total burden attributable to selected risk factors, 2018



Source: https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/burden-of-disease/data.

3.2.2 The impact of smoking and vaping on health status in Australia

Smoking is a practice in which a substance is burned and the resulting smoke is inhaled to be tasted and absorbed into the bloodstream. Smoking generally relates to the use of tobacco, but can also include marijuana and other drugs.

Vaping relates to the use of e-cigarettes or 'vapes'. Vapes are battery-powered devices that use an element to turn a liquid (e-liquid) into an aerosol (or vapour), which is then inhaled into the lungs. All e-liquids (sometimes referred to as 'juice') used in vapes contain propylene glycol and glycerol. These substances are common food additives that are generally considered safe to consume in moderate amounts, however, the long-term impacts of inhaling these substances are not fully understood. Some studies suggest that regularly inhaling these substances can damage cells and DNA and cause irritation and harm to the mouth, nose, throat and lungs.

Although the exact long-term impacts of e-cigarettes are currently unknown, many of the chemicals often found in vapes are also found in traditional cigarettes, including:

- nicotine — a highly addictive chemical that has been shown to impair brain development in youth and can lead to poisoning and an increase in rates of anxiety and depression
- acetaldehyde and formaldehyde — known **carcinogens**
- particulate matter — microscopic solid and liquid particles that contribute to chronic obstructive pulmonary diseases, such as chromic bronchitis and cardiovascular disease, and premature death.

FIGURE 3.3 A range of interventions, such as smoking bans, have helped to reduce rates of tobacco smoking in Australia.

carcinogens things that have the potential to cause cancer, such as UV radiation, cigarette smoke and asbestos

Rates of smoking have decreased significantly in Australia over time, from around 25 per cent in 1991 to around 11 per cent in 2022. A range of interventions contributed to this decrease, including advertising bans, bans on smoking indoors and increasingly in outdoor public spaces, plain packaging, price increases, restrictions on sales to minors, public education and media campaigns.

In recent years, there has been a significant increase in the rate of people who had used an e-cigarette, from 8.8 per cent in 2016 to 14.4 per cent in 2022. Among younger adults, the rate increased even more, from 19.2 per cent to 38 per cent for those aged 18–24, and from 14.8 per cent to 26.1 per cent for those aged 25–29.

As well as the direct health impacts likely caused by e-cigarettes, the use of these products has been linked to higher rates of traditional cigarette use in the future. The exact reason for this is unknown but is believed to be related to normalising the practice and decreasing the average age at which people first try products containing nicotine.

EXAM TIP

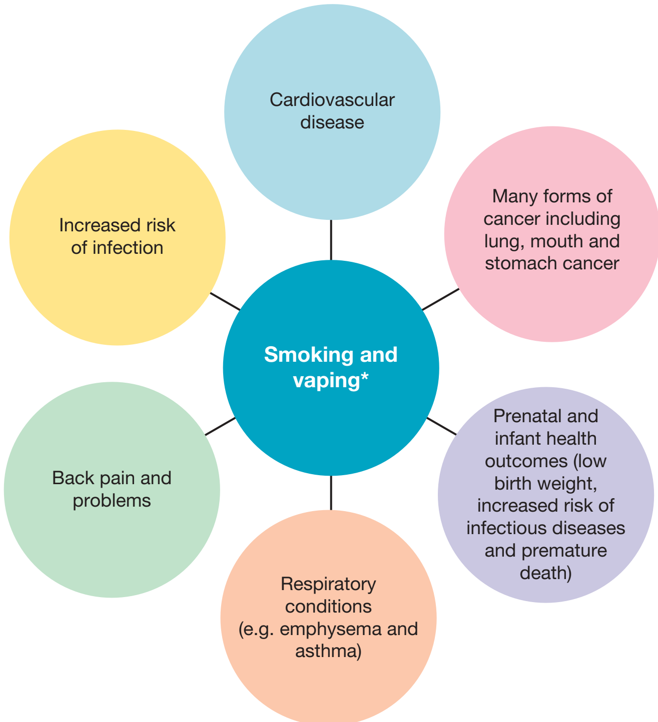
Vaping has been proven to cause harm, however, the long-term impacts on health status are still emerging, due to its relatively recent emergence. As a result, we will assume that vaping could contribute to the same health impacts as smoking, until further research is complete and available.

In 2018, smoking was responsible for 9.3 per cent of the total burden of disease and injury, making it the number one preventable and modifiable risk factor in Australia. The impact of smoking includes the risks associated with past tobacco use, current use and exposure to secondhand smoke. Although males used to smoke in greater numbers, current rates of smoking are now more equal between males and females.

The dangers of smoking were proven more than 60 years ago. Even so, people continue to smoke and die from smoking-related conditions. Whether it is physical or mental, addiction to smoking cigarettes and e-cigarettes can be one of the hardest addictions to overcome.

Smoking is a risk factor for a range of health concerns as shown in **FIGURE 3.4**.

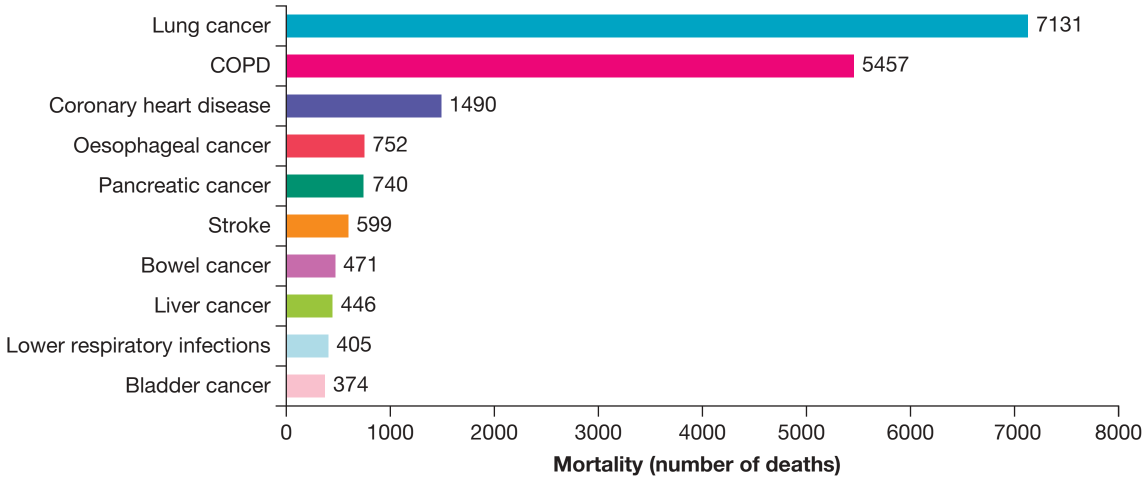
FIGURE 3.4 With more than 4000 chemicals in each cigarette, smoking can lead to any of these conditions and effects.



Note: *The exact contribution of vaping to health status in the long-term is unknown at this time, however, many researchers predict the impacts could be similar to the effects smoking has. As a result, vaping has been included in this graphic.

The proportion of deaths attributable to smoking for specific conditions is shown in **FIGURE 3.5**.

FIGURE 3.5 Mortality (number of deaths) attributable to smoking, 2018



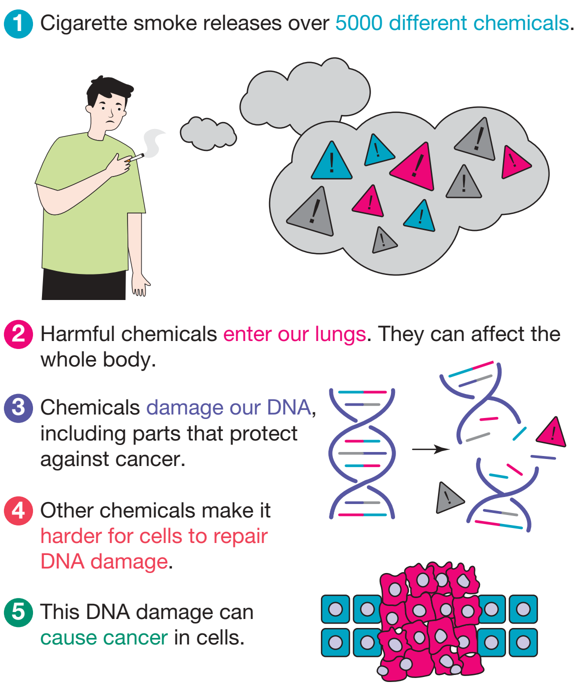
Source: AIHW, 2018.

Smoking and cardiovascular disease

Over 15 per cent of all smoking-related burden of disease is due to cardiovascular disease. Tobacco smoke reduces the amount of oxygen in the blood, contributing to increased blood pressure and heart rate. As well as increasing blood pressure, chemicals in tobacco smoke speed up the process of **atherosclerosis**, which significantly increases the risk of heart attack and stroke and contributes to higher mortality rates from these conditions. Chemicals in tobacco smoke also thicken the blood, making it sticky and more likely to form blood clots. A blood clot is a clump of blood that is required to stop bleeding in the body, but can also block blood vessels and restrict blood flow to various parts of the body, including the heart and brain.

atherosclerosis the build-up of plaque on blood vessel walls, making it harder for blood to get through

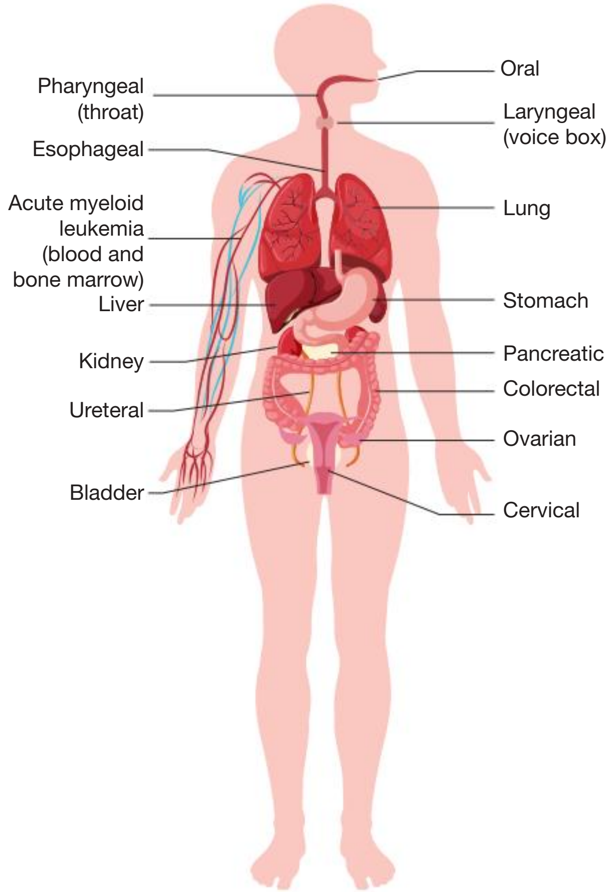
FIGURE 3.6 Smoking can cause cancer by damaging our DNA.



Smoking and cancer

Smoking can cause a fault in body cells as they divide. This can lead to a tumour and, ultimately, cancer (see **FIGURE 3.6**). These faults can be caused in many parts of the body (see **FIGURE 3.7**), making smoking the most preventable risk factor for cancer and cancer-related deaths in Australia. In 2018, tobacco use was responsible for almost 80 per cent of lung cancer DALY, around 75 per cent of the total burden of laryngeal cancer and half of the oesophageal cancer burden.

FIGURE 3.7 Smoking increases the risk of cancer in many parts of the body.



Smoking and prenatal/infant health outcomes

Tobacco use during pregnancy reduces blood flow to the baby, which in turn reduces the amount of nutrients available for optimal development and growth, increasing the risk of having a baby with low birth weight. Babies born with a low birth weight (under 2.5 kilograms) are more likely to have an underdeveloped immune system, making them more susceptible to infections. They are also more likely to suffer from premature death, which contributes to the infant and under-5 mortality rates. Low birth weight is a leading contributor to burden of disease for those aged 0–14 in Australia.

Smoking and asthma

Exposure to tobacco smoke in early life (including in the uterus) increases the risk of developing asthma. Asthma causes the muscles in the airways to tighten and the lining of the airway to become swollen and inflamed, producing sticky mucous. These changes cause the airways to become narrow, making it difficult to breathe. For those who experience asthma, exposure to tobacco smoke increases the risk of suffering an asthma attack and can make the symptoms more difficult to control, therefore impacting health status. In 2018, around 8.5 per cent of the total asthma burden occurred as a result of tobacco smoking, mainly as a result of non-fatal outcomes.

FIGURE 3.8 Exposure to tobacco smoke in early life increases the risk of developing asthma.

Smoking and chronic obstructive pulmonary disease (COPD)

Tobacco smoke damages the airways, which contributes to a number of respiratory conditions including chronic obstructive pulmonary disease (COPD). COPD was the fifth leading cause of premature death for males and females in 2021 (ABS, 2023). COPD includes chronic bronchitis and emphysema and is characterised by reduced airflow into the lungs and limited ability to utilise oxygen due to damaged lung tissue. Tobacco smoke contributes to this condition by causing inflammation of the airways and destroying the air sacs in the lungs, where gas exchange occurs. In 2018, tobacco use was responsible for 73 per cent of the DALY attributed to COPD.

Smoking and back pain and problems

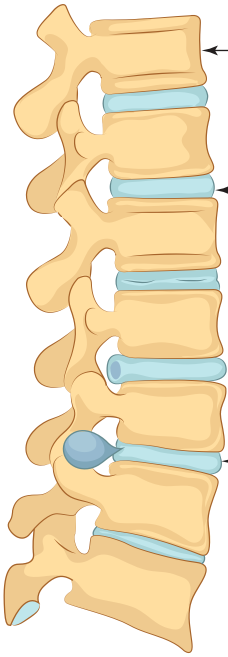
Although it does not contribute to many deaths, back pain contributes significantly to morbidity in Australia. In fact, in 2018, smoking caused over 8500 YLD in Australia. Smoking has been shown to lead to back pain and problems in a number of ways.

Smoking reduces blood flow to cells, including those in the spine. As a result, the discs that provide protection to the vertebrae experience lower access to nutrients and oxygen, contributing to degradation and the associated pain.

Smoking also contributes to inflammation. Inflammation is a defence mechanism that is required to fight disease and heal injuries. Over an extended period of time, however, inflammation can reduce effective immune system function and contribute to reduced healing in the muscles, bones and ligaments in the back.

Many smokers develop a chronic cough. This repetitive strain can lead to back issues, including bulged and herniated disks, causing significant pain.

FIGURE 3.9 Smoking can cause back pain by increasing degradation of discs and inflammation.



Smoking and infectious diseases

Exposure to tobacco smoke can lower immune function and increase the risk of contracting infectious diseases such as upper respiratory tract infections and pneumonia. Children exposed to tobacco smoke can be particularly susceptible to infections that contribute to morbidity rates and YLD among younger age groups.

EXAM TIP

This study design dot point states that links must be made between the specified risk factors and health status.

When linking to health status indicators, it is important to include one or more references to specific diseases (injuries can also be used for 'alcohol') because this shows a greater level of understanding. For example:

Smoking and vaping means toxic chemicals are being released into the lungs. Over time, this can lead to damaged lung tissue and chronic obstructive pulmonary disease, which is a leading cause of mortality and morbidity in Australia.

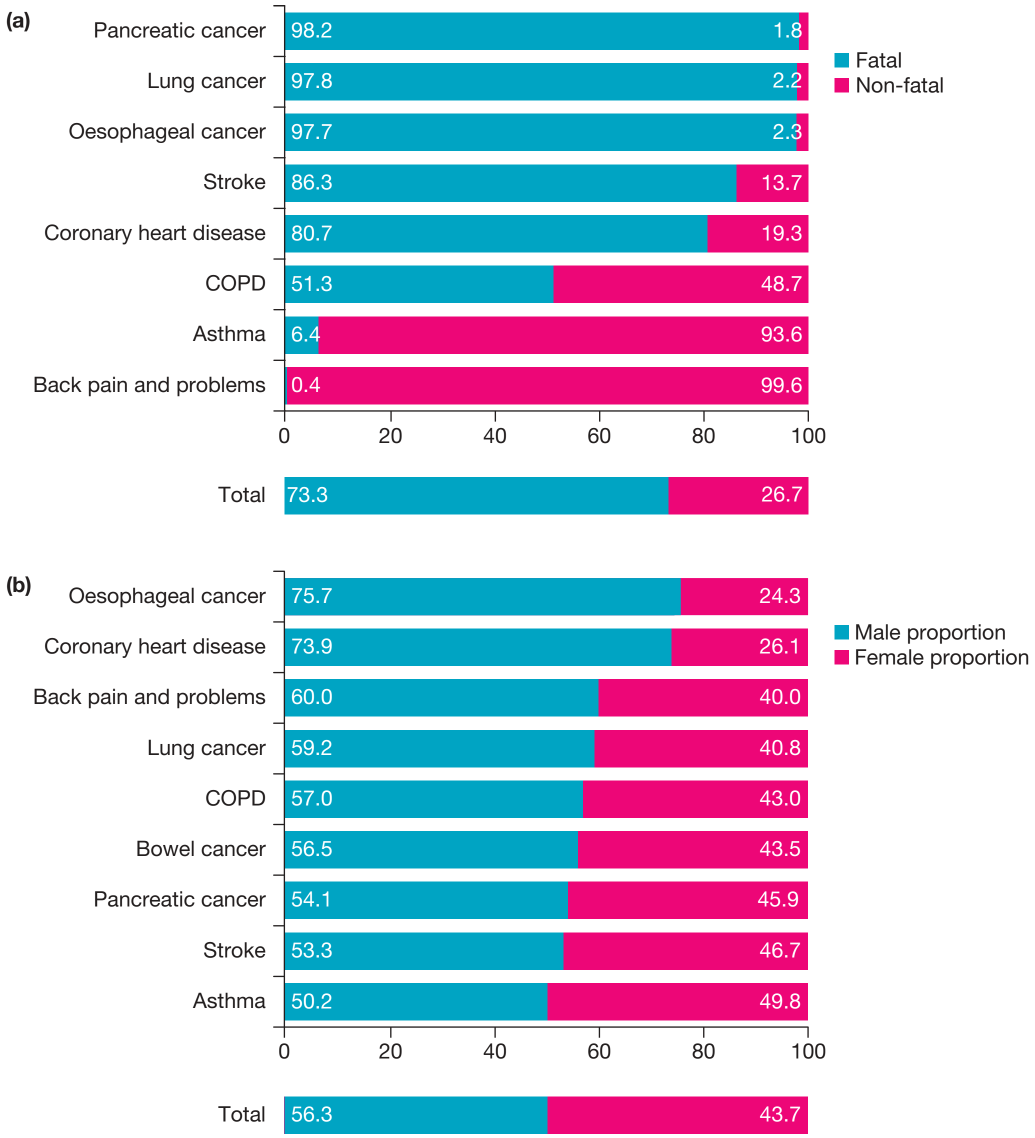
Smoking and the Australian Burden of Disease Study

Across all diseases, almost 75 per cent of the total burden attributable to tobacco use was due to premature mortality (YLL), impacting significantly on mortality rates, health-adjusted life expectancy and life expectancy.

Some diseases caused by tobacco use are more likely to lead to death than others. For example, over 97 per cent of the attributed pancreatic, lung and oesophageal cancer burden was due to fatal outcomes (see **FIGURE 3.10A**), whereas over 90 per cent of the attributable burden due to asthma was through non-fatal outcomes.

Around 56 per cent of the disease burden attributed to tobacco was experienced by males (see **FIGURE 3.10B**), reflecting the fact that males used to smoke at significantly higher rates than females and are still experiencing more ill health as a result, even though the rates of smoking are more similar now.

FIGURE 3.10 Burden attributable to tobacco use according to disease and age group, by (a) total DALY and (b) rate per 1000 people, 2018

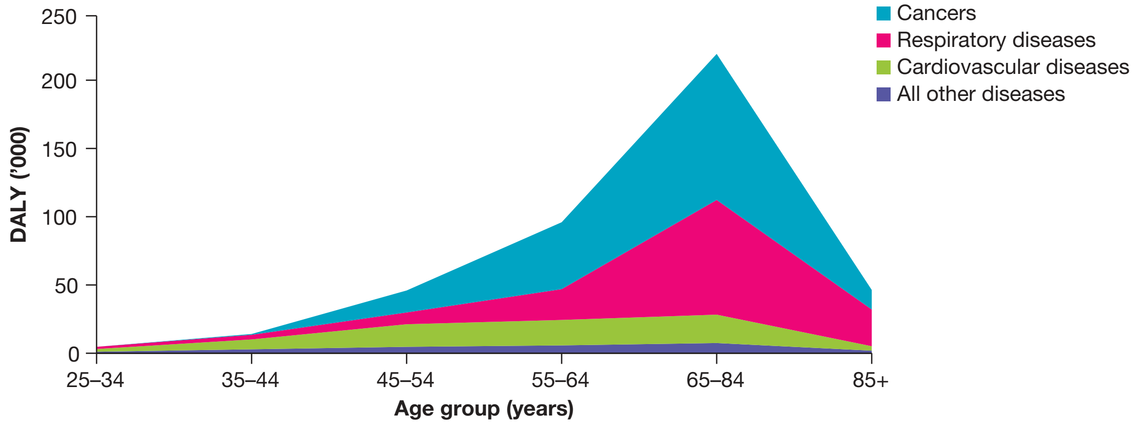


Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-impact-and-causes-of-illness-and-death-in-aus/data

FIGURE 3.11 shows the burden of disease attributed to tobacco in people aged 25 and over, reflecting the ages at which most of the burden due to tobacco was experienced in the population. Cancers contributed almost 50 per cent of the disease burden attributed to tobacco between ages 55 and 84. Cardiovascular diseases were the largest contributor to the smoking burden below age 45 and respiratory diseases were responsible for the majority in ages 85 and over.

int-9260

FIGURE 3.11 Burden attributable to tobacco use according to disease and age group, by total DALY, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-impact-and-causes-of-illness-and-death-in-aus/data

FIGURE 3.12 Summary of the impact of smoking on health status

Health concerns

- Cardiovascular disease
- Cancer
- Asthma
- Prenatal and infancy health concerns
- Respiratory conditions
- Back pain and problems
- Infections

Health status

- Responsible for just over 15 per cent of burden of disease for coronary heart disease and 10 per cent for asthma
- Responsible for almost 80 per cent of lung cancer DALYs and 73 per cent COPD DALYs
- Low birth weight is a leading cause of burden of disease in 0–14 year olds
- Increased morbidity and mortality from cardiovascular disease, cancer and chronic obstructive pulmonary disease (COPD)
- Increased risk of infection due to low birth weight contributing to increased infant and under-5 mortality rates
- Increased morbidity from asthma attacks, back pain and problems, and infectious diseases such as upper respiratory tract infections.
- Lower life expectancy and health-adjusted life expectancy

3.2 Activity

Access the **Smoking** weblink in the Resources tab to explore the effects of tobacco on your body.

a. Click on the body parts to explore the effects of tobacco on both males and females.
b. Create a concept map summarising the effects of smoking on both males and females.

on Resources

Weblink Smoking

3.2 Exercises

3.2 Quick quiz on | **3.2 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2	3, 4, 5, 6, 7	8, 9

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Test your knowledge

1. **a.** According to **FIGURE 3.2**, which two factors contributed the most to burden of disease in Australia?
b. Identify how much of the total burden each was responsible for.

2. **a.** What is meant by 'smoking'?
b. Identify which substance is most likely to be smoked in Australia.

3. Describe two ways that smoking and vaping might contribute to disease.

4. Explain why males experience a greater burden of disease related to smoking given that the rates of smoking between males and females are now similar.

Apply your knowledge

5. Complete the following table. The first row has been done for you to show you how much detail is required.

Statement explaining the effect of smoking and vaping on the body	Identification of a disease/injury	Link to health status
Smoking speeds up the process of atherosclerosis. This increases the risk of a blockage to blood vessels feeding the heart and brain,	which can contribute to a heart attack or stroke,	increasing mortality rates and reducing life expectancy.

6. Explain how further reducing smoking could impact the:
a. burden of disease
b. under-5 mortality rate.

7. Use **FIGURE 3.10** to answer the following questions.
a. What proportion of the total burden due to smoking was the result of fatal outcomes?
b. Which disease had an almost equal fatal and non-fatal contribution from smoking?
c. What proportion of the total burden of smoking was experienced by males compared to females?
d. Identify the condition from which males experienced the greatest proportion of total burden due to smoking compared to females.

8. Use **FIGURE 3.11** to answer the following questions.
a. Which age group contributed the most DALY as a result of smoking? Approximately how many DALY were contributed by this group as a result of smoking?
b. Identify the disease group that contributed the most DALY for 35–44 year olds.
c. Using data, outline the relationship between increasing age and the rate of respiratory diseases caused by smoking.

9. Outline two ways that reducing smoking and vaping could act as a resource nationally.

3.2 Exam questions

Question 1 (3 marks)

Tobacco smoking is the leading preventable risk factor for disease in Australia.

Describe three ways tobacco smoking impacts on the health status of Australians.

Question 2 (1 mark)

Identify the diseases that tobacco smoking is a risk factor for.

More exam questions are available in your learnON title.

3.3 The impact of alcohol on health status in Australia

Key knowledge

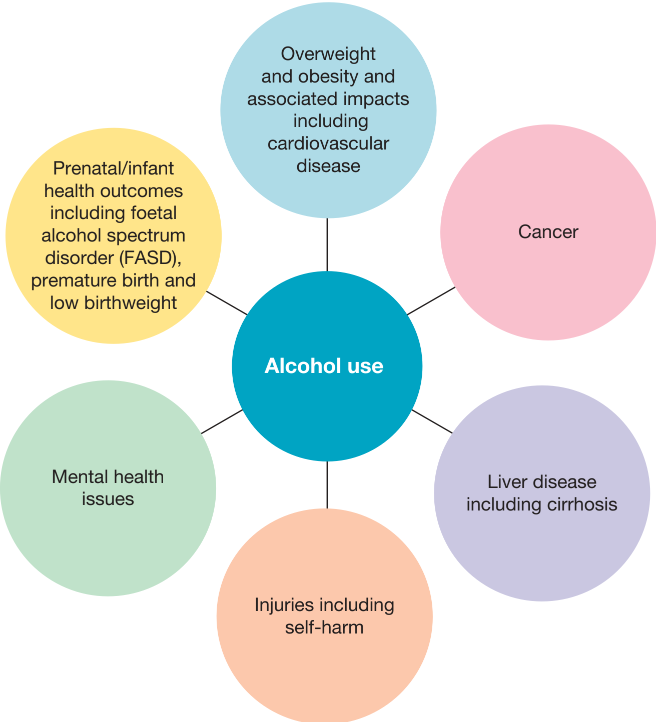
The contribution to Australia's health status of:
– alcohol

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• how alcohol can contribute to specific diseases and how this impacts health status.	• explain how alcohol can contribute to specific diseases • make meaningful links from specific diseases caused by alcohol to relevant health status indicators.

Alcohol consumption has been a part of human life for thousands of years. Many cultures consume alcohol at social gatherings and it can form an integral part of ceremonies, customs and rites of passage. In moderation, alcohol has minimal side effects. When consumed in excess, however, the impacts of alcohol on health status are significant.

FIGURE 3.13 Some of the effects of excessive alcohol consumption



3.3.1 Alcohol and alcohol use disorders

Alcohol misuse relates to the excessive consumption of alcohol and includes alcoholism and binge-drinking. Alcohol misuse over a period of time can indicate the presence of an alcohol use disorder — a disease characterised by ongoing risky alcohol consumption.

Alcoholism is when a person cannot stop drinking once they have started, or has a constant desire to drink alcohol. Binge-drinking in Australia is defined as consuming more than four standard drinks in one sitting. Alcoholism is more likely to contribute to chronic conditions in the long term, such as liver disease, whereas binge-drinking often results in health concerns in the short term, such as road accidents, injuries, drownings and violence. An alcohol use disorder is not required for negative health outcomes to occur as a result of alcohol consumption. Binge-drinking on one occasion might not necessarily mean the presence of an alcohol use disorder, but still increases the risk of negative health outcomes.

Alcohol use disorders and alcohol misuse can contribute to a range of diseases and injuries (see **FIGURE 3.13**) and significantly contribute to health status in Australia.

According to the AIHW (2023), around 17 per cent of people aged 18 and over had consumed alcohol at levels that put them at risk of long-term harm and around 1 in 4 (26 per cent) consumed alcohol that put them at short-term harm at least monthly.

Alcohol and overweight and obesity

Alcohol contains kilojoules and therefore energy, which means it can increase the chances of an individual gaining weight. Over a period of time, alcohol use can contribute to a person becoming overweight or obese. Obesity is itself a risk factor for a range of other conditions such as type 2 diabetes, cardiovascular disease and some cancers.

Alcohol and cancer

There is strong evidence that alcohol use increases the risk of a range of cancers including cancer of the mouth, throat, stomach, bowel, liver and breast. When alcohol is metabolised, a chemical is created that can damage DNA and lead to the growth of cancerous tumours. The risk of developing cancer as a result of alcohol use is largely influenced by the amount of alcohol the person drinks, regardless of their body weight. Cancers are the leading cause of premature death in Australia, affecting mortality rates, DALY and life expectancy.

Alcohol and liver disease

Alcohol is filtered through the liver. Excessive consumption can cause inflammation and scarring of the liver tissue, which can lead to the liver not functioning properly and toxins remaining in the body. Over time, this can lead to chronic liver diseases such as cirrhosis of the liver.

Alcohol and injuries

The behaviour of those affected by alcohol can change, putting a strain on relationships and increasing the risk of mental health issues, such as depression, and associated outcomes, including suicide and self-harm. Those under the influence of alcohol are also more likely to act impulsively and take risks such as drink driving and displaying aggression, which increases morbidity and mortality from injuries and violence.

Judgement and motor control are affected by alcohol use. As a result, falls and road traffic injuries are a significant cause of burden of disease attributable to alcohol use.

FIGURE 3.14 Car crashes are much more likely when the driver has been consuming alcohol.

Alcohol and mental health issues

Although there is a relationship between problem drinking and mental health and wellbeing (with problem drinkers more likely to have mental health issues and vice versa), the causal factor (mental illness or drinking) has not been established. Alcohol is a depressant, and some studies suggest that people with depressive symptoms are more likely to misuse alcohol and develop alcohol dependence in their younger years. Regardless of the cause of the relationship, alcohol use is associated with greater risk of suicide and self-inflicted injuries.

Alcohol and prenatal infant health outcomes

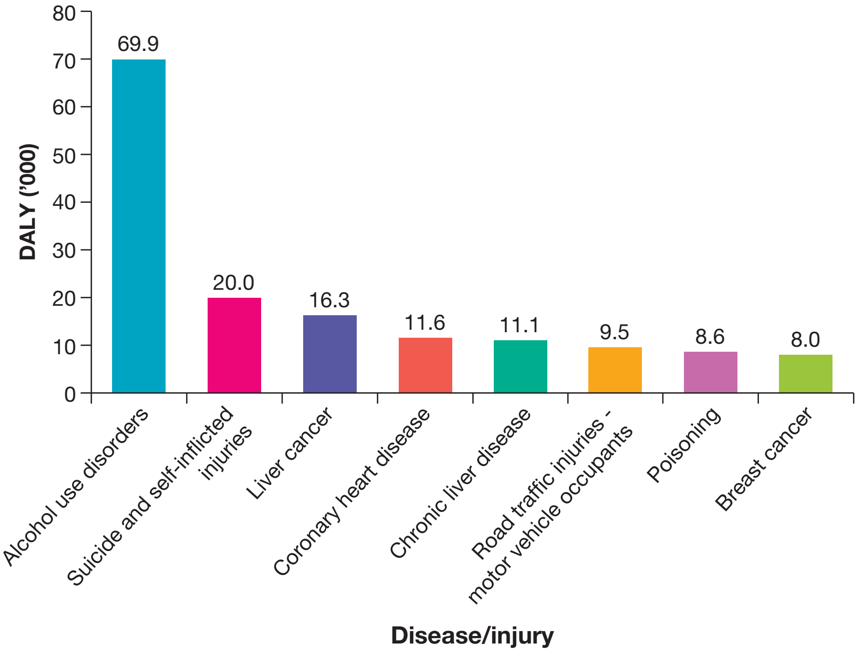
Alcohol consumption while pregnant impacts health status in a number of ways, including increasing the risk of premature birth, low birth weight and foetal alcohol spectrum disorder (FASD). FASD is an umbrella term that describes a range of conditions that can occur in children exposed to alcohol before birth.

Alcohol and the Australian Burden of Disease Study

In 2018, alcohol use was responsible for 4.5 per cent of the total burden of disease and injury and over 6500 deaths, making it a leading preventable risk factor in Australia.

Alcohol use contributed to the burden for a large number of diseases and injuries. It was responsible for the entire burden due to alcohol use disorders, 25 per cent of the burden due to road traffic injuries, 40 per cent of the burden due to liver cancer and 23 per cent of the burden due to suicide and self-inflicted injuries (see **FIGURE 3.15**).

FIGURE 3.15 Total DALY ('000) attributable to alcohol use, selected conditions, 2018



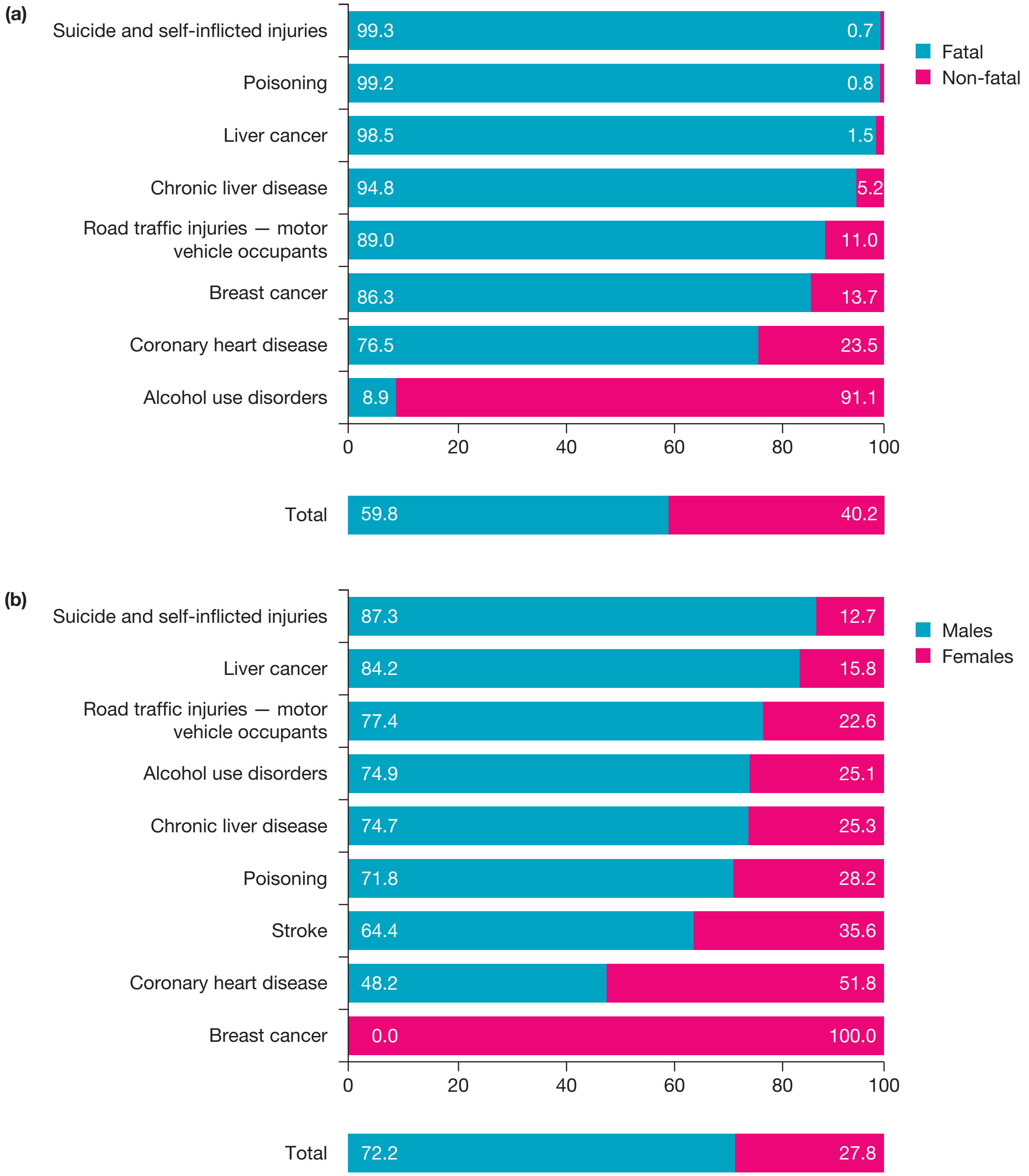
Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/interactive-data-risk-factor-burden/data

Of the burden attributable to alcohol consumption, around 60 per cent was due to fatal outcomes and around 40 per cent due to non-fatal outcomes (see **FIGURE 3.16A**). Some causes of burden of disease brought about by alcohol use are more likely to lead to death than others. For example, around 99 per cent of burden attributed to suicide and self-inflicted injuries, poisoning and liver cancer were due to fatal outcomes, whereas around 90 per cent of the attributable burden due to alcohol use disorders were through non-fatal outcomes.

Overall, males experienced 72 per cent of the burden attributed to alcohol use. This proportion, however, was much higher in suicide and self-inflicted injuries (87 per cent); liver cancer (84 per cent); road traffic injuries — motor vehicle occupants (77 per cent); alcohol use disorders (75 per cent); and chronic liver disease (75 per cent). Females accounted for a higher proportion of coronary heart disease (52 per cent) and all the burden due to breast cancer. This is despite the fact that males can also develop breast cancer (see **FIGURE 3.16B**).

The burden attributed to alcohol differs across the life span (see **FIGURE 3.17**). Injuries and mental and substance use disorders contribute the majority of the burden up to the age of 55. In people aged 56 and over, the burden contributed by these conditions decreases and the burden attributed to cancer and cardiovascular disease increases.

FIGURE 3.16 Proportion (%) of burden attributable to alcohol use (top eight diseases), by (a) fatal versus non-fatal burden (b) and sex, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/interactive-data-risk-factor-burden/data

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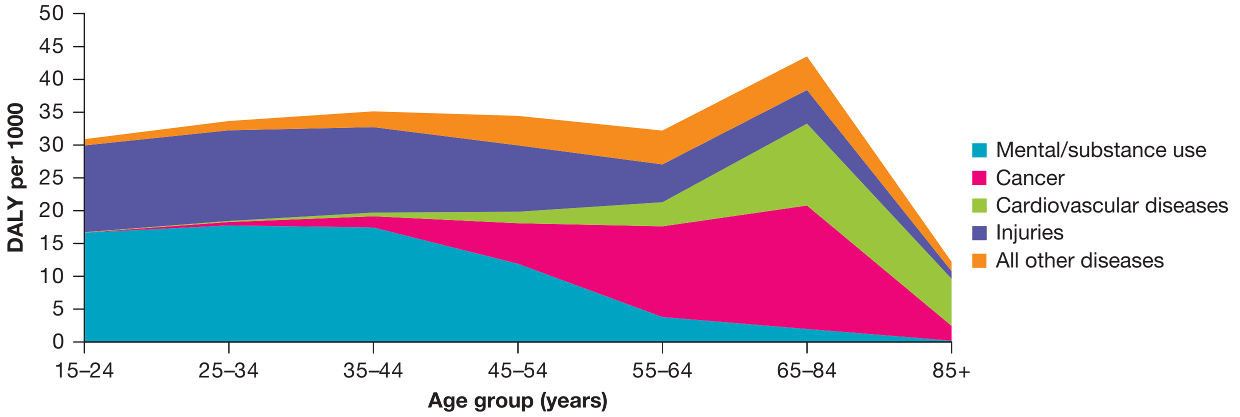
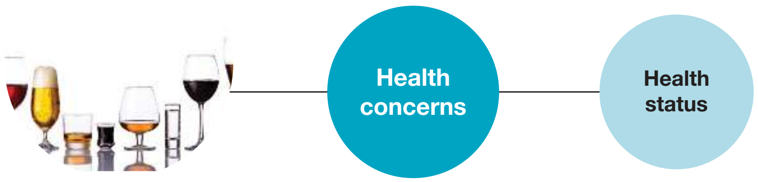
FIGURE 3.17 Burden attributable to alcohol use according to disease and age group, by total DALY, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

FIGURE 3.18 Summary of the impact of alcohol on health status



- Alcohol use disorder
- Weight gain, overweight and obesity and associated conditions including cardiovascular disease, some cancers and type 2 diabetes
- Cancer, including mouth, throat, stomach, bowel, liver and breast
- Liver disease, including cirrhosis
- Injuries
- Mental health issues and self-harm
- Prenatal/infant health outcomes, including FASD

- Alcohol use is responsible for all of the DALY associated with alcohol use disorders
- Increased incidence and mortality from cardiovascular disease, type 2 diabetes, some cancers, liver diseases, injuries
- 25 per cent of the total burden due to road traffic injuries was due to alcohol use
- Caused 40 per cent of the total DALY due to liver cancer
- Contributed 23 per cent of DALY due to suicide and self-inflicted injuries
- Contributed significant YLL due to cancers
- Increases YLL and YLD due to cardiovascular disease
- Higher rates of morbidity due to mental health issues
- Increased infant and under-5 mortality rates

3.3 Activity

Access the **Impacts of alcohol** weblink in the Resources tab to explore the effects of alcohol on your body.

a. Click on the body parts to explore the effects of alcohol use on both males and females.

b. Create a concept map summarising the effects of alcohol use on both males and females.

on Resources

Weblink Impacts of alcohol

3.3 Exercises

3.3 Quick quiz on | **3.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2	3, 4, 5, 6	7, 8

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Test your knowledge

1. Explain the difference between alcohol misuse and an alcohol use disorder.
2. Explain the difference between alcoholism and binge-drinking.
3. Explain how alcohol can impact health and wellbeing in both the short and long term.
4. Explain how alcohol consumption can contribute to obesity.

Apply your knowledge

5. Complete the following table. The first row has been done for you to show you how much detail is required.

Statement explaining the effect of alcohol on the body/mind	Identification of a disease/injury	Link to health status
Alcohol contains kilojoules, which if not used for energy, will be stored as adipose (fat) tissue,	which increases the risk of type 2 diabetes,	increasing the rate of DALY.

6. Use **FIGURE 3.16** to answer the following questions.
   a. Identify what proportion of the total burden due to alcohol use was the result of non-fatal outcomes.
   b. For which disease was the fatal proportion of alcohol use the greatest?
   c. What proportion of the total burden of alcohol was experienced by males compared to females?
   d. Identify the condition from which males experienced the greatest proportion of total burden due to alcohol use compared to females.
7. Use **FIGURE 3.17** to answer the following questions.
   a. Identify which age group contributed the most DALY as a result of alcohol. How many DALY were contributed by this group as a result of alcohol use?
   b. Outline the difference in the diseases contributing the alcohol-related DALY for 15–24 year olds compared to 85+ year olds.
8. Explain how reducing alcohol use could act as a resource for individuals.

3.3 Exam questions

Question 1 (4 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.9;* © VCAA

Describe how the over-consumption of alcohol has an impact on two indicators of health status.

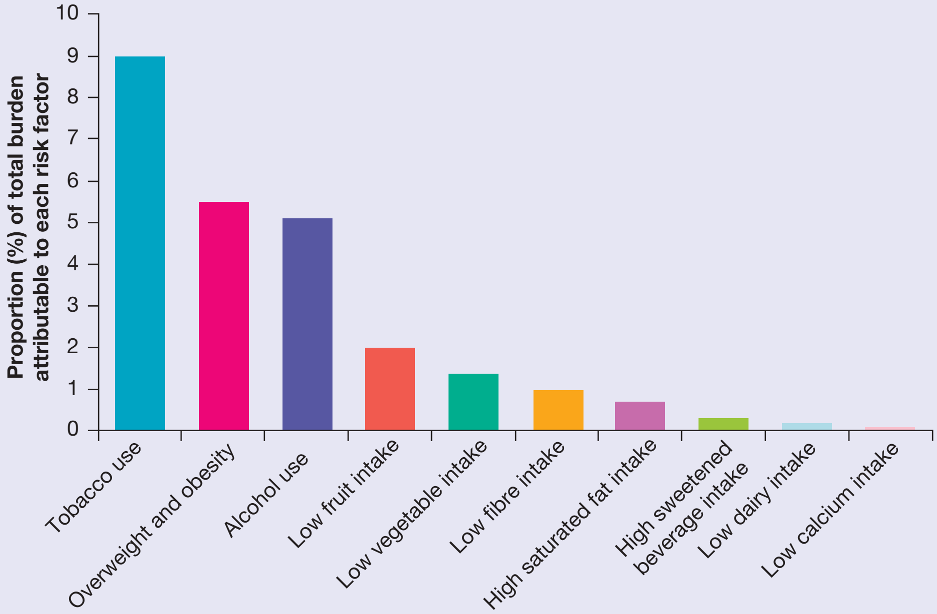
Question 2 (2 marks)

In 2018, alcohol use was responsible for 4.5 per cent of the total burden of disease and injury in Australia.

Describe how reducing alcohol use could decrease the burden of disease in Australia.

Question 3 (2 marks)

Review the data in the graph.



Source: Adapted from AIHW 2016, *Australian burden of disease study: impact and causes of illness and death in Australia 2011*, page 57.

What proportion of total burden of disease is attributed to tobacco and alcohol use?

More exam questions are available in your learnON title.

3.4 The impact of overweight and obesity on health status in Australia

Key knowledge

The contribution to Australia's health status of:
– overweight and obesity

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

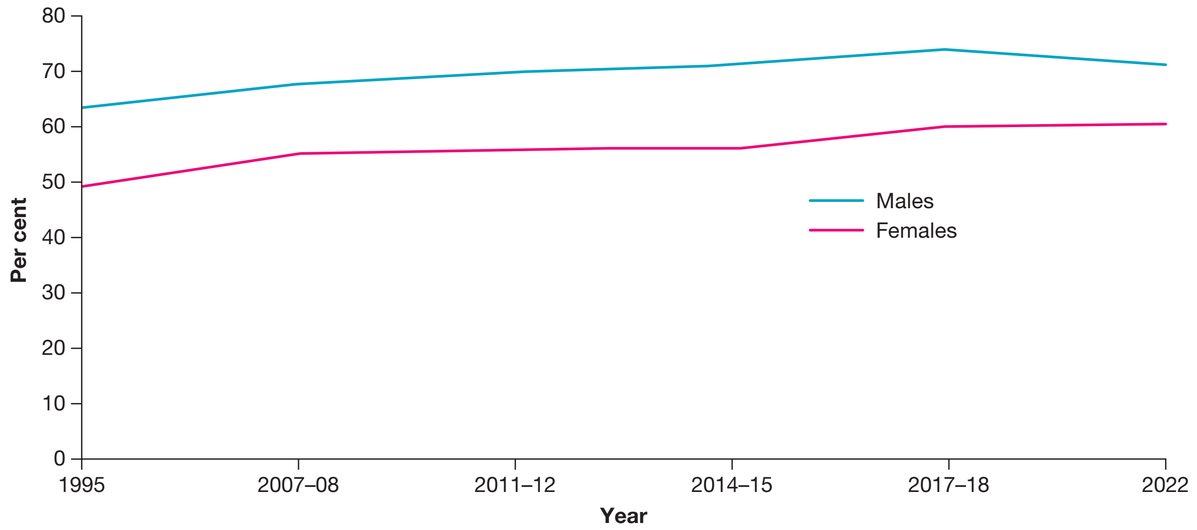
You need to know:
- how overweight and obesity can contribute to specific diseases and how this impacts health status.

You need to be able to:
- explain how overweight and obesity can contribute to specific diseases
- make meaningful links from specific diseases caused by overweight and obesity to relevant health status indicators.

Overweight and obesity relates to carrying excess body weight that negatively impacts health and wellbeing.

Overweight and obesity is of particular concern in Australia as rates have been increasing steadily over time. According to the ABS *National Health Survey*, for Australian adults 18 years and over, the prevalence has increased over time from 56.3 per cent in 1995 to 66 per cent in 2022 (see **FIGURE 3.19**). For Australian children, there has been an increase in the proportion of 5–17 year olds who were overweight or obese since 1995, with around 28 per cent of children classified overweight or obese in 2022.

FIGURE 3.19 Persons aged 18 years and over — proportion overweight or obese, 1995 to 2022



Source: ABS, *National Health Survey*, various years.

According to the AIHW (2023), **body mass index (BMI)** is an internationally recognised standard for classifying overweight and obesity in adults. BMI is calculated by dividing a person's weight in kilograms by the square of their height in metres.

body mass index (BMI) a statistical measure of body mass calculated by dividing weight (in kilograms) by height (in m^2)

BMI provides a height-to-weight ratio and is calculated using the following formula:

$$\text{BMI} = \frac{\text{Weight (kg)}}{[\text{Height (m)}]^2}$$

So, for someone who is 182 centimetres tall and weighs 88 kilograms:

$$\begin{aligned} \text{BMI} &= \frac{88\,(\text{kg})}{[1.82\,(\text{m})]^2} \\ &= \frac{88}{3.31} \\ &= 26.6 \end{aligned}$$

BMI does not reflect body fat distribution or describe the same degree of fatness in different individuals and is therefore not considered an accurate indicator of health risks for a specific person. It is also not accurate in determining the risk of children and youth because their body proportions continually change as they grow. For these reasons, waist circumference is increasingly being used as an indicator of the health risks associated with overweight and obesity. Although waist circumference is being used more often, BMI remains a practical and useful measure for identifying levels of overweight and obesity in population groups and is a measure used by the Australian government to determine overweight and obesity.

The BMI score of adults is compared to classifications to determine whether an individual is considered underweight, in the healthy weight range, overweight or obese. These figures are shown in **TABLE 3.1**.

TABLE 3.1 BMI classifications for adults

BMI	Classification
Under 18.5	Underweight
18.6–24.9	Healthy weight
25–29.9	Overweight
30 and over	Obese

Groups with a BMI above the healthy range (i.e. 25 or more) are classified as either overweight or obese. Overweight refers to a BMI of 25–29 and obesity relates to a BMI of 30 or more.

Overweight and obesity can increase the risk of a number of conditions as outlined below.

Overweight and obesity — cardiovascular disease

Overweight and obesity usually means there is a greater strain on the heart, which increases the risk of **hypertension**, heart attack and stroke. Overweight and obesity can also mean **cholesterol** levels are elevated, which increases the rate of atherosclerosis and the risk of cardiovascular disease.

hypertension high blood pressure

cholesterol a type of fat required for optimal functioning of the body that, in excess, can lead to a range of health concerns, including the blocking of the arteries (atherosclerosis). It can be 'bad' (low-density lipoprotein (LDL)) or 'good' (high-density lipoprotein (HDL)).

Overweight and obesity — cancer

There is a relationship between overweight and obesity and the rates of some cancers, including colorectal cancer and breast cancer. Fat cells send signals out to the rest of the body which can lead to inflammation and higher levels of growth hormone being released. Both of these result in a higher rate of cell division, which increases the risk of one of these new cells being an abnormal, cancerous cell.

Overweight and obesity — kidney disease

Overweight and obesity increase the risk of high blood pressure and type 2 diabetes, which are two significant risk factors for kidney disease.

FIGURE 3.20 Overweight and obesity contribute to a range of health concerns.

Overweight and obesity — type 2 diabetes

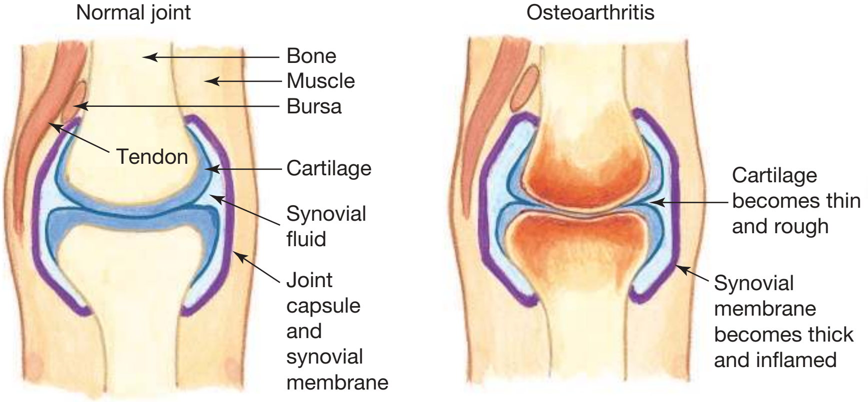
In type 2 diabetes, the pancreas does not produce enough insulin, or the body cannot use the insulin effectively (known as insulin resistance). Overweight and obesity are the greatest risk factors for type 2 diabetes. Fat cells release a type of fatty acid into the blood stream that is thought to lead to insulin resistance and type 2 diabetes. Type 2 diabetes used to be associated with adulthood, but increasing rates of overweight and obesity among children has seen rates increase in younger age groups.

FIGURE 3.21 Overweight and obesity are major risk factors for cardiovascular disease, one of the leading causes of morbidity and mortality in Australia.

Overweight and obesity — osteoarthritis

Overweight and obesity put more pressure on joints, which can contribute to osteoarthritis, which is characterised by cartilage being worn down. Cartilage usually cushions the joints where bones meet. When cartilage wears down, bone rubs on bone, which causes pain and limited mobility. The most common sites for osteoarthritis are the knees, neck, lower back, hips and fingers. Osteoarthritis is usually a degenerative disease, meaning it becomes worse over time and often leads to reduced functioning, such as the inability to write, walk or stand.

FIGURE 3.22 A normal joint and one affected by osteoarthritis



Overweight and obesity — back pain

Similarly to arthritis, excess body weight places extra strain on the spine and muscles in the back, contributing to significant levels of back pain.

Overweight or obesity — asthma

Children experiencing overweight or obesity have a greater risk of developing asthma than children with a healthy body weight. Current research indicates that the inflammatory substances released by fat tissue may impair lung function and lead to asthma.

Overweight and obesity — mental health issues

Overweight and obesity can contribute to conditions such as anxiety and depression. Children experiencing overweight or obesity can be particularly susceptible to these conditions, thereby contributing significantly to morbidity and YLD among younger age groups.

Overweight and obesity — dementia

Numerous studies have found a link between overweight and obesity and dementia. Although the exact causal relationship remains the focus of research, it is currently believed that the inflammation caused by excess body weight can contribute to reduced brain function and dementia. Damage to blood vessels that occurs in many people who are overweight or obese may contribute to reduced blood flow to the brain and, in turn, dementia.

Overweight and obesity — maternal health conditions

Pregnant women who are overweight or obese are more susceptible to a range of pregnancy-related conditions, including high blood pressure and **gestational diabetes**. Overweight and obesity are also risk factors for maternal mortality.

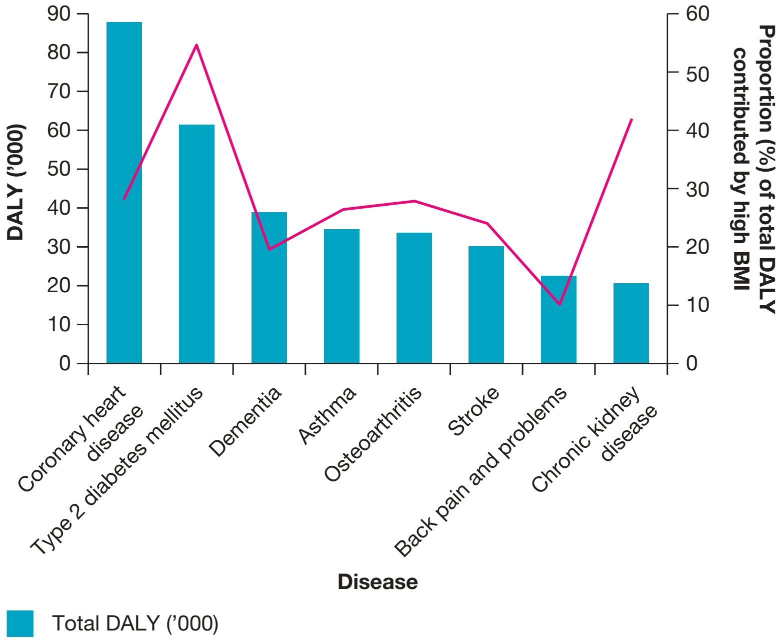
gestational diabetes a type of diabetes that begins during pregnancy and generally goes away once the child is born. Women who experience gestational diabetes are at greater risk of type 2 diabetes in the future.

Overweight and obesity — the Australian Burden of Disease Study

In 2018, overweight and obesity contributed to around 10 per cent of all deaths and 8.4 per cent of all disease and injury burden in Australia, ranking as the second highest risk factor behind tobacco use. Overweight and obesity contributed to the burden for a number of diseases, including over 85 000 DALY due to coronary heart disease, 61 000 DALY due to diabetes, and around 34 000 DALY due to both asthma and osteoarthritis.
In terms of the contribution of overweight and obesity to the total DALY for certain conditions, it contributed to 55 per cent of the type 2 diabetes burden, 51 per cent of the hypertension burden, 42 per cent of the chronic kidney disease burden and 28 per cent of the coronary heart disease burden (see **FIGURE 3.23**).

int-9262

FIGURE 3.23 Burden (%) attributable to overweight and obesity, selected conditions, 2018

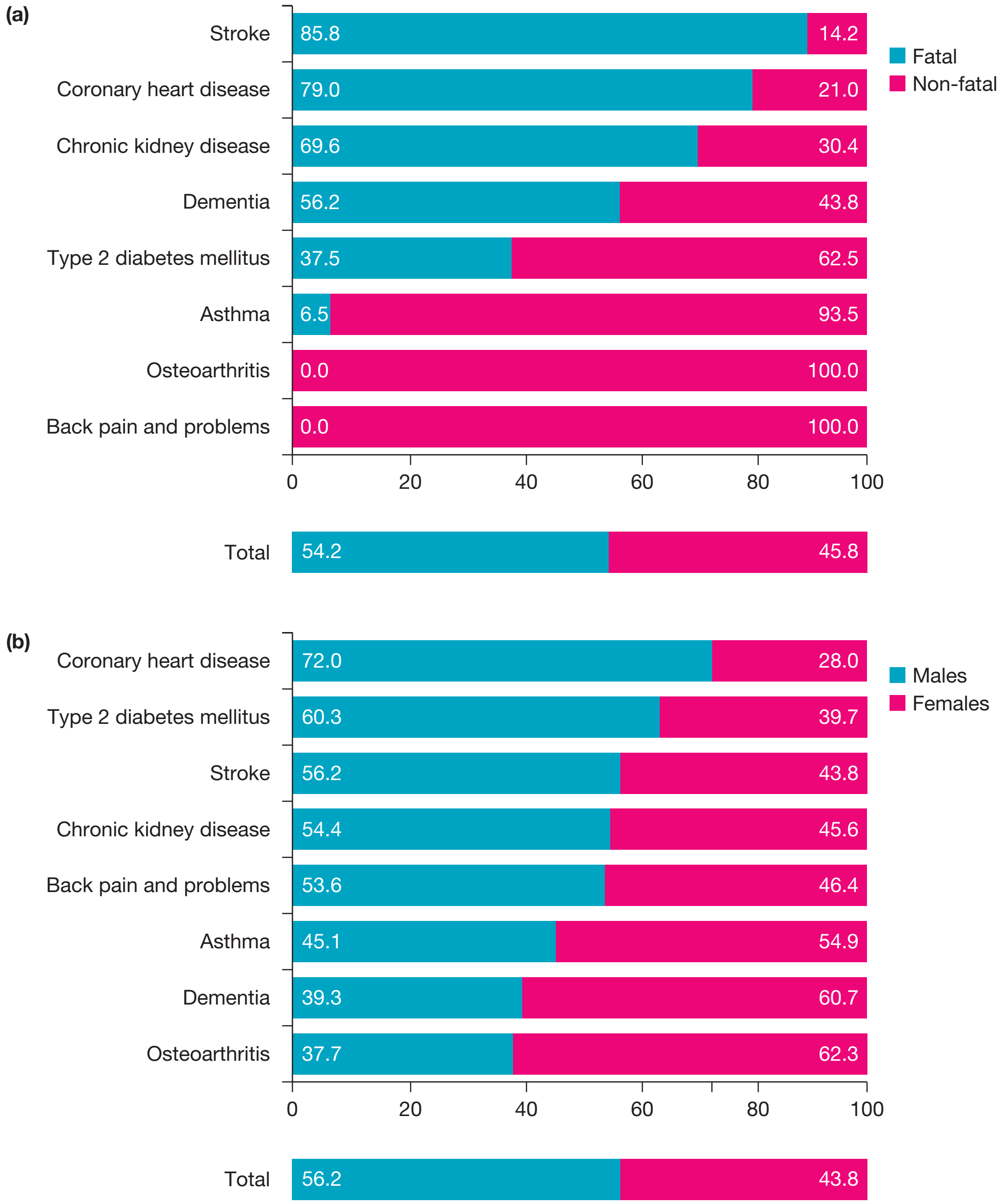


Source: https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

Just over half (54 per cent) of the DALY attributable to overweight and obesity was due to fatal outcomes (**FIGURE 3.24A**), therefore impacting life expectancy, mortality rates and YLL. Breast cancer, stroke, coronary heart disease and chronic kidney disease had a greater proportion of fatal burden, whereas atrial fibrillation and flutter, type 2 diabetes, asthma and osteoarthritis mainly had a non-fatal contribution.

Males experienced around 56 per cent of the burden due to overweight and obesity (see **FIGURE 3.24B**) and made up a greater proportion of the burden for most conditions. This contributed to the difference in life expectancy and HALE between males and females.

FIGURE 3.24 Proportion (%) of burden attributable to overweight and obesity (top eight diseases), by (a) fatal versus non-fatal burden (b) and sex, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

The diseases attributable to overweight and obesity by age group are shown in **FIGURE 3.25**. The rate of burden due to overweight and obesity increased up to the 65–84 age group.

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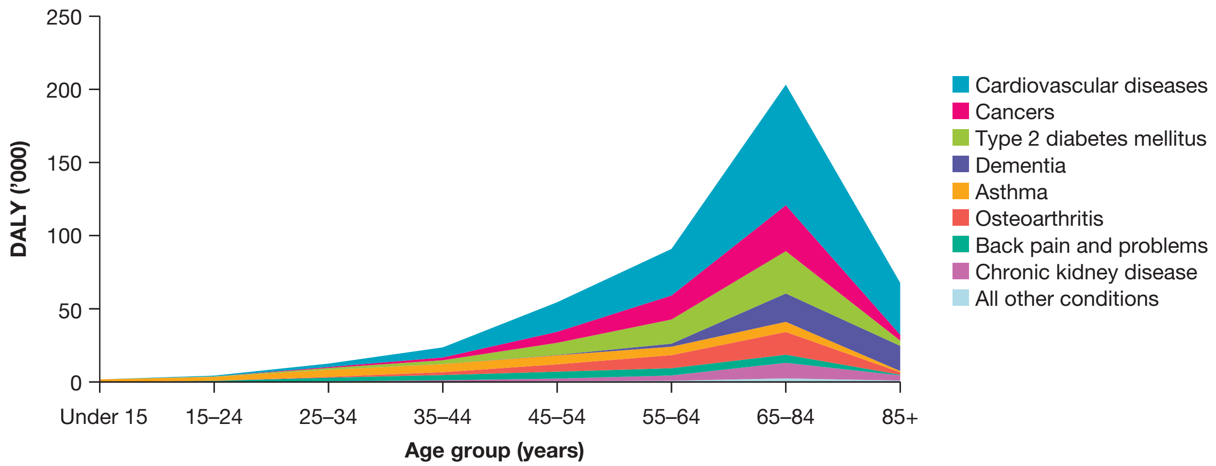
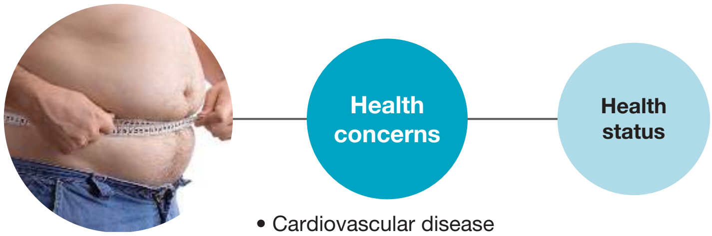
FIGURE 3.25 Burden attributable to overweight and obesity according to disease and age group, by total DALY, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

FIGURE 3.26 Summary of the impact of overweight and obesity on health status



- Cardiovascular disease
- Some cancers
- Type 2 diabetes
- Kidney disease
- Osteoarthritis
- Back pain
- Asthma
- Mental health issues
- Dementia
- Maternal health conditions

- Increased morbidity and mortality rates due to a range of causes such as cardiovascular disease, some cancers, kidney disease, type 2 diabetes and dementia.
- Contributes to 55 per cent of the type 2 diabetes burden
- 42 per cent of kidney disease burden was caused by overweight and obesity
- Contributes to 28 per cent of coronary heart disease burden and 24 per cent of stroke burden
- YLD for back osteoarthritis, back pain, mental health issues, type 2 diabetes and asthma
- Lower life expectancy and HALE

3.4 Exercises

3.4 Quick quiz on | **3.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4, 5	6, 7, 8, 9, 10	11, 12, 13

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Test your knowledge

1. What is meant by overweight and obesity?
2. Describe two ways that overweight and obesity contribute to disease.
3. Explain two ways that overweight and obesity can impact the health status of children.
4. Outline the relationship between abdominal fat and disease.

Apply your knowledge

5. Complete the following table. The first row has been done for you to show you how much detail is required.

Statement explaining the effect of overweight and obesity on the body/mind	Identification of a disease	Link to health status
Fat tissue associated with overweight and obesity contributes to higher levels of growth hormone, which speeds up cell division, increasing the chance of an abnormal cell being created,	which can increase the risk of cancer,	contributing significant DALY.

6. Explain two reasons why overweight and obesity are of particular concern in Australia.
7. Using data from **FIGURE 3.19**, draw two conclusions relating to overweight and obesity in Australia.
8. Use **FIGURE 3.23** to answer the following questions:
   a. Identify the disease for which overweight and obesity contributed the most DALY. Approximately, how many DALY did overweight and obesity contribute in relation to this disease?
   b. Identify the disease for which overweight and obesity contributed the highest proportion of total DALY. Approximately what proportion of DALY did overweight and obesity contribute in relation to this disease?
9. Use **FIGURE 3.24** to answer the following questions:
   a. What proportion of the total burden due to overweight and obesity was the result of fatal outcomes?
   b. For which disease was the fatal proportion of overweight and obesity the greatest?
   c. For which disease did females have the greatest proportion of burden of disease due to overweight and obesity compared to males?
   d. What proportion of the total burden of overweight and obesity was experienced by females compared to males?
10. Use **FIGURE 3.25** to answer the following questions:
   a. Describe the change in total DALY contribution between the ages of 25 and 85+.
   b. Which disease group contributed the most to DALY for 65–84-year-olds? Approximately how many DALY were contributed by this disease in this age group?
11. Ava is a seven-year-old who attends primary school. She has been steadily gaining excess weight over the previous two years and is now classified as obese. Discuss how Ava's weight could affect her social and emotional health and wellbeing.
12. Explain how reducing overweight and obesity could act as a resource nationally.
13. Draw a flow chart showing two ways that overweight and obesity contribute to health status.

3.4 Exam questions

Question 1 (2 marks)
Identify two impacts of overweight and obesity on health status.

Question 2 (2 marks)
Explain how overweight and obesity may impact the mental health and wellbeing of children.

Question 3 (4 marks)
Explain how overweight and obesity increase the risk of cardiovascular disease and type 2 diabetes.

Question 4 (1 mark)
Briefly **explain** why BMI is not an accurate indicator of health risks for individuals.

Question 5 (1 mark)
Briefly **explain** how alcohol intake can contribute to overweight and obesity.

More exam questions are available in your learnON title.

3.5 The impact of a low intake of fibre, and the under-consumption of fruit and vegetables and dairy foods on health status in Australia

Key knowledge

The contribution to Australia's health status of:
– nutritional imbalance (under-consumption of fruit and vegetables and dairy foods)

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- how a low intake of fibre and the under-consumption of fruit and vegetables and dairy can contribute to specific diseases and how this impacts health status.

You need to be able to:
- explain how a low intake of fibre and the underconsumption of fruit and vegetables and dairy can contribute to specific diseases
- make meaningful links from specific diseases caused by a low intake of fibre and the under-consumption of fruit and vegetables and dairy can contribute to health status indicators.

Nutritional imbalance has emerged as one of the most significant preventable risk factors impacting health status in Australia and collectively caused an estimated 5.4 per cent of total DALY in 2018. Of particular concern is:
- low intake of fibre, and the under-consumption of fruit and vegetables and dairy foods (subtopic 3.5)
- high intake of fat, salt and sugar (subtopic 3.6).

3.5.1 The impact of low intake of fibre on health status in Australia

Fibre is a type of carbohydrate that is required for optimal health and wellbeing. Found in all foods of plant origin, fibre does not get absorbed by the body. Rather, it travels through the digestive system, promoting feelings of fullness and assisting in keeping the digestive tract clean by adding bulk to faeces.

Two types of fibre are essential for good health and wellbeing: soluble and insoluble. Soluble fibre (found in foods such as oats) absorbs water. If left in a bowl of water, oats will absorb moisture and turn into a mushy, gel-like substance. Other good sources of soluble fibre include fruits, vegetables, barley, seed husks, flaxseed, dried beans, lentils, peas, soy milk and soy products. Insoluble fibre does not absorb moisture. The peels of fruit and vegetables are sources of insoluble fibre and, if left in a bowl of water, will not change in texture. Other good sources of insoluble fibre include wheat bran, corn bran, rice bran, nuts, seeds and wholegrain foods.

Most Australians do not consume enough fibre. On average, most Australians consume 20–25 grams of fibre daily. The Heart Foundation recommends that adults should aim to consume approximately 25–30 grams daily.

Low intake of fibre and overweight and obesity

Both types of fibre travel through the digestive system without being absorbed by the body. This promotes feelings of fullness or **satiety**, which means that low intake can contribute to overeating and eventually, overweight and obesity. The impacts of overweight and obesity were explored in subtopic 3.4.

Soluble fibre forms a mushy, gel-like substance when it absorbs water, and this slows digestion and delays the absorption of glucose into the blood stream. Low fibre intake, therefore, contributes to more glucose being absorbed by the body, which increases the risk of overweight and obesity and associated conditions such as cardiovascular disease and type 2 diabetes.

satiety the state of feeling full after eating

Low intake of fibre and colorectal cancer

Fibre adds bulk to faeces and assists in keeping the digestive system clean, reducing the risk of abnormal cells developing, especially in the colon and rectum. Low intake of fibre is therefore associated with higher rates of morbidity and mortality from colorectal cancer, including bowel cancer.

Low intake of fibre and cardiovascular disease

In the digestive system, soluble fibre attaches to particles of LDL cholesterol (see section 3.6.1) and helps to excrete them. As a result of this process, soluble fibre helps to decrease levels of cholesterol in the body and reduces rates of morbidity and mortality from cardiovascular disease. Low intake has been shown to increase the rate of cholesterol absorption and the risk of cardiovascular disease.

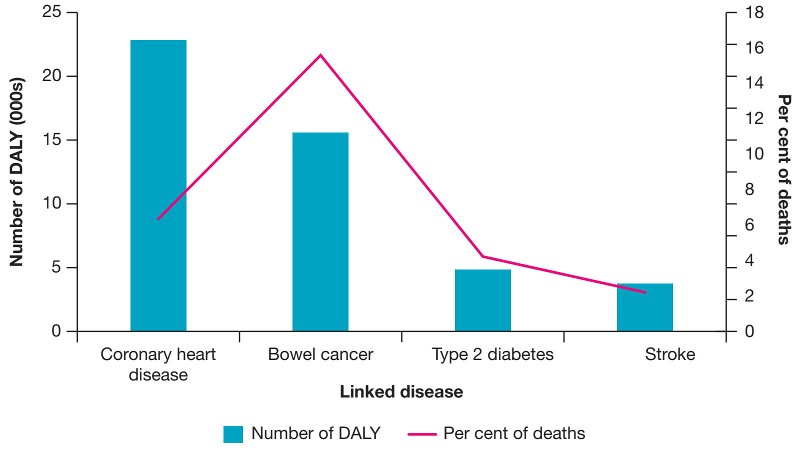
Low intake of fibre and type 2 diabetes

Fibre reduces the absorption of glucose, which is protective in relation to type 2 diabetes because it takes pressure off the pancreas. Evidence shows that people with a low intake of insoluble cereal fibre or wholegrain foods have a significantly higher risk of developing type 2 diabetes, increasing the prevalence of this condition.

Low intake of fibre and the Australian Burden of Disease Study

Data specifically relating to the burden of disease attributable to low intake of fibre were not collected in the 2018 Burden of Disease Study. As a result, data relating to low intake of high-fibre cereals and wholegrains, which are high in fibre, are explored in this section. In 2018, low intake of wholegrains and high-fibre cereals accounted for 0.9 per cent of the total burden of disease and was an underlying factor in 1.6 per cent of all deaths. The conditions most likely to develop as a result of low intake of wholegrains and high-fibre cereals were coronary heart disease, bowel cancer, type 2 diabetes and stroke (see **FIGURE 3.27**).

FIGURE 3.27 Number of DALY and proportion of deaths attributable to low intake of wholegrains and high-fibre cereals by disease, 2018



Source: https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/contents/dietary-risk-factors

3.5.2 The impact of under-consumption of fruit and vegetables on health status in Australia

Fruit and vegetables are **nutrient dense**. They are high in minerals and vitamins (such as magnesium, vitamin C and folate), low in kilojoules and high in fibre and **antioxidants**.

Eating a range of fruit and vegetables increases the variety and amount of vitamins and minerals consumed. Many of these nutrients promote adequate functioning of body systems, including immune system function, which can reduce the incidence of conditions such as cancer, cardiovascular disease and **neural tube defects** (see **FIGURE 3.28**).

nutrient dense foods that contain a large amount of nutrients such as vitamins and minerals

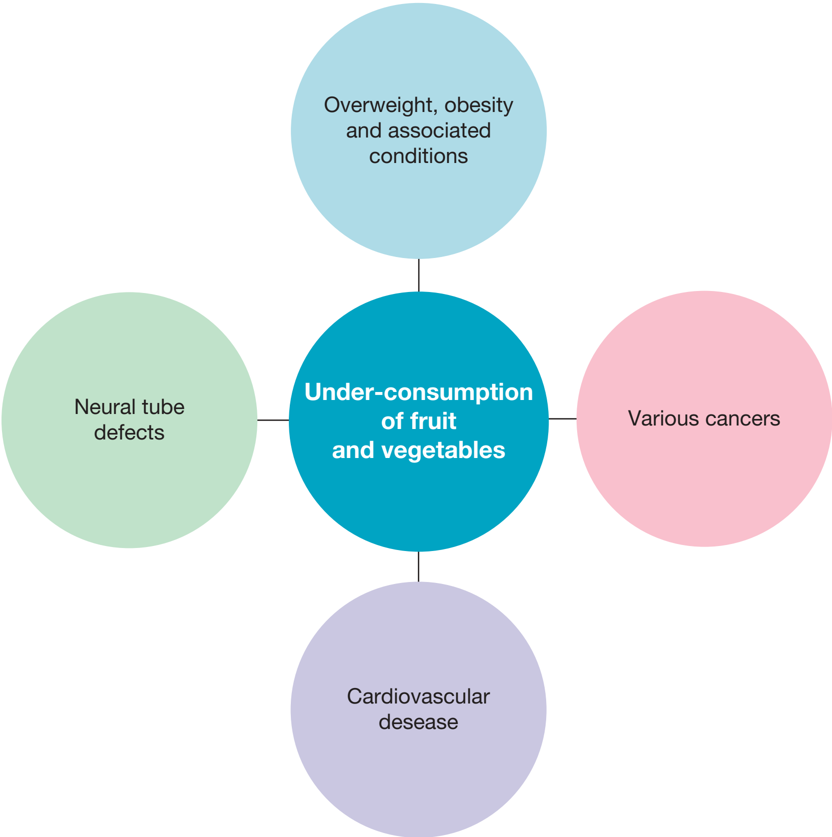
antioxidants compounds in foods that neutralise free radicals

neural tube defects conditions characterised by damage to the brain and spine, and to the nerve tissue of the spinal cord during prenatal development, such as spina bifida and anencephaly

Some forms of fruit and vegetables are healthier options than others. For example:

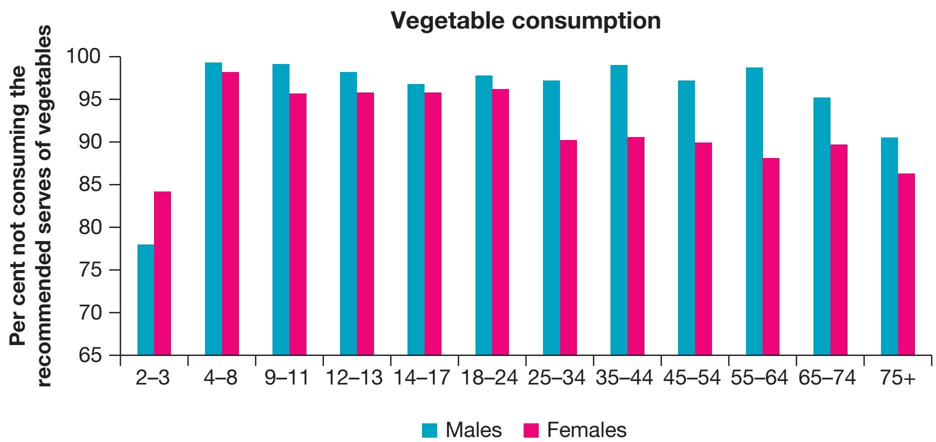
- Raw vegetables maintain their nutrient content because the cooking process can lead to nutrient loss.
- Fruit juice is often high in sugar and does not contain the same amount of fibre as whole fruits and should therefore be consumed in moderation.

FIGURE 3.28 Under-consumption of fruit and vegetables contributes to a number of health concerns.



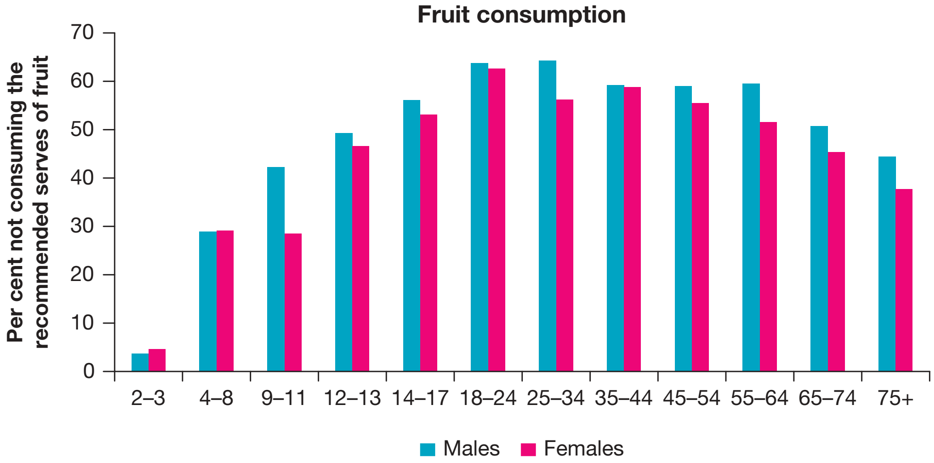
Despite the many benefits of consuming fruit and vegetables, the majority of Australians do not consume the recommended amount (see **FIGURES 3.29** and **3.30**), increasing the rates and impacts of a range of conditions.

FIGURE 3.29 Under-consumption of vegetables according to age and sex, 2022



Source: Adapted from https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022

FIGURE 3.30 Under-consumption of fruit according to age and sex, 2022



Source: Adapted from https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022

Under-consumption of fruit and vegetables — overweight and obesity

Consuming fruit and vegetables instead of **energy dense** foods can assist with weight management and reduce the risk of overweight and obesity. Fruit and vegetables are also a rich source of fibre, which further assists in reducing the risk of weight gain (this relationship was explored in section 3.5.1).

As already discussed, overweight and obesity contribute significantly to health status in Australia by increasing the risk of cardiovascular disease, type 2 diabetes, kidney disease and some cancers.

energy dense foods that contain significant amounts of fat, carbohydrates and/or protein, therefore contributing large amounts of energy to the diet

free radicals molecules formed when oxygen is metabolised. Free radicals can damage healthy body cells and increase the risk of diseases such as cardiovascular disease and cancer.

Under-consumption of fruit and vegetables — cardiovascular disease and cancer

Fruit and vegetables are also a source of antioxidants, which work to reduce the impact of **free radicals** in the body. Free radicals are molecules that can damage body cells and increase rates of morbidity and mortality due to conditions such as cardiovascular disease and cancer. The antioxidants in fruit and vegetables target free radicals and eliminate them from the body, thereby reducing the health status impacts associated with cardiovascular disease and cancer. Under-consumption of fruit and vegetables often means that antioxidant consumption is also low, increasing the prevalence of these conditions.

The fibre in fruits and vegetables assists in excreting LDL cholesterol, which reduces the impact of atherosclerosis. Under-consumption can therefore increase the incidence of heart attack and stroke.

As discussed in section 3.5.1, fibre also adds bulk to faeces and reduces the risk of cancerous cells forming by keeping the digestive tract clean. As a result of this relationship, the under-consumption of fruit and vegetables also increases morbidity and mortality associated with colorectal cancer, including bowel cancer.

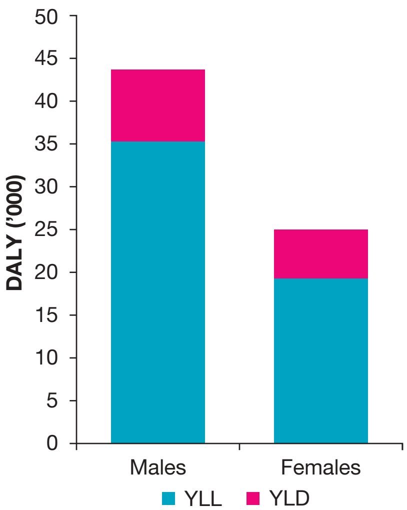
Under-consumption of fruit and vegetables — neural tube defects

Nutrients found in fruit and vegetables, such as folate, play a significant role in the development of the brain and spinal cord during the prenatal stage of the life span. Under-consumption of fruit and vegetables before and during pregnancy increases the risk of neural tube defects such as spina bifida, which contributes to mortality and morbidity in Australia, particularly among infants.

Under-consumption of fruit and vegetables — the Australian Burden of Disease Study

In 2018, the under-consumption of fruit and vegetables was responsible for over 4000 deaths (or 2.5 per cent) and 1.4 per cent of the total burden of disease in Australia. Overall, under-consumption of fruit and vegetables contributed over 65 000 DALY through both fatal and non-fatal outcomes (see **FIGURE 3.31**).

FIGURE 3.31 YLL, YLD and total DALY contributed by low intake of vegetables according to sex

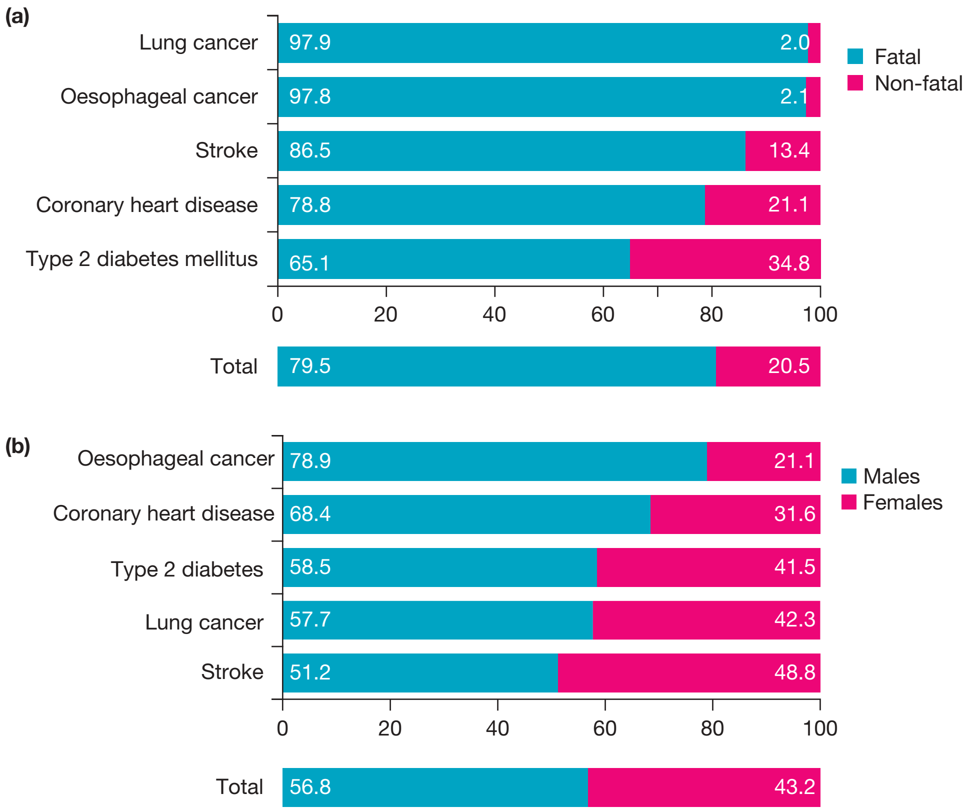


Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

FIGURE 3.32 Females are more likely to consume the recommended servings of vegetables than males.

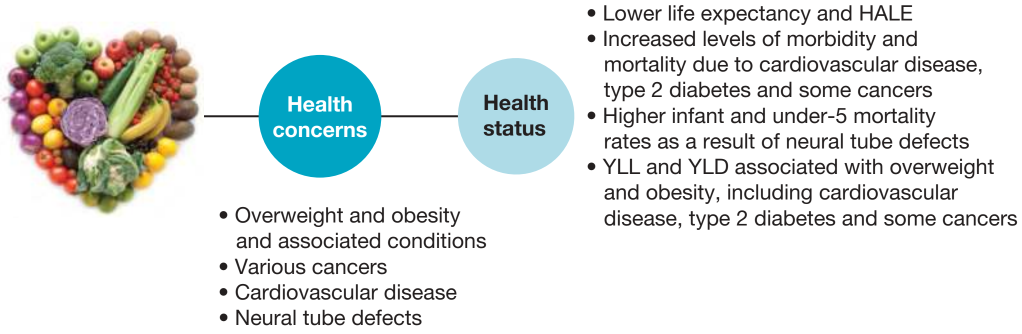
The fatal component was responsible for 79.5 per cent of the total burden attributable to under-consumption of fruit and vegetables (see **FIGURE 3.33**).

FIGURE 3.33 Proportion (%) of burden attributable to under-consumption of fruit and vegetables, by (a) fatal versus non-fatal burden (b) and sex, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

FIGURE 3.34 Summary of the impact of under-consumption of vegetables on health status



3.5.3 The impact of under-consumption of dairy foods on health status in Australia

Dairy foods relate to animal milk and products created from animal milk, including cheese and yoghurt. In Australia, the most common forms of dairy foods are products made using cow's milk, but varieties made using the milk from goats and sheep are also commonly available.

Some Australians, particularly younger people, reduce their dairy intake because they believe that these foods contribute to weight gain. However, there is insufficient evidence to support this claim.

Around 5 per cent of the population experience dairy intolerance, which is a reduced ability to digest lactose, a type of sugar found in dairy foods. For affected individuals, **fortified** milk substitutes such as soy or almond milk can satisfy dairy needs, but are not technically a type of dairy and will therefore not be considered in this section.

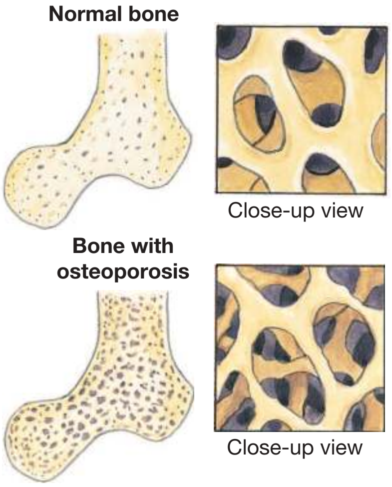
fortified foods when a nutrient has been artificially added to food to increase its nutritional value

dental caries decay of teeth caused by a breakdown in the tissues that make up the tooth

Under-consumption of dairy foods — osteoporosis

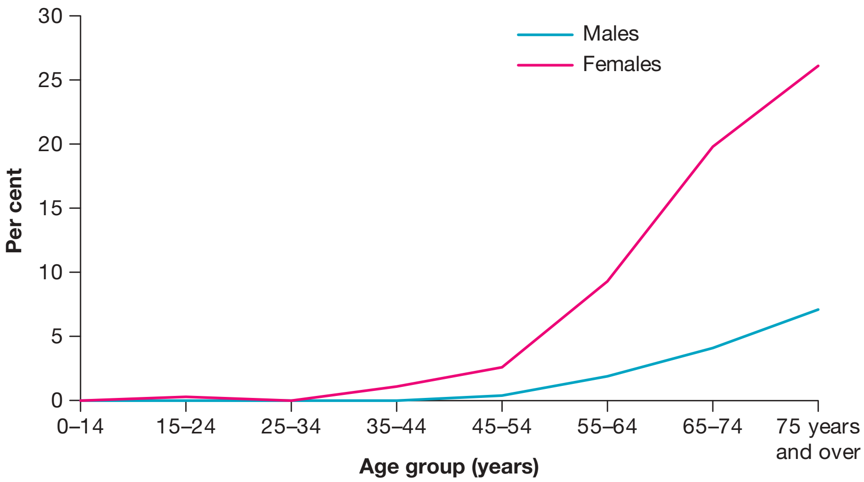
The main nutritional contribution of dairy foods is the provision of calcium, a mineral essential for a range of functions in the human body, including the strengthening of bones and the prevention of osteoporosis — a bone disease characterised by weak, porous bones that are susceptible to fracture (see **FIGURE 3.35**).

FIGURE 3.35 Calcium in dairy foods helps to build peak bone mass and reduce the risk of osteoporosis, a condition characterised by weak bones.



Dairy foods are also a rich source of other nutrients, and research has shown that under-consumption of dairy acts to increase morbidity and mortality in relation to a range of other conditions including cardiovascular disease, colorectal cancer, type 2 diabetes and **dental caries**.

FIGURE 3.36 Proportion of males and females with osteoporosis, 2022



Source: Adapted from https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022.

Under-consumption of dairy foods — cardiovascular disease

Under-consumption of dairy has been associated with increased risk of coronary heart disease, hypertension and stroke.

Under-consumption of dairy foods — colorectal cancer

According to the Australian Dietary Guidelines, recent evidence suggests that people who regularly consume more than one serve of dairy products each day (particularly milk) have a reduced risk of developing colorectal cancer. Under-consumption of dairy therefore increases the risk.

Under-consumption of dairy foods — type 2 diabetes

A 10-year study of 3000 overweight adults found that the under-consumption of milk and other milk products, and consuming refined sugars and carbohydrates instead, might increase the risk of overweight young adults developing type 2 diabetes.

Under-consumption of dairy foods — dental caries

Calcium plays a significant role in the hardening of tooth enamel. As a result, the under-consumption of dairy foods can mean that teeth are not as strong as they could be, increasing the risk of dental caries.

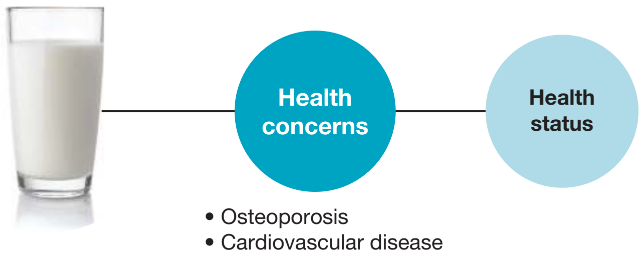
FIGURE 3.37 Cow's milk is a rich source of calcium.

Under-consumption of dairy foods — the Australian Burden of Disease Study

Data specifically relating to health status attributable to the under-consumption of dairy are not available. Therefore, data relating to under-consumption of milk, and conditions attributed to the under-consumption of dairy, will be explored.

- In 2018, under-consumption of milk was linked to 0.2 per cent of the total burden of disease in Australia, much of which was through the relationship between milk and osteoporosis.
- In 2017–18, 3.8 per cent of Australians (or just over 900 000 people) experienced osteoporosis. Women overall were twice as likely to experience osteoporosis as males, and five times more likely in the 55 and over age group (see **FIGURE 3.36**).

FIGURE 3.38 Summary of the impact of under-consumption of dairy on health status



- Contributes significant morbidity and YLD as a result of osteoporosis especially among older females
- Morbidity and mortality associated with cardiovascular disease, colorectal cancer and type 2 diabetes
- Incidence of dental caries

- Osteoporosis
- Cardiovascular disease
- Colorectal cancer
- Type 2 diabetes
- Dental caries

3.5 Exercises

3.5 Quick quiz on | **3.5 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
2, 4, 5	1, 3, 6, 7	8, 9, 10

Test your knowledge

1. Identify and briefly explain the difference between the two types of fibre.
   a. For which disease does low fibre intake contribute the greatest DALY according to **FIGURE 3.27**?
   b. Outline the role low fibre intake plays in the development of the condition identified in **part a**.
2. Explain what is meant by:
   a. nutrient dense foods
   b. energy dense foods.
3. Briefly explain how antioxidant intake can promote health status.
4. Explain why individuals should consume whole fruits instead of fruit juice.
5. a. Explain what is meant by ‘dairy’.
   b. Which nutrient is dairy a rich source of?
   c. Outline why this nutrient is important for good health and wellbeing.

Apply your knowledge

6. a. Briefly explain how low intake of dairy can contribute to osteoporosis.
   b. Besides contributing to osteoporosis, explain one way that under-consumption of dairy foods contributes to each of morbidity and mortality in Australia.
7. Complete the following table for conditions associated with the low intake of fibre, under-consumption of fruit and vegetables, and dairy foods (the first row has been done for you).

Nutritional imbalance	Statement explaining the effect of the nutritional imbalance on the body	Identification of a disease	Link to health status
Low intake of fibre	Fibre provides feelings of satiety without adding energy to the diet. Low intake can therefore contribute to overeating, which can contribute to overweight and obesity,	which can increase the incidence of type 2 diabetes,	contributing to both morbidity and mortality.
Low intake of fibre			
Low intake of fibre			
Under-consumption of fruit and vegetables			
Under-consumption of fruit and vegetables			
Under-consumption of fruit and vegetables			
Under-consumption of dairy			
Under-consumption of dairy			

8. Referring to **FIGURE 3.29** and **FIGURE 3.30**, explain how differences in the proportion of males and females consuming the recommended serves of fruit and vegetables per day may impact on the difference in the number of YLL and YLD experienced between males and females as a result of low intake of fruit and vegetables.
9. Use **FIGURE 3.33** to answer the following questions.
   a. What proportion of the total burden due to under-consumption of fruit and vegetables was the result of fatal outcomes?
   b. For which disease was the fatal proportion of under-consumption of fruit and vegetables the greatest?
   c. What proportion of the burden associated with under-consumption of fruit and vegetables was attributed to females?
   d. For which disease did females experience the greatest proportion of burden of disease compared to males?
10. Outline one trend shown in **FIGURE 3.36**.

3.5 Exam questions

Question 1 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.6.a.i*; © VCAA

In 2014–15, the Australian Bureau of Statistics conducted the National Health Survey. The survey was designed to collect information about the health of Australians. Some key findings for Australian adults included the following:

- less than half (49.8 per cent) met the Australian Dietary Guidelines for the recommended daily serves of fruit
- 7.0 per cent met the Australian Dietary Guidelines for the recommended daily serves of vegetables
- 5.1 per cent met both guidelines
- 63.4 per cent were overweight or obese.

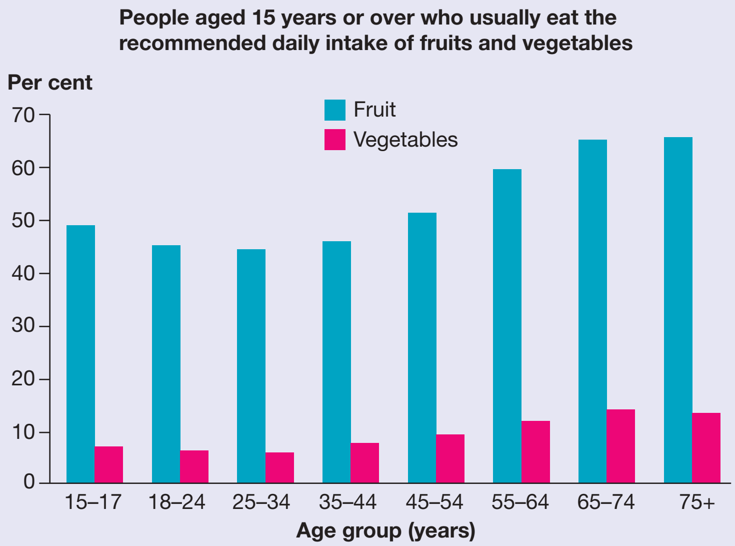
Data: Australian Bureau of Statistics, *'National Health Survey, First Results, Australia, 2014–15'*, ABS cat. no. 4364.0.55.001; © Commonwealth of Australia 2015

Based on the results of the survey, **identify** one nutrient that could be deficient in the diet of Australians and outline one possible consequence for health.

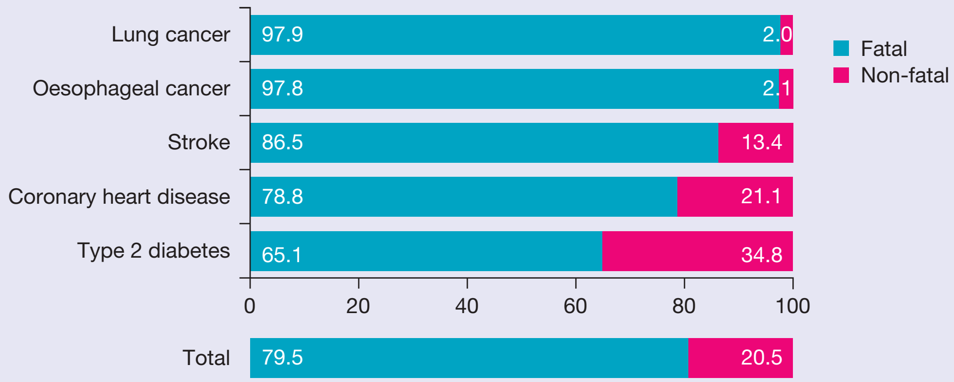
Question 2 (1 mark)

Source: *VCE 2013, Health and Human Development, Section A, Q.4.a*; © VCAA

Identify one trend from the graph in relation to the percentage of people who usually eat the recommended daily intake of fruits and vegetables.



Question 3 (2 marks)

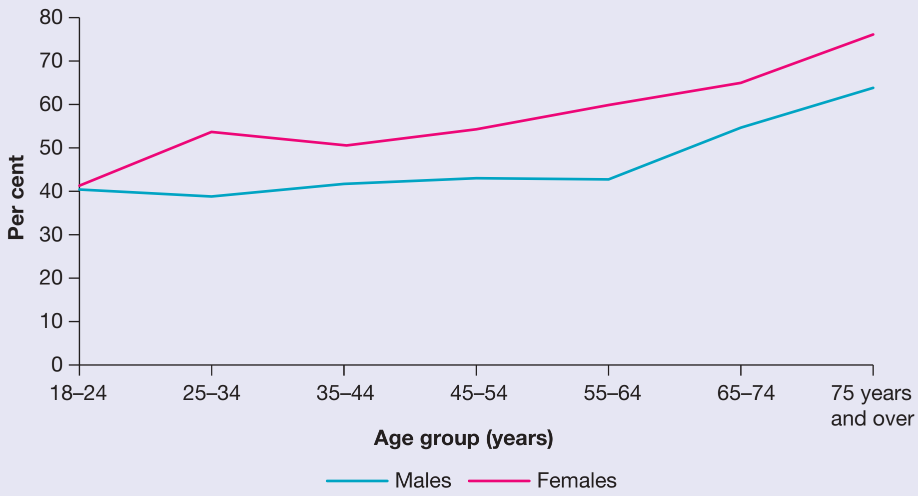


Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/interactive-data-risk-factor-burden/data

Identify the top fatal burden attributed to low fruit intake and the top non-fatal burden attributed to low fruit intake.

Question 4 (4 marks)

Persons 18 years and over – Proportion with adequate intake of fruit, vegetables or both, 2022



From the data in the graph, **describe** two conclusions that can be drawn about the adequate consumption of fruits and vegetables.

Question 5 (2 marks)

Insufficient intake of dairy foods is a major risk factor for osteoporosis. **Identify** a population group where the prevalence of osteoporosis is high and explain why this group is most at risk.

More exam questions are available in your learnON title.

3.6 The impact of a high intake of fat, salt and sugar on health status in Australia

Key knowledge

The contribution to Australia's health status of:
– nutritional imbalance (high intake of fat, salt and sugar)

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

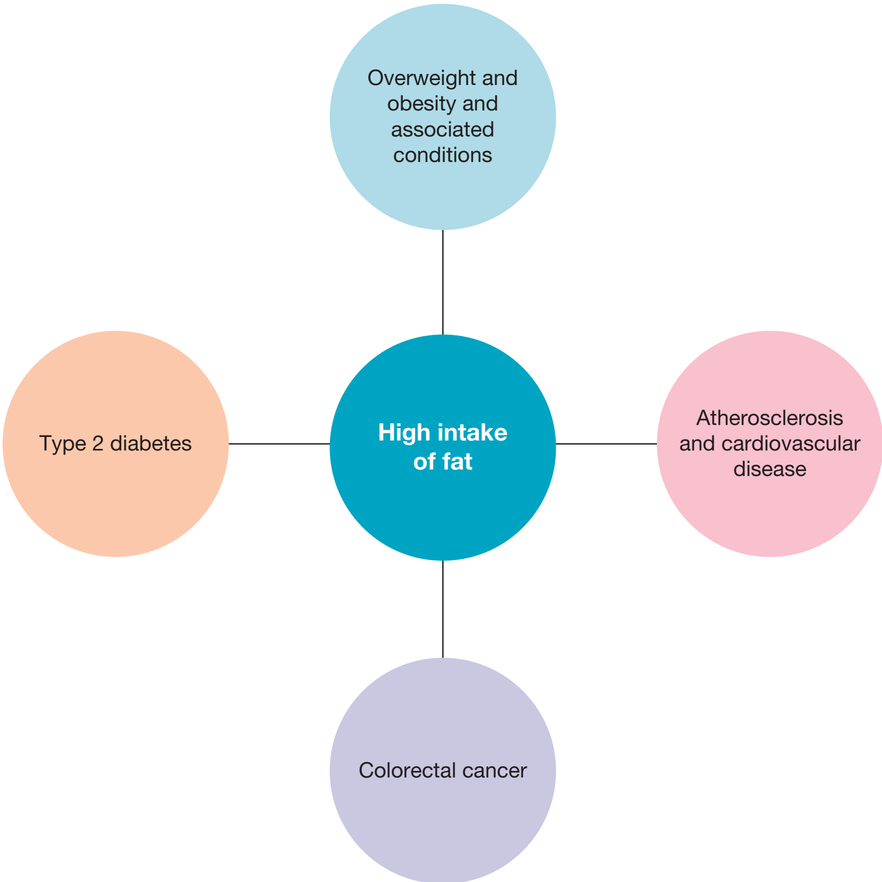
You need to know:
- how a high intake of fat, salt and sugar can contribute to specific diseases and how this impacts health status.

You need to be able to:
- explain how a high intake of fat, salt and sugar can contribute to specific diseases
- make meaningful links from specific diseases caused by a high intake of fat, salt and sugar to relevant health status indicators.

3.6.1 High intake of fat

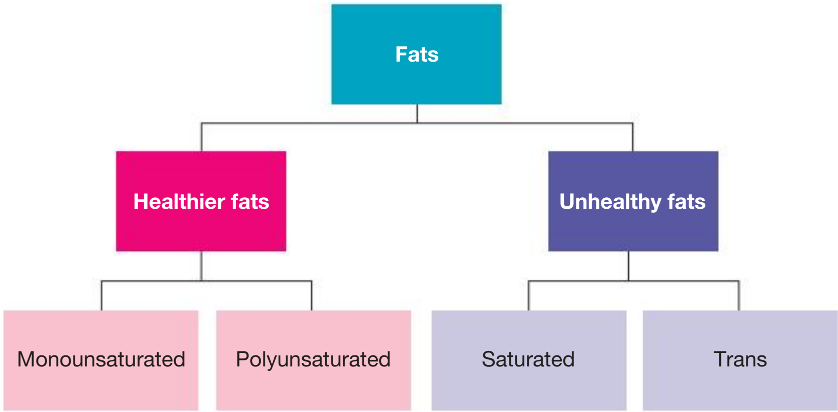
Fats (sometimes referred to as lipids) play a number of roles in relation to health and wellbeing. Most people get enough fats in their diet. In fact, Australians are more likely to over-consume than under-consume this nutrient, and this can have detrimental effects on health status (see **FIGURE 3.39**).

FIGURE 3.39 A high intake of fat contributes to a number of health concerns.



Although fats are an important part of a balanced diet, there are different types of fats and some are healthier than others (see **FIGURE 3.40**).

FIGURE 3.40 The different types of fat



High intake of fat and overweight and obesity

One of the primary functions of fat is to act as a fuel for energy production. All fats can be used as a fuel source for energy production and will contribute to weight gain if the energy provided by them is not used. Excessive consumption of any type of fat can therefore contribute to overweight and obesity and the associated conditions that were explored in subtopic 3.4.

Over-consumption of fats impacts health status in Australia because many people consume too much of this nutrient, especially saturated fat. The greatest impact of over-consumption of fat is in relation to overweight and obesity, which increases morbidity and mortality through cardiovascular disease, osteoarthritis, type 2 diabetes, dementia and some cancers.

High intake of fat and cardiovascular disease

A specific impact of over-consumption of saturated and trans fats on health status is in relation to high cholesterol levels.

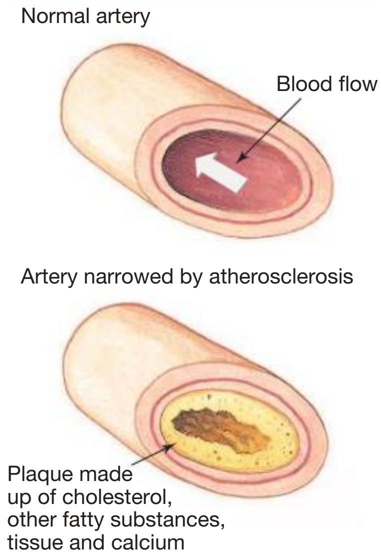
One of the main differences between the types of fat is in the way they impact cholesterol levels in the bloodstream. There are two types of cholesterol:

- low-density lipoprotein (LDL), also known as 'bad' cholesterol
- high-density lipoprotein (HDL), also known as 'good' cholesterol.

When there is too much LDL in the blood, it tends to be deposited on the walls of the blood vessels, giving the blood less room to travel to the cells. When this occurs, the cholesterol deposits allow other substances (such as calcium) to become embedded, which leads to hardening and narrowing of the arteries. This condition is known as atherosclerosis (see **FIGURE 3.41**). Atherosclerosis is the main underlying factor in most types of cardiovascular disease, including coronary heart disease and stroke, because it makes the heart work harder and can eventually cut off blood supply completely. HDL can slow the process of atherosclerosis, therefore reducing the risk of heart disease and stroke.

Saturated and trans fats are sometimes known as 'bad' fats because they increase LDL cholesterol levels in the blood and therefore increase the risk of cardiovascular disease. Trans fats can also decrease levels of HDL cholesterol, further increasing the risk of heart disease and stroke.

FIGURE 3.41 High cholesterol can contribute to atherosclerosis.



Monounsaturated and polyunsaturated fats are often considered to be healthier fats because they can reduce the levels of LDL cholesterol in the body and therefore reduce the risk of cardiovascular disease. Polyunsaturated fats can also help increase HDL cholesterol and reduce blood clots and inflammation, which further decreases the risk of heart disease and stroke.

High intake of fat and type 2 diabetes

In addition to increasing the risk of cardiovascular disease, diets high in saturated and trans fats have been shown to change the composition of **cell membranes**, which can interfere with the transport of glucose into the cell, increasing the impact of impaired glucose regulation and the risk of type 2 diabetes.

cell membrane the layer around a cell that protects it from the outside environment. The cell membrane allows substances in and out of the cell, including glucose.

High intake of fat and colorectal cancer

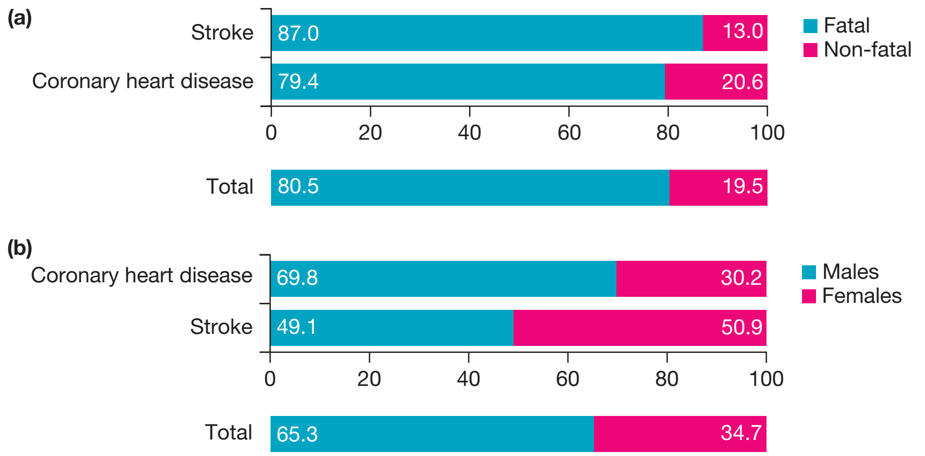
Although saturated and trans fats can increase the risk of overweight and obesity, which is a risk factor for colorectal cancer, excessive intake also appears to increase the risk of colorectal cancer directly (that is, even in people who have healthy body weight).

It is believed that a high-fat diet can cause changes in the digestive system that increase inflammation. Inflammation can lead to increased cell division and the risk of cancer.

High intake of fat and the Australian Burden of Disease Study

In 2018, high cholesterol was responsible for over 800 deaths and around 3 per cent of the total burden of disease in Australia, including 31 per cent of the burden due to cardiovascular disease. The majority (more than 80 per cent) of the burden was due to premature mortality. Males accounted for around 65 per cent of the total burden (see **FIGURE 3.42B**).

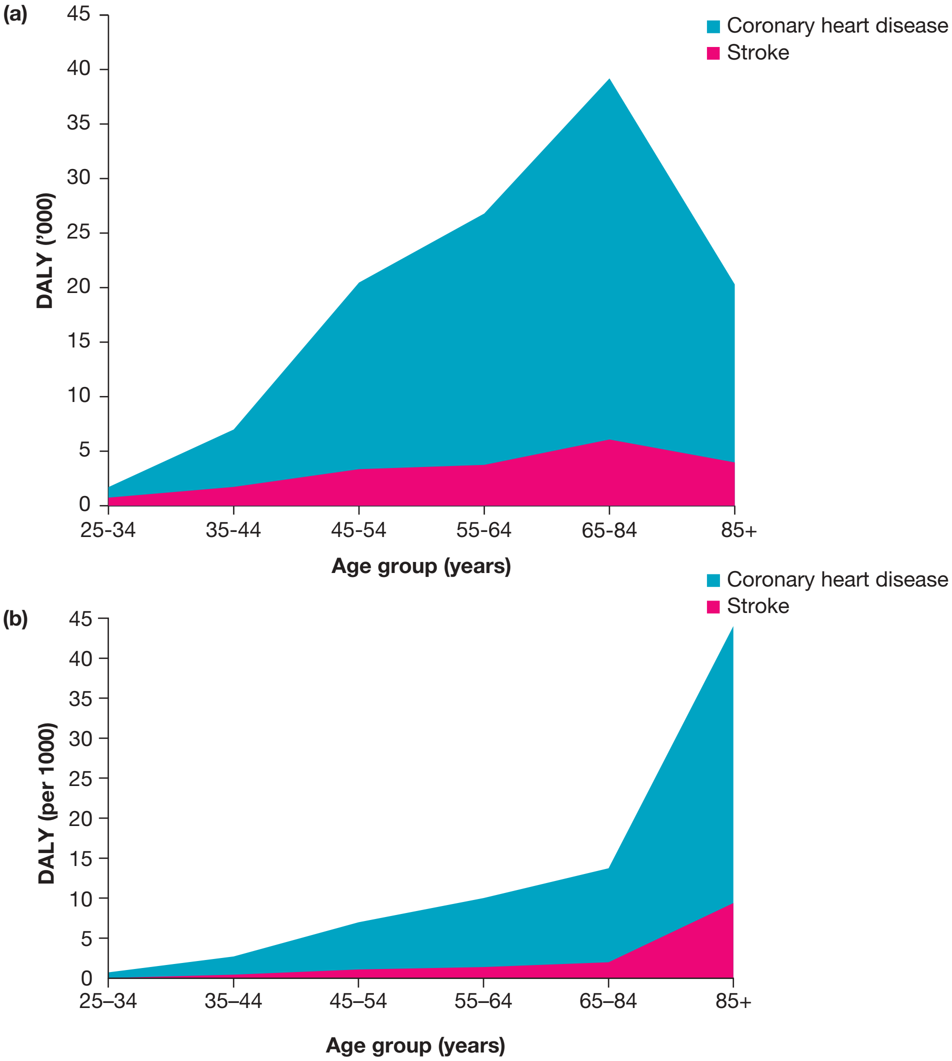
FIGURE 3.42 Proportion (%) of burden attributable to high cholesterol, by (a) fatal versus non-fatal burden (b) and sex, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

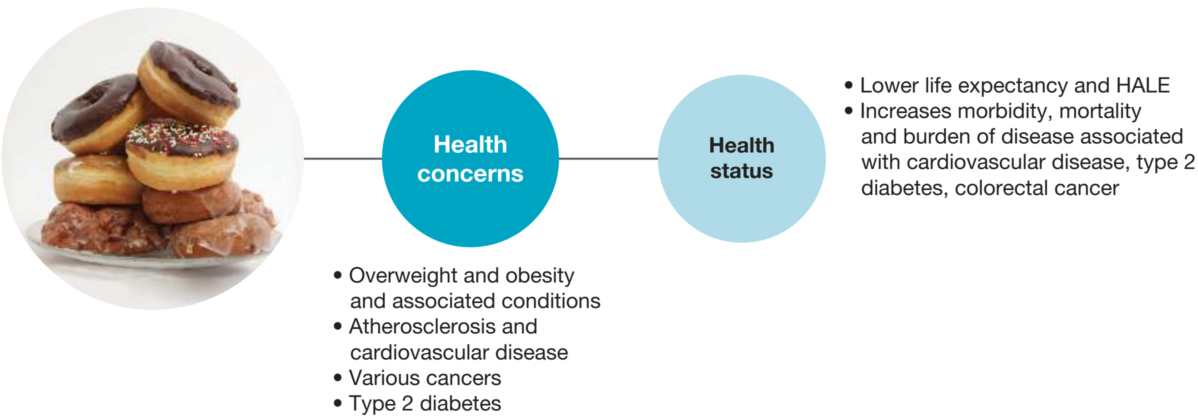
Coronary heart disease was responsible for the majority of DALY attributable to high cholesterol. The total number of DALY caused by high cholesterol gradually increased with age until reaching a peak in the 65–84 age group (see **FIGURE 3.43**).

FIGURE 3.43 Burden attributable to high cholesterol according to disease and age group, by total DALY, 2018



Source: Adapted from https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/data

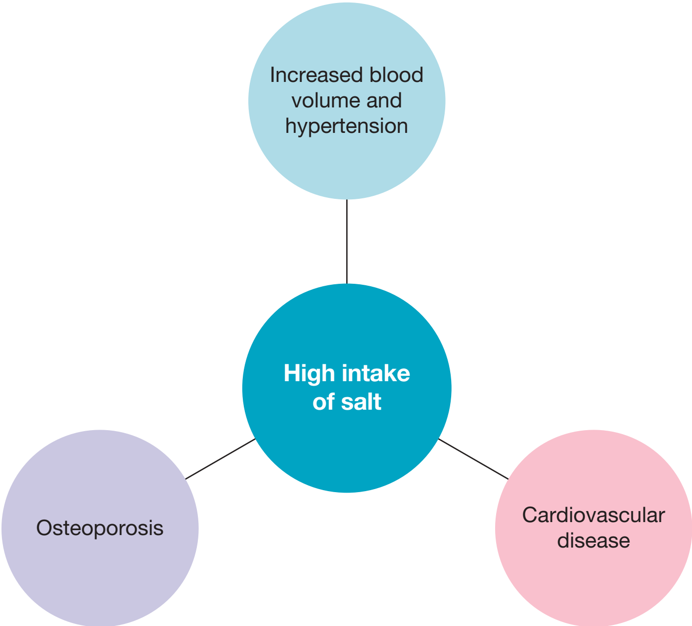
FIGURE 3.44 Summary of the impact of high intake of fat on health status



3.6.2 High intake of salt

One of the main components of salt is sodium. Like fat, sodium is required for optimal human functioning but too much can contribute to negative health outcomes (see **FIGURE 3.45**).

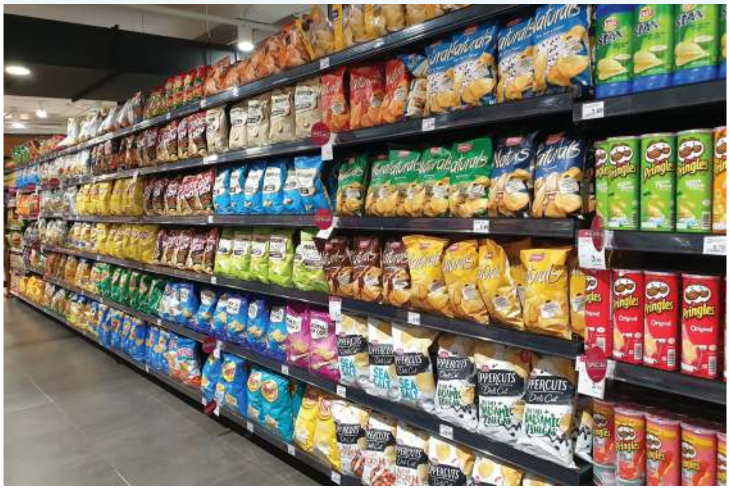
FIGURE 3.45 High intake of salt contributes to a number of health concerns.



In high-income countries like Australia, salt from processed foods is the major source of sodium for most people.

Most Australians get more than enough sodium in their diet. According to the Better Health Channel, the average Australian consumes eight to nine times the amount of sodium they need for good health and wellbeing.

FIGURE 3.46 Processed foods are often high in salt. Checking the label for the amount of sodium present is often the best way to determine which foods have lower levels of salt.



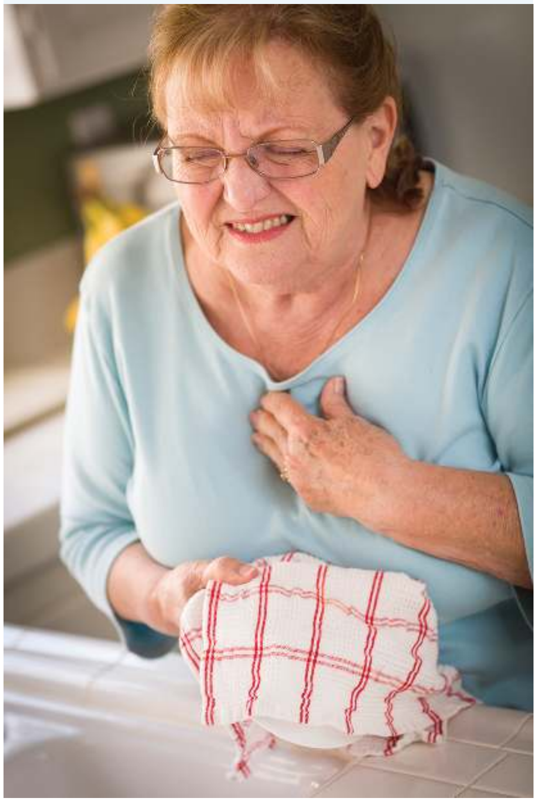
High intake of salt and hypertension

High levels of sodium in the body can draw fluid out of the cells and into the bloodstream. This increases the amount of blood in the blood vessels (often referred to as 'increased blood volume'), which places an added strain on the heart, increasing blood pressure and rates of hypertension.

High intake of salt and cardiovascular disease

A high intake of salt can lead to cardiovascular disease. Increased blood volume and hypertension force the heart to work harder. Heart failure can result if the heart cannot keep up with demand from the body. Hypertension associated with excess sodium intake contributes to higher rates of stroke and heart attack.

FIGURE 3.47 Excess sodium increases blood volume and contributes to hypertension — a major risk factor for heart attack.



High intake of salt and osteoporosis

When excess sodium is filtered through the kidneys, calcium is often removed and excreted in urine as well. This can lead to the **demineralisation** of bones and osteoporosis.

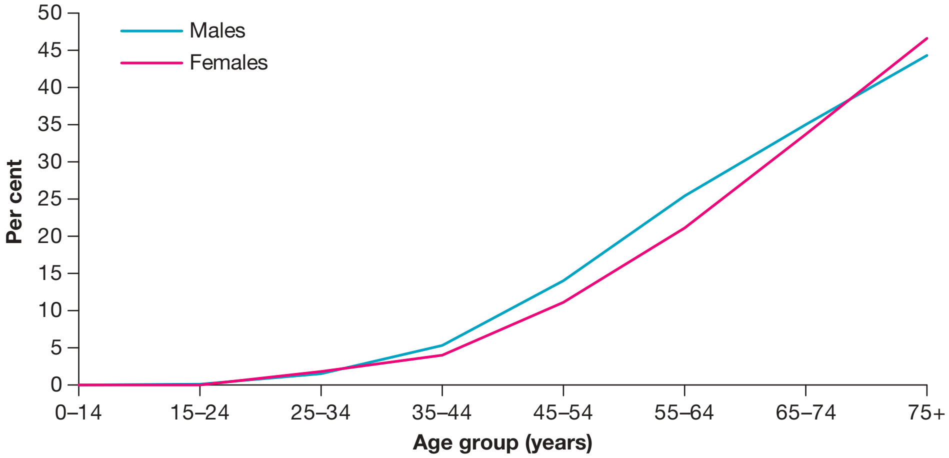
High intake of salt and the Australian Burden of Disease Study

According to the Australian Institute of Health and Welfare and the ABS:

- Over-consumption of salt was responsible for over 2500 deaths and 1 per cent of the total burden of disease in Australia in 2018.
- In 2017–18, around 23 per cent of adults, or 4.3 million people, had measured high blood pressure, excluding those taking medication.
- High blood pressure was more common in men (25.4 per cent) than in women (20.3 per cent), except among people aged 75 and over (45.4 per cent in women and 44.6 per cent in men).
- The proportion of people with high blood pressure increased with age, from 6 per cent for people aged 18–24 years to 45 per cent for people aged 75 and over (see **FIGURE 3.48**).

demineralisation the removal of minerals such as calcium and phosphorus from bones and teeth, which decreases the density of these tissues

FIGURE 3.48 Proportion of persons aged 18 years of over with high blood pressure



Source: Adapted from https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022.

FIGURE 3.49 Summary of the impact of high intake of salt on health status

Health concerns

- Hypertension
- Heart failure, stroke and heart attack
- Osteoporosis

Health status

- Lower life expectancy and HALE
- Incidence and YLD of osteoporosis especially among older females
- Morbidity and mortality rates due to hypertension, heart failure, stroke and heart attack

3.6.3 High intake of sugar

Sugars are a type of carbohydrate found naturally in some foods, such as fruit and honey, and added to many processed foods, such as confectionary, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.

FIGURE 3.50 A high intake of sugar contributes to a number of health concerns.

High intake of sugar

- Overweight and obesity and associated conditions
- Dental caries and dental disease

High intake of sugar and overweight and obesity

Sugars are required as a fuel for energy production but, if consumed in excess, they are stored as adipose (fat) tissue. Over time, this can lead to weight gain and overweight and obesity. Overweight and obesity contribute to health status in a number of ways (see subtopic 3.4).

FIGURE 3.51 Sweetened beverages, such as these energy drinks, have emerged as one of the main sources of sugar for Australians.

FIGURE 3.52 Over-consumption of sugar is a risk factor for dental caries, a major cause of morbidity for children.

High intake of sugar and dental caries and dental disease

As well as providing a fuel for energy production, sugars provide a food source for bacteria in the mouth. These bacteria produce acids that can contribute to the decay of tooth enamel and the development of dental caries, which is a significant contributor to morbidity among children in Australia. If left untreated, diseases such as **periodontitis** can occur. Periodontitis is a condition characterised by inflammation and infection of the tissues that support the teeth. In the long term, periodontitis can lead to the loosening and loss of teeth.

periodontitis a condition characterised by inflammation and infection of the tissues that support the teeth

Over the past 15 years, research has established links between poor oral health (especially periodontitis) and a range of serious diseases that contribute significantly to burden of disease in Australia, including heart disease, stroke, severe infections, kidney disease, oral cancers and dementia (Dental Health Services Victoria, 2015). The causal relationship between oral health and chronic disease is the subject of ongoing research.

FIGURE 3.53 Summary of the impact of high intake of sugar on health status

Health concerns

- Overweight and obesity and associated conditions including cardiovascular disease, some cancers and type 2 diabetes
- Dental caries and dental disease

Health status

- Morbidity and mortality due to overweight and obesity and associated conditions.
- Incidence and YLD due to dental caries, especially among younger Australians
- Prevalence due to dental diseases including periodontitis

3.6 Exercises

3.6 Quick quiz on | **3.6 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5, 6, 7	8, 9

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Test your knowledge

1. Identify the four types of fat.
2. Briefly explain the difference between LDL and HDL cholesterol.
3. a. Explain the process of atherosclerosis.
   b. Explain how atherosclerosis contributes to cardiovascular disease.
4. a. Identify which two fats are considered the 'bad' fats. Why?
   b. Identify which two fats are considered the 'good' fats. Why?
5. a. What is meant by 'increased blood volume'?
   b. Describe how this contributes to cardiovascular disease.

Apply your knowledge

6. Complete the following table explaining how high intake of fat, salt and sugar contribute to health status in Australia.

Substance	Statement explaining the effect of high intake on the body	Identification of a disease	Link to health status
Fat			
Fat			
Salt			
Salt			
Sugar			
Sugar			

7. Use **FIGURE 3.42** to answer the following questions:
   a. What proportion of the total burden due to high cholesterol was as a result of fatal outcomes?

b. Identify for which disease the fatal proportion of high cholesterol was the greatest.
c. Identify for which disease males and females have the most similar proportion of burden of disease due to high cholesterol.
d. Identify what proportion of the total burden of high cholesterol was experienced by males compared to females.

8. Use **FIGURE 3.43** to answer the following questions:
   a. Identify which disease contributed the most to DALY due to high cholesterol.
   b. Discuss how high cholesterol contributes to the disease identified in **part a**.
   c. Approximately how many DALY did those aged 65–84 experience due to high cholesterol?
9. a. Using data from **FIGURE 3.48**, describe the change in the proportion of those with hypertension as age increases.
   b. Explain how the difference in rates of hypertension between those aged 15–24 and those aged 75 and over could contribute to differences in health status between these two groups.

3.6 Exam questions

Question 1 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.6.a.ii;* © VCAA

In 2014–15, the Australian Bureau of Statistics conducted the National Health Survey. The survey was designed to collect information about the health of Australians. Some key findings for Australian adults included the following:

- less than half (49.8 per cent) met the Australian Dietary Guidelines for the recommended daily serves of fruit
- 7.0 per cent met the Australian Dietary Guidelines for the recommended daily serves of vegetables
- 5.1 per cent met both guidelines
- 63.4 per cent were overweight or obese

Data: Australian Bureau of Statistics, *'National Health Survey, First Results, Australia, 2014–15',* ABS cat. no. 4364.0.55.001; © Commonwealth of Australia 2015

Based on the results of the survey, **identify** one nutrient that could be in excess in the diet of Australians and **outline** one possible consequence for health.

Question 2 (2 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.6.c*; © VCAA

Between 2011 and 2013, the Australian Government conducted the Australian Health Survey (AHS), which collected in-depth data on nutrition. One of the preliminary findings was that the average daily consumption of sodium was 2404 mg per day, significantly higher than the 460–920 mg recommended by the National Health and Medical Research Council (NHMRC).

Outline how excessive sodium consumption can have an impact on health.

Question 3 (2 marks)

Source: *VCE 2012, Health and Human Development Exam, Section B, Q.4.b*; © VCAA

The Heart Foundation is a non-government agency that provides dietary advice to help maintain healthy weight to lower the risk of contracting a range of diseases. The Heart Foundation advises the following.

- Eat a variety of foods.
- Include vegetables, wholegrains, fruit, nuts and seeds every day.
- Choose healthier fats and oils.
- Try to limit sugary, fatty and salty takeaway meals and snacks.
- Drink mainly water.

Outline one health benefit of limiting the intake of sugary, fatty and salty takeaway meals and snacks.

Question 4 (2 marks)

Describe how saturated and trans fats contribute to the development of cardiovascular disease and type 2 diabetes.

More exam questions are available in your learnON title.

3.7 EXTENDED RESPONSE — Build your exam skills

3.7.1 Interpreting stimulus material

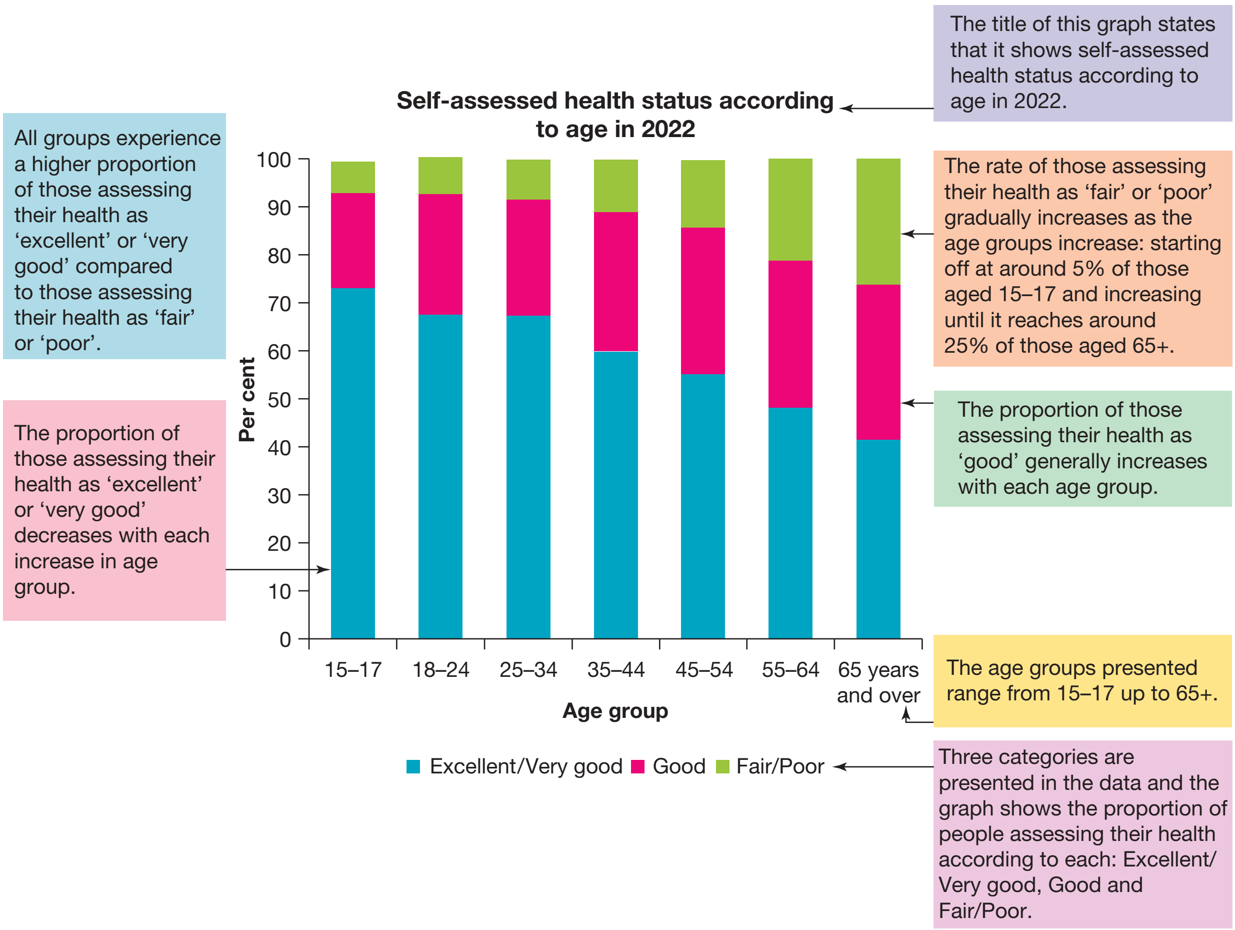
Stimulus material is designed to provide information about a relevant concept. Stimulus material can be presented in a range of formats, including infographics, graphs, tables, cartoons, maps and text, including factual and fictional case studies.

Stimulus material in extended response questions requires interpretation to determine what the information is presenting and how it should be used in the response. This includes finding trends, relationships, similarities and/or differences in data, understanding case study material and interpreting the meaning of visual material such as infographics.

In this section, a number of stimulus items presenting various data will be presented and interpreted.

Stimulus material 1

SOURCE 1 Self-assessed health status according to age group, 2022



Stimulus material 2

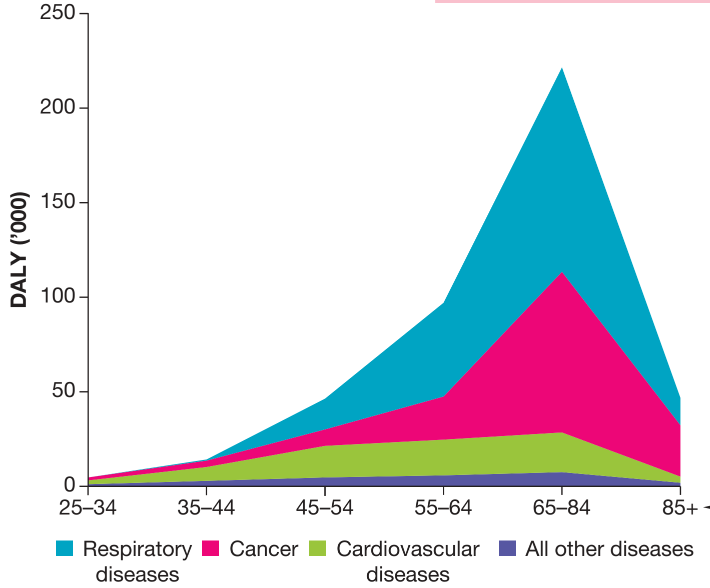
Consider the following graph:

SOURCE 2 Burden of disease (DALY) attributable to smoking by age and disease group in 2018

The title states that the graph shows the burden of disease (DALY) attributable to tobacco use by age and disease group in 2018.

Some important information is contained in this title:
- The causal risk factor is smoking.
- The unit of measurement is DALY.
- It separates disease groups.
- It shows the impact according to age.

The vertical axis shows that DALY are represented in thousands (indicated by ’000 in the title of the axis).



Age groups range from 25–34 to 85+.

Further exploration of the graph shows:
- There are four disease groups shown in the data: respiratory, cancer, cardiovascular and all other disease groups.

This particular graph is a stacked graph, which shows the contribution of a range of categories to the total. For example, there were around 220 000 DALY for those aged 65–84. Of the 220 000 DALY for this age group, around:

- 20 000 were due to cardiovascular disease
- 100 000 were due to cancer
- 90 000 were due to respiratory disease.

Some other observations from this graph include:

- Overall DALY increase until reaching a peak of around 220 000 DALY for those aged 65–84.
- Cardiovascular disease plateaued between the 45–54 and 65–84 age groups.
- Cancer and respiratory diseases peaked in the 65–69 age group.
- DALY for cancer and respiratory diseases increased with age group before decreasing significantly in the 85+ age group.
- The first four age groups consist of people of 10 different ages, whereas the 65–84 group includes people of 20 different ages and the 85+ age group, which includes all people aged 85 and above. As a result, the population sizes in each group may not be equal, meaning that the graph doesn’t show the rate, just the total number contributed by each group.

Practise this skill

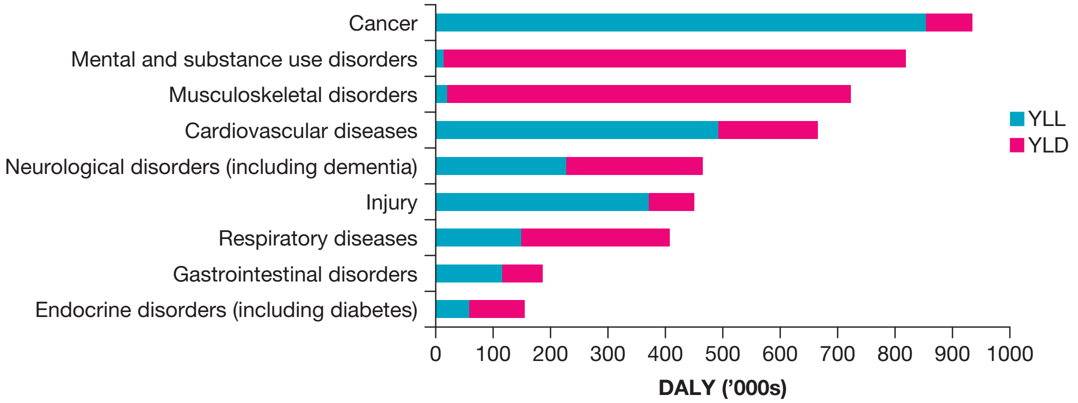
Interpret the following data and create a list of information it is presenting and then share your list with a classmate.

SOURCE 1 Life expectancy for males and females of selected ages, 2022

Age	Males	Females
0 (birth)	81.2	85.3
15	81.6	85.6
30	82.1	85.8
45	82.8	86.2
60	84.4	87.3
75	87.6	89.4
90	94.3	95.0

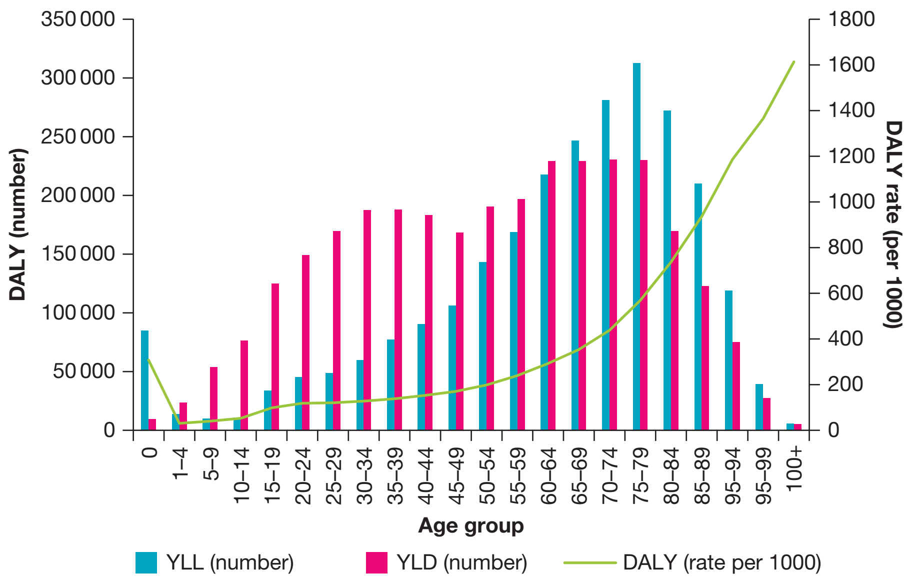
Source: ABS, *Life tables, States, Territories and Australia, 2020–20*.

SOURCE 2 Burden of disease (DALY, YLL And YLD) for major disease groups, 2023



Source: Adapted from Institute for Health Metrics and Evaluation (IHME). Global Burden of Disease Study 2019 (GBD 2020).

SOURCE 3 Burden of disease (DALY, YLL and YLD) by age group



Source: Adapted from AIHW, Australian Burden of Disease Study 2023.

3.8 Review

Hey students! Now that it's time to revise this topic, go online to:

Review your results

Watch teacher-led videos

Practise exam questions

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3.8.1 Topic summary

- Around 25 per cent of the total burden of disease in Australia is due to smoking and vaping, alcohol, overweight and obesity and nutritional imbalance (underconsumption of vegetables, fruit and dairy foods; high intake of fat, salt and sugar; low intake of iron).

3.2 The impact of smoking and vaping on health status in Australia

- Although the rate of smoking has decreased, it still remains a leading preventable contributing factor to premature death from conditions such as cancer, cardiovascular disease, respiratory conditions such as emphysema, low birth weight and infectious diseases.
- Rates of vaping have increased significantly in recent years. Although the exact impacts of vaping are currently unknown, many of the chemicals often found in vapes are also found in traditional cigarettes, therefore the impacts on health status could be similar to smoking.

3.3 The impact of alcohol on health status in Australia

- Alcohol consumption can impact health status by increasing the risk of overweight and obesity and associated conditions, liver diseases, injuries, a range of cancers, mental health issues, premature birth, low birth weight and foetal alcohol spectrum disorder (FASD).

3.4 The impact of overweight and obesity on health status in Australia

- Overweight and obesity contributes to health status in Australia by increasing the rates of a number of conditions including cardiovascular disease, some cancers, type 2 diabetes, chronic kidney disease, osteoarthritis, back pain, asthma, mental health issues, dementia and maternal health conditions.
- Rates of overweight and obesity in Australia have increased over time.

3.5 The impact of a low intake of fibre, and the under-consumption of fruit and vegetables and dairy foods on health status in Australia

- Fibre is a type of carbohydrate that is essential for the health of the digestive system. It does not contribute any energy to the body because it passes through without being digested. Low intake therefore increases the risk of overweight and obesity and related conditions.
- Fibre also assists in reducing blood glucose and cholesterol levels, and promoting digestive health. Low intake is therefore a risk factor for cardiovascular disease and colorectal cancer.
- Under-consumption of fruit and vegetables in Australia is a concern due to the relationship between low intake of these foods and increased risks of overweight and obesity, cancer, cardiovascular disease, type 2 diabetes and neural tube defects.
- Under-consumption of dairy foods increases the risk of a range of conditions, particularly osteoporosis. Other conditions with under-consumption of dairy as a risk factor include cardiovascular disease, colorectal cancer, type 2 diabetes and dental caries.

3.6 The impact of a high intake of fat, salt and sugar on health status in Australia

- High intake of fat contributes to weight gain and a range of related conditions. Of the four fats, monounsaturated and polyunsaturated fats are considered healthier fats than saturated and trans fats.
- High intake of saturated fats is of particular concern in Australia, and health status could be improved by replacing saturated fats with monounsaturated and polyunsaturated fats.

- Monounsaturated fats decrease LDL (or 'bad') cholesterol and play a part in protecting people from cardiovascular disease.
- Polyunsaturated fats increase HDL (or 'good') cholesterol and decrease LDL cholesterol. Polyunsaturated fats also reduce blood clotting and inflammation, and decrease the risk of cardiovascular disease as a result.
- Trans and saturated fats increase LDL cholesterol and therefore increase the risk of cardiovascular disease. Trans fats also interfere with cell membranes and can contribute to impaired glucose regulation.
- Salt is a major source of sodium, and this can increase the risk of hypertension. Other conditions linked to high intake of sodium include heart failure, stroke and heart attack, and osteoporosis.
- High intake of sugar contributes to overweight and obesity and related conditions. Sugar can also contribute to the decay of teeth and is a significant cause of morbidity among children. The consumption of sweetened drinks is of particular concern in Australia.

on Resources

Digital document Summary (doc-41383)

3.8.2 Key terms

antioxidants compounds in foods that neutralise free radicals
atherosclerosis the build-up of plaque on blood vessel walls, making it harder for blood to get through
body mass index (BMI) a statistical measure of body mass calculated by dividing weight (in kilograms) by height (in m^2)
carcinogens things that have the potential to cause cancer, such as UV radiation, cigarette smoke and asbestos
cell membrane the layer around a cell that protects it from the outside environment. The cell membrane allows substances in and out of the cell, including glucose.
cholesterol a type of fat required for optimal functioning of the body that, in excess, can lead to a range of health concerns, including the blocking of the arteries (atherosclerosis). It can be 'bad' (low-density lipoprotein (LDL)) or 'good' (high-density lipoprotein (HDL)).
demineralisation the removal of minerals such as calcium and phosphorus from bones and teeth, which decreases the density of these tissues
dental caries decay of teeth caused by a breakdown in the tissues that make up the tooth
energy dense foods that contain significant amounts of fat, carbohydrates and/or protein, therefore contributing large amounts of energy to the diet
fortified foods when a nutrient has been artificially added to food to increase its nutritional value
free radicals molecules formed when oxygen is metabolised. Free radicals can damage healthy body cells and increase the risk of diseases such as cardiovascular disease and cancer.
gestational diabetes a type of diabetes that begins during pregnancy and generally goes away once the child is born. Women who experience gestational diabetes are at greater risk of type 2 diabetes in the future.
hypertension high blood pressure
neural tube defects conditions characterised by damage to the brain and spine, and to the nerve tissue of the spinal cord during prenatal development, such as spina bifida and anencephaly
nutrient dense foods that contain a large amount of nutrients such as vitamins and minerals
periodontitis a condition characterised by inflammation and infection of the tissues that support the teeth
satiety the state of feeling full after eating

3.8 Exercises

learnon

3.8 Exam questions

Question 1 (4 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.5.a;* © VCAA

Outline the role of adequate fibre intake in improving two indicators of health status. Refer to a different health condition in each part of the answer.

Question 2 (3 marks)

Source: Adapted from *VCE 2021, Health and Human Development Exam, Q.7.b;* © VCAA

The leading causes of burden of disease in Australia in 2015 were cancer (18%) and cardiovascular disease (14%).

Data: Australian Institute of Health and Welfare (AIHW), *Australia's Health 2020: In Brief,* 'Australia's Health' series no. 17, cat. no. AUS 232, AIHW, Canberra, p. 7

Select either:
- cancer
- cardiovascular disease.

Identify and **describe** one factor that contributes to the burden of disease for your selected condition.

Question 3 (3 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.4;* © VCAA

> As part of National Nutrition Week, Nutrition Australia launched the annual Tryfor5 campaign, which is designed to encourage Australians to increase their vegetable consumption to the recommended five serves per day.

Explain how consuming the recommended five serves per day of vegetables would have an impact on the burden of disease in Australia.

Question 4 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.5.c;* © VCAA

> Oliver is a 51-year-old male. He smokes 10 cigarettes a day and has a minimal alcohol intake. Oliver's body weight is quite high and he has little time to exercise. Oliver has been diagnosed with high cholesterol and he suffers from hypertension, placing him at risk of cardiovascular disease.
>
> Oliver has been advised by his doctor to make changes to his diet to reduce his sodium intake.

Identify one major food source of sodium. **Outline** the role sodium plays in increasing the risk of cardiovascular disease.

Question 5 (4 marks)

Explain two ways that overweight and obesity contribute to Australia's health status.

on Resources

Digital document	Key terms glossary (doc-41382)
Interactivities	Crossword (int-9264) Definitions (int-9265)
Exam question booklet	Topic 3 Exam question booklet (eqb-0247)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 3 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- **3.8** Summary (doc-41383) ☐
- Key terms glossary (doc-41382) ☐

Interactivities

- **3.2** Burden attributable to tobacco use according to disease and age group, by total DALY, 2018 (int-9260) ☐
- **3.3** Burden attributable to alcohol use according to disease and age group, by total DALY, 2018 (int-9261) ☐
- **3.4** Burden (%) attributable to overweight and obesity, selected conditions, 2018 (int-9262) ☐
- Burden attributable to overweight and obesity according to disease and age group, by total DALY, 2018 (int-9263) ☐
- **3.8** Crossword (int-9264) ☐
- Definitions (int-9265) ☐

Teacher-led video

- **3.7** Extended response: Interpreting stimulus material (tvld-2879) ☐

Weblinks

- **3.2** Smoking ☐
- **3.3** Impacts of alcohol ☐

Exam question booklet

- **3.8** Topic 3 Exam question booklet (eqb-0247) ☐

To access these online resources, log on to **www.jacplus.com.au**

4 Variations in health status between population groups

LEARNING SEQUENCE

4.1 Overview

	Key knowledge	Key skills	Subtopic
	Biological, sociocultural and environmental factors that contribute to variations in health status between population groups	Describe how examples of biological, sociocultural and environmental factors can influence health outcomes	**4.2, 4.3, 4.4**
		Analyse health information to explain how factors can contribute to variations in health status between population groups	**4.2, 4.3, 4.4**

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

biological factors
commercial factors
environmental factors
food security
health literacy
social exclusion
sociocultural factors
socioeconomic status

Exam terminology

Analyse Examine the components of; look for links, patterns, relationships and anomalies

Describe Provide a general description

on Resources

Digital document Key terms glossary (doc-41589)

Exam question booklet Topic 4 Exam question booklet (eqb-0248)

4.2 Biological factors contributing to variations in health outcomes

Key knowledge	Key skills
Biological factors that contribute to variations in health status between population groups	• Describe how examples of biological factors can influence health outcomes • Analyse health information to explain how factors can contribute to variations in health status between population groups

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by 'biological factors' • a range of biological factors • how biological factors can contribute to both health status and health and wellbeing.	• make meaningful links between a range of biological factors and variations in health status and health and wellbeing.

In topic 3, a range of particularly influential factors that contribute to health status in Australia was explored. In addition to these factors, there are a range of influences that contribute to differences in health outcomes among population groups within Australia. These factors can be sorted into one of three categories:

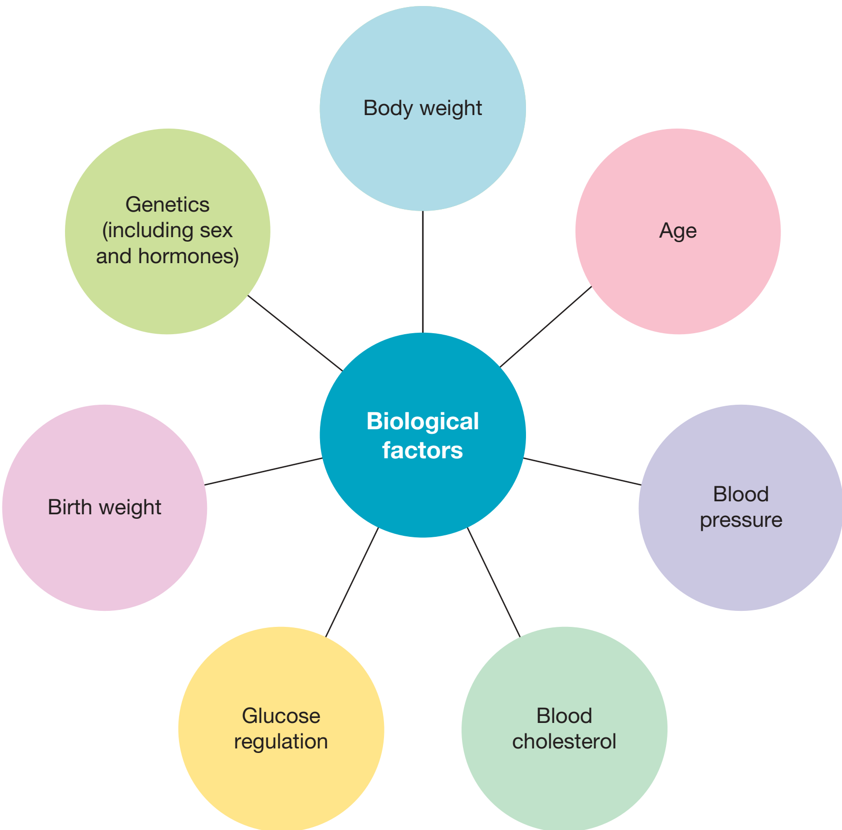
- biological
- sociocultural
- environmental.

biological factors factors relating to the body that impact health and wellbeing, such as genetics, body weight, blood pressure, cholesterol levels and birth weight

These categories and the factors that relate to each will be explored so the relationship between these factors and health outcomes is understood. Understanding the impact of these factors on health outcomes allows interventions to be put in place to promote the health of all Australians, especially those experiencing poorer health outcomes than the rest of the population.

Biological factors relate to the structure of the cells, tissues and systems of the body and how adequately they function. There is a range of biological factors and, although many are the outcome of various sociocultural and environment factors, there is often a genetic influence that cannot be controlled. In some cases, examples of biological factors are also examples of physical health and wellbeing, such as body weight, blood pressure, blood cholesterol and blood glucose levels.

FIGURE 4.1 The biological factors that impact health status



The biological factors explored in this subtopic are shown in **FIGURE 4.1**.

EXAM TIP

When discussing differences in health outcomes that may occur as a result of various factors, it can be useful to imagine there are 200 people in a group. Half of them (100 people) display the factor and the other half (the other 100 people) don't. Imagine that all other variables are the same except those impacted by the factor in question. What differences in health and wellbeing and health status would you expect to see between each group?

When looking at the impact of these factors, it is important to note that there are groups that have higher rates of a particular factor, but don't display the expected variations in health status. For example, there is a relationship between obesity and mental health issues, and although males experience higher rates of obesity, they do not report higher levels of mental health issues. This is partly explained by the fact that males are less likely to seek health care due to cultural influences (which is an example of a sociocultural factor) and are therefore less likely to be diagnosed. Obesity is also a risk factor for arthritis, yet females have a higher rate of arthritis than males. This is largely due to the significant impact at hormones play in maintaining bone density, which is a separate biological factor.

Although it is important that you be able to explain how different factors influence health outcomes, you are not expected to understand the actual variations that occur between groups. Provided you can link a range of biological, sociocultural and environmental factors to expected impacts on health outcomes, you will be eligible for marks.

4.2.1 Body weight

The impact of overweight and obesity on health status of the Australian population was explored in subtopic 3.4. Overweight and obesity are also responsible for a range of differences in health outcomes between groups within Australia.

Overweight and obesity are biological factors that can impact health and wellbeing and influence other biological factors. As a result, they contribute significantly to variations in health outcomes between individuals and groups. For example, obesity increases the chances of developing high blood pressure, high blood cholesterol and impaired glucose regulation, which are also biological factors.

Impacts on health status

As explored in subtopic 3.4, excess body weight places a strain on the heart, increasing blood pressure and contributing to hypertension. In turn, hypertension increases the incidence of heart attack and stroke, which leads to higher mortality rates and lower life expectancy.

Through increasing inflammation and the production of some hormones, overweight and obesity contribute to a higher prevalence of many cancers, including liver, breast and colorectal cancers.

Due to increasing the impact of impaired glucose regulation, there is a relationship between overweight and obesity and type 2 diabetes. Type 2 diabetes is itself a risk factor for kidney disease because the kidneys have to filter the excess glucose out of the blood, increasing the rate of this condition among groups that experience higher rates of overweight and obesity.

Excess body weight increases the incidence of respiratory conditions such as sleep apnoea and asthma. Sleep apnoea occurs when breathing suddenly stops and restarts during sleep. Overweight and obesity have also been shown to increase the risk of developing asthma in children.

Overweight and obesity place greater strain on the joints of the bones, increasing the prevalence of osteoarthritis.

Overweight and obesity increase the rate of fatty liver disease, in which fat accumulates in the liver, preventing it from carrying out its functions effectively. Over time, this can lead to cirrhosis and liver failure.

Impacts on health and wellbeing

People experiencing overweight or obesity may face social exclusion and discrimination, leading to low self-esteem and negatively impacting mental health and wellbeing. They are also more likely to avoid certain social activities, such as going to the beach, which can limit social interactions and negatively impact the quality of relationships with others.

Sleep apnoea contributes to disturbed sleep, which often results in people feeling very tired the next day, impacting physical health and wellbeing. This may also limit their ability to focus on other activities, such as working towards their purpose in life by maintaining meaningful employment, impacting spiritual health and wellbeing.

Excess pressure on the joints can lead to a significant amount of pain, impacting physical health and wellbeing.

4.2.2 Age

After reaching their peak in the mid-20s to mid-30s, body systems begin to decline at a rate of around 1–2 per cent per year. As people get older, the body begins to display the impact of the accumulation of years of cellular damage. This increases the risk of a range of conditions for groups that are older compared to younger groups. It is important to remember, however, that health outcomes are the product of a range of factors, so even though age may increase the risk of some conditions, people can reduce their risk by staying mentally and socially active, eating well and exercising.

Impacts on health status

Aging increases the incidence and prevalence of a range of conditions, including hearing loss, cataracts and other sight disorders, back and neck pain, osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia.

Impacts on health and wellbeing

Aging results in a gradual physical and mental decline in most people. The impacts of this process on health and wellbeing can include:

- decreased levels of fitness and aerobic capacity, decreasing the ability to complete some activities, such as endurance events
- reduced bone density contributing to an increased risk of fractures
- a decrease in quality of relationships for people who experience chronic disease or mobility issues and might find it difficult to stay socially connected
- negative thought patterns influenced by chronic disease, impacting mental health and wellbeing
- reduced cognitive functioning among older groups, which can reduce the ability to problem solve, impacting mental health and wellbeing
- proficiency at identifying and managing emotions, particularly in older people who generally have more life experience than younger people.

4.2.3 Blood pressure

As blood circulates around the body through the blood vessels, it applies pressure to the blood vessel walls (see **FIGURE 4.2**). As the heart contracts and the blood is pushed around the body, this pressure increases. As the heart relaxes and fills with more blood, the pressure on the walls decreases. Blood pressure is simply a measure of these two levels of pressure.

A person with high blood pressure has hypertension, a common health concern throughout the world. The blood of a person with hypertension does not flow through the blood vessels as easily as that of someone with normal blood pressure.

FIGURE 4.2 Blood pressure is the force exerted on the blood vessel walls.

Hypertension has been called the 'silent killer' because it often has no symptoms. Regular checkups are the only way to monitor blood pressure. Hypertension can be controlled with medication and lifestyle changes. The risk factors for hypertension are:

- overweight and obesity
- lack of physical activity
- stress
- smoking
- excessive alcohol consumption
- **genetic predisposition**
- poor diet (in particular, excess sodium).

FIGURE 4.3 Regular checkups are required to monitor blood pressure.

Impacts on health status

Hypertension means the heart is working harder, increasing the risk of heart attack and stroke, contributing to increased mortality rates and lower life expectancy.

genetic predisposition an increased likelihood of developing a particular disease based on a person's genetic makeup (often indicated by a person's family history of disease)

The kidneys are responsible for regulating blood pressure and filtering the blood. As a result, hypertension is a cause of kidney failure, which contributes to significant levels of morbidity and mortality in Australia.

Impacts on health and wellbeing

Although most people don't experience any signs of the disease, unmanaged hypertension can cause a range of symptoms, including headaches, dizziness, lack of energy and breathing difficulties, which impact physical health and wellbeing.

Symptoms associated with hypertension can also reduce an individual's ability to continue with daily activities, which can lead to a range of impacts on health and wellbeing, such as:

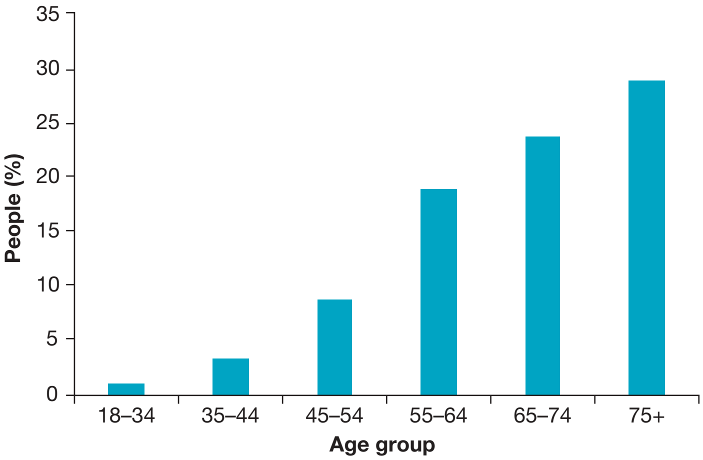
- reduced social interactions
- difficulty in managing emotions appropriately
- reduced ability to engage in activities that give people a sense of purpose in life, such as careers, hobbies and other interests.

If a person is aware that they have hypertension, they may experience increased levels of stress and anxiety if they are concerned about having a stroke or heart attack.

4.2.4 Blood cholesterol

Cholesterol is a type of fat that was discussed in section 3.6.1, and high blood cholesterol is a biological factor that contributes to many differences in health outcomes between groups. The incidence of high blood cholesterol increases with age (see **FIGURE 4.4**).

FIGURE 4.4 Proportion of adults with high cholesterol by age, 2022



Source: Australian Bureau of Statistics, High cholesterol, 2022

Blood cholesterol can be checked by a simple blood test. Lifestyle changes can sometimes reverse high levels of blood cholesterol. However, if the main contributor is a genetic predisposition, medication may be required to bring cholesterol levels down.

A range of factors can increase the risk of high blood cholesterol, including:

- excessive alcohol intake
- smoking

- a diet high in saturated fat and/or trans fats
- a lack of exercise
- overweight and obesity
- genetic predisposition.

Impacts on health status

Too much LDL cholesterol leads to the narrowing of blood vessels (atherosclerosis), which increases the incidence of cardiovascular disease, particularly heart attack and stroke.

The heart also has to work harder to force blood through the narrowed blood vessels, increasing the incidence of hypertension and associated conditions.

Even when high cholesterol does not lead to stroke, it can reduce the amount of blood reaching the brain, which can contribute to a type of dementia called 'vascular dementia'. This contributes to increased rates of morbidity and mortality and lower life expectancy.

Impacts on health and wellbeing

By restricting blood flow, high cholesterol can lead to pain in the heart area, referred to as angina.

Restricted blood flow to the brain can interfere with thought processes, including processing information and problem-solving abilities, impacting mental health and wellbeing.

High levels of cholesterol can lead to gallstones, which are hard stones made largely of cholesterol. Although gallstones usually have no symptoms, they can lead to extreme abdominal pain and fever. If these symptoms occur, gallstones can impact the individual's ability to carry out daily tasks, which can have flow-on affects to all dimensions of health and wellbeing.

4.2.5 Glucose regulation

Glucose is the preferred fuel for energy within the cells. Glucose is usually obtained from breaking down carbohydrates. When carbohydrates are eaten, the resulting glucose is absorbed into the bloodstream.
When blood glucose levels rise, insulin is released from the pancreas to allow the glucose to travel from the bloodstream into the cells to be used for energy (see **FIGURE 4.5**).

A range of factors can impact on this mechanism and contribute to the cells becoming resistant to the action of insulin, preventing glucose from being absorbed into the cells. This is known as impaired glucose regulation (or insulin resistance). Impaired glucose regulation is seen as a precursor to type 2 diabetes.

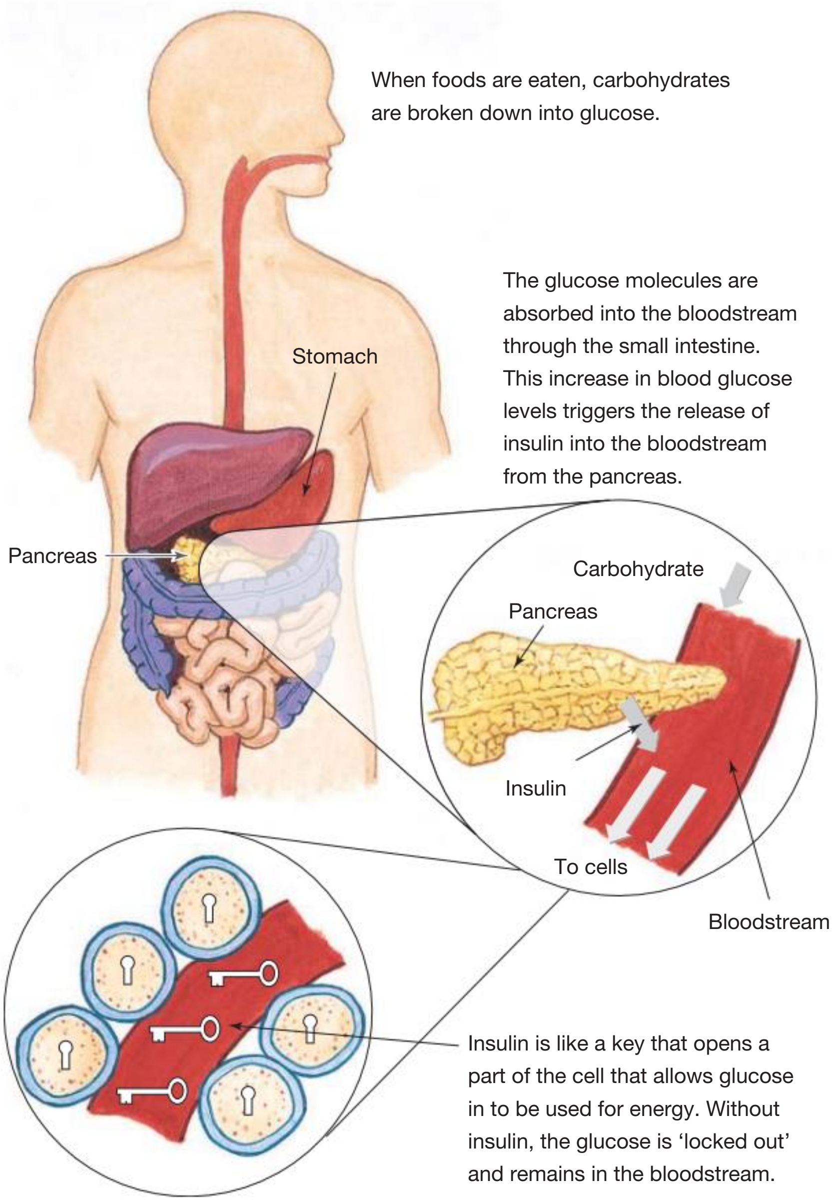
Impaired glucose regulation can occur as a result of:

- genetic predisposition
- stress
- pregnancy
- lack of exercise
- smoking
- overweight and obesity (particularly if excess weight is stored around the abdomen)
- a diet high in fat, particularly trans fat
- excessive alcohol consumption
- high LDL cholesterol
- high blood pressure.

Impacts on health status

Individuals and population groups who display the risk factors associated with impaired glucose regulation experience higher incidence and prevalence of cardiovascular disease and type 2 diabetes. These conditions can contribute to significant differences in health status, such as higher rates of heart attack, stroke, kidney disease and premature death. The impact of impaired glucose regulation increases with age (see **FIGURE 4.6**).

FIGURE 4.5 How insulin acts on glucose



Impacts on health and wellbeing

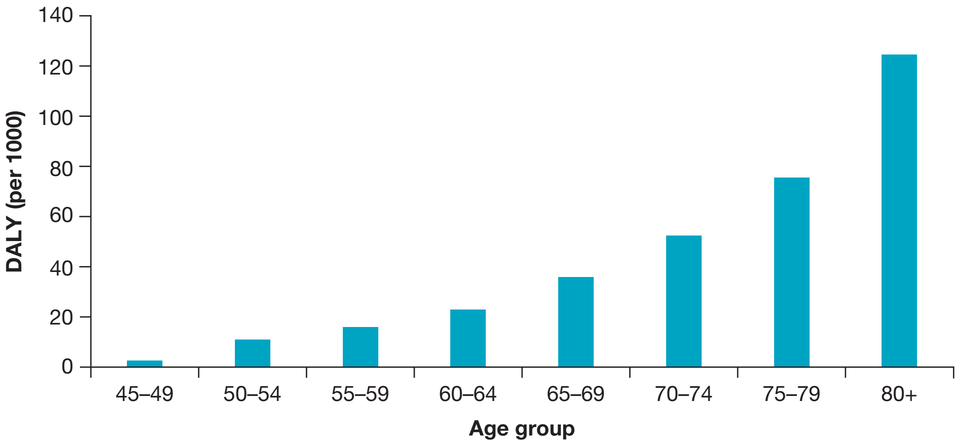
Over time, impaired glucose regulation can cause damage to blood vessels and contribute to issues with eyesight, gums and feet. These complications can contribute to increased stress and anxiety about the future path of the condition.

Impaired glucose regulation can mean that glucose is excreted in urine instead of being made available to cells to use for energy. This can lead to low levels of energy, affecting the ability of people to exercise to maintain fitness, spend time with friends and work towards their purpose in life.

If people have to implement measures to reduce the impact of impaired glucose regulation, they may experience negative emotions associated with avoiding certain foods and drinks, and having to regularly access health care and take medication.

Treatment for impaired glucose regulation consists of lifestyle changes such as losing weight, quitting smoking, managing stress and eating a healthy diet.

FIGURE 4.6 Burden of disease (rate of DALY per 1000) attributed to impaired glucose regulation by age group, 2019



Source: Institute for Health Metrics Evaluation. Used with permission.

4.2.6 Birth weight

Birth weight contributes to variations in health outcomes among groups. Birth weight is related to health outcomes directly after birth and later in life. **Low birth weight** (less than 2.5 kilograms) can be caused by a range of factors, including:

low birth weight weighing less than 2.5 kilograms at birth

- premature birth — less time spent in the uterus means less time to grow and develop.
- age of the mother — young mothers (especially those under 15 years of age) and older mothers (those over 45 years of age) have higher rates of low–birth-weight babies
- the mother's nutritional status — an inadequate supply of nutrients can lead to underdevelopment of the foetus
- smoking, excessive alcohol consumption and drug use by the mother during pregnancy — use of these substances has been shown to reduce foetal growth
- illness of the mother during pregnancy — infections in the uterus can lead to early labour, while other infections, such as chickenpox and rubella, can cause slowed growth.

FIGURE 4.7 Babies born with a healthy weight are at lower risk of having a number of conditions in early and later life.

Impacts on health status

Babies born with a low birth weight are more likely to have an underdeveloped immune system, increasing the incidence of infectious diseases such as influenza. They are also more likely to suffer from premature death, contributing to higher infant and under-5 mortality rates, and lower life expectancy.

Studies suggest that low birth weight also increases the risk of a number of conditions later in life, including:

- high blood pressure
- type 2 diabetes
- cardiovascular disease.

Impacts on health and wellbeing

A relationship has been established between low birth weight and emotional issues. An individual born with low birth weight may have a decreased ability to process emotions, which can contribute to behavioural problems. This can lead to disengagement at school, reducing the sense of purpose in life and impacting spiritual health and wellbeing.

Low birth weight has also been shown to contribute to developmental delays in relation to cognitive skills and motor development. This may decrease the person's ability to think clearly and use logic, impacting mental health and wellbeing. They may also have a decreased capacity for physical activity, which can reduce opportunities for social interactions, impacting social health and wellbeing.

4.2.7 Genetics

The genetic material contained in body cells controls many aspects of life that influence health status, such as sex, body type, hormone production and aspects of personality. A person's genetic blueprint and genetic potential are determined at **fertilisation**.

fertilisation the fusing of a sperm and egg cell; marks the beginning of pregnancy (also known as conception)

Impacts on health status

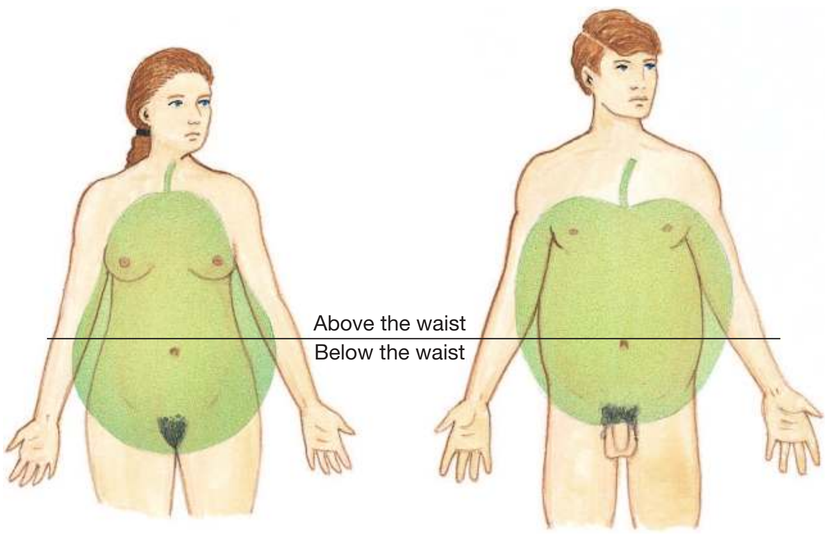
Certain conditions are either exclusive to males or females or are more prevalent in one of the sexes due to the biological differences between the sexes, which are caused by genetics. Examples include:

- Women can't get prostate or testicular cancer.
- Men can't get ovarian cancer.
- Women experience a higher prevalence of breast cancer (less than 1 per cent of all breast cancer cases occur in men), largely due to most women having more breast tissue than most men.

Hormones regulate many processes in the body and control many health outcomes. Hormones are also responsible for the formation of male and female sex characteristics that lead to differences in some of the conditions experienced by males and females.

Males have a different combination of hormones than females, which could contribute to some of the differences in health concerns experienced by the sexes. Of particular note are the hormones oestrogen and testosterone.

FIGURE 4.8 Hormones are partly responsible for the body shapes that are characteristically male and female.



Oestrogen is a key hormone needed for the regulation of the menstrual cycle in women. Oestrogen also helps to maintain bone density in women by keeping the bones strong, a role played by testosterone in males. When a woman enters **menopause**, the levels of oestrogen decline. This decline leads to a loss of bone mass from the skeletal system, which can contribute to osteoporosis — a disease characterised by weak, porous bones that are more susceptible to breaks and fractures. Although the levels of testosterone also decline in males as they age, they do not decrease to the same extent as oestrogen does in females, contributing to higher rates of osteoporosis among women. Oestrogen may have a protective role in the development of cardiovascular disease, which might explain the lower rates of this disease in women prior to menopause. Oestrogen is also linked to distribution and deposition of fat in the body. Oestrogen tends to result in fat being deposited around the buttocks and thighs (pear shape), whereas men and post-menopausal women tend to accumulate more fat around the abdomen (apple shape), increasing the risk of heart disease (see **FIGURE 4.8**).

Testosterone is also known as the male sex hormone, even though it is also found in small quantities in females. Testosterone is mainly responsible for the male sex characteristics and the production of sperm, but may also play a role in the increased risk-taking behaviours and aggression in males compared to females. Risks such as skylarking, violence and substance misuse can contribute to higher rates of injury and mortality for males compared to females.

Genetic predisposition

Genetics can influence how likely someone is to develop certain conditions. An increased risk is called a 'genetic predisposition' to that particular condition. Genetic predisposition to disease often runs in families and ethnic groups, making some individuals more likely to experience some conditions than others. This doesn't mean that a person with a genetic predisposition will necessarily develop the condition because other factors also play a role, but they are at an increased risk. Many conditions have a genetic predisposition, including skin cancer. Two people who have spent the same amount of time in the sun, for example, may have different risks of developing skin cancer as a result of their genetics. Other conditions that have a genetic predisposition include:

FIGURE 4.9 Genetic predisposition runs in families, just like eye colour and hair colour.

- other cancers (including breast cancer and prostate cancer)
- cardiovascular disease
- diabetes (types 1 and 2)
- hypertension
- depression
- obesity.

menopause when the menstrual cycle stops permanently, ending the ability of a female to reproduce

Through these conditions, genetic predisposition can contribute to higher rates of morbidity and mortality than for those without the predisposition.

Impacts on health and wellbeing

Genetics play a role in determining people's personalities. Some people may be naturally more outgoing, which can lead to more social interactions and improved social health and wellbeing. Others are goal-driven and have a specific sense of purpose in life and what they want to achieve. Thought patterns have a genetic component and can contribute to whether the person has positive or negative thought patterns, or experiences high levels of stress. Genetics can also influence the amount of enjoyment people get from exercise, which can influence body weight and blood pressure.

Bodily processes such as immune system function are also influenced by genes, which is why some people are more likely to contract diseases such as COVID-19 and influenza. Another process influenced by genetics is metabolism. Some people have a faster metabolism than others and are therefore less likely to gain excess weight, influencing physical health and wellbeing.

Testosterone has been shown to increase impulsive behaviour, which can contribute to a greater risk of injuries for males.

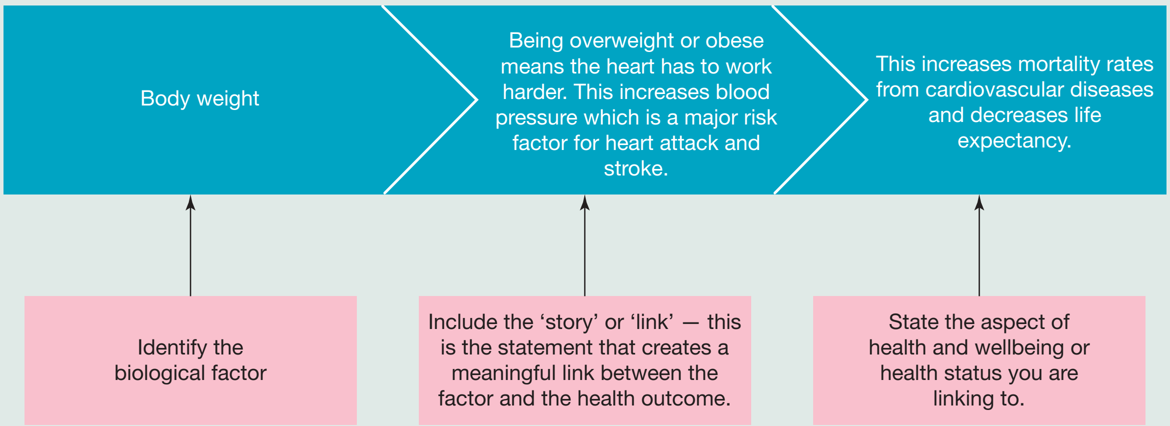
EXAM TIP

When asked to identify and discuss the impact of a biological factor on health outcomes you need to:

- identify a biological factor
- discuss how this factor contributes to ill health
- link to a specific aspect of one of the five dimensions of health and wellbeing or a health status indicator, such as incidence or prevalence of disease, under-5 mortality rates or life expectancy.

For example:

Body weight — Being overweight or obese means the heart has to work harder. This increases blood pressure, which is a major risk factor for heart attack and stroke. This increases mortality rates from cardiovascular diseases and decreases life expectancy.



4.2 Activities

1. Access the **Blood pressure animation** weblink and worksheet in the Resources tab and then complete the worksheet.
2. Access the **Impaired glucose regulation** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital documents Blood pressure animation worksheet (doc-32192)
Impaired glucose regulation worksheet (doc-32194)

Weblinks Blood pressure animation
Impaired glucose regulation

4.2 Exercises

4.2 Quick quiz on | 4.2 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3, 4, 5, 7, 9	2, 6, 10, 14, 16	8, 11, 12, 13, 15

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Test your knowledge

1. Identify three conditions that can occur as a result of overweight and obesity.
2. a. What causes pressure on the walls of the blood vessels?
   b. Explain why blood pressure changes with each beat of the heart.
3. What is hypertension?
4. Outline the relationship between blood pressure and disease.
5. What is cholesterol?
6. Describe how high blood cholesterol rates change over the life span according to **FIGURE 4.4**.
7. a. Identify what role glucose plays in the body.
   b. Outline what role insulin plays in the ability of the body to use glucose.
   c. Describe what two conditions are associated with impaired glucose regulation.
8. Describe the trend evident in **FIGURE 4.6**.
9. What weight is classified as low birth weight?
10. Identify three factors that increase the risk of giving birth to a baby with low birth weight.
11. Explain the role hormones can play in relation to health status.

Apply your knowledge

12. In 2019, Greece experienced significantly higher rates of low birth weight babies than Australia. Outline two variations in health and wellbeing and health status that may occur between the two countries as a result of this difference.
13. Aboriginal and Torres Strait Islander Peoples experience impaired glucose regulation at a significantly higher rate than non-Indigenous Australians. Outline two variations in health and wellbeing and health status that may occur between the two groups as a result of this difference.
14. Complete the following table summarising the impact of biological factors on health status. The first biological factor has been included.

Biological factor	Explanation of impact/s	Impact on health status	Impact on health and wellbeing
Overweight and obesity			

15. Explain how high cholesterol could contribute to hypertension.
16. Using **FIGURE 4.1** as the basis of your response, create a mind map of the biological factors and include a brief description of their impacts on health outcomes (i.e. health and wellbeing and health status).

4.2 Exam questions

Question 1 (3 marks)

Source: Adapted from *VCE 2017, Health and Human Development Exam, Q.5.b;* © VCAA

Oliver is a 51-year-old male. He smokes 10 cigarettes a day and has a minimal alcohol intake. Oliver's body weight is quite high and he has little time to exercise. Oliver has been diagnosed with high cholesterol and he suffers from hypertension, placing him at risk of cardiovascular disease.

Select one biological factor evident in the information provided above. **Explain** how this biological factor could increase the risk of cardiovascular disease.

Question 2 (2 marks)

Explain how one biological factor can affect physical health and wellbeing.

Question 3 (4 marks)

Identify two biological factors and describe how each impacts health status.

Question 4 (6 marks)

List three examples of biological factors and **describe** how each may affect the health and wellbeing of an individual.

Question 5 (1 mark)

Outline how testosterone contributes to a variation in health status between males and females.

More exam questions are available in your learnON title.

4.3 Sociocultural factors contributing to variations in health outcomes

Key knowledge	Key skills
Sociocultural factors that contribute to variations in health status between population groups	• Describe how examples of sociocultural factors can influence health outcomes • Analyse health information to explain how factors can contribute to variations in health status between population groups

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by 'sociocultural factors' • a range of sociocultural factors • how sociocultural factors can contribute to both health status and health and wellbeing.	• make meaningful links between a range of sociocultural factors and variations in health status and health and wellbeing.

Sociocultural factors relate to the social and cultural conditions into which people are born, grow, live, work and age. The sociocultural factors examined in this subtopic are identified in **FIGURE 4.10**.

sociocultural factors the social and cultural conditions into which people are born, grow, live, work and age. These conditions include socioeconomic status, social networks, family and cultural background, food security, early life experiences, and access to affordable, culturally appropriate health care.

Many sociocultural factors are beyond the control of individuals, yet they have a significant impact on health outcomes.

People who experience poor sociocultural conditions experience worse health status in all societies. The gap between those at the top and those at the bottom of the sociocultural ladder has widened over the years, and those towards the bottom experience much worse health outcomes. For this reason, sociocultural factors have now become the focus of most health authorities, who are trying to narrow the gap.

Too often, unfavourable sociocultural factors interrelate, so that a person who experiences one of them is more likely to experience two or more of them when compared with people who are more fortunate. The longer the person lives in sociocultural distress, the more physiological wear and tear they will suffer, which ultimately means they are less likely to enjoy a healthy old age.

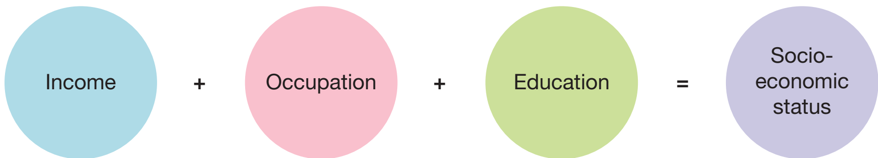
FIGURE 4.10 The sociocultural factors that contribute to variations in health status

4.3.1 Socioeconomic status

Socioeconomic status (SES) refers to a person's position in society relative to other people based on three factors: income, occupation and education (see **FIGURE 4.11**). People who are more socioeconomically disadvantaged have poorer health status across most countries and cultures.

socioeconomic status the social standing of an individual in comparison to others in that society. It is based on education, income and occupation.

FIGURE 4.11 The three factors that determine socioeconomic status



All three components of socioeconomic status are related and affect each other. For example, a person who has a high level of education is more likely to work in a higher-paying job. Such jobs usually carry greater status than lower-paying jobs. Generally, as the level of education increases (for example, high school versus tertiary education), so does the status of occupation and the average income.

Impacts on health status

All three components of socioeconomic status impact health status. For example, income can influence people's ability to access resources such as adequate housing, food, health care (including private health insurance), recreation, transport and education. These resources can assist people in maintaining a healthy body weight, preventing disease and accessing health care when required, which can reduce morbidity and mortality rates.

Some occupations (including many trades) involve manual labour, which can increase the incidence of work-related injuries. Other occupations are sedentary in nature (including many administrative roles), which can reduce levels of physical activity and increase the risk of obesity and related conditions. There is also evidence of a relationship between occupation and mortality. People in manual occupations, such as builders and farmers, have higher mortality rates than those in managerial/professional occupations (Draper et al. 2004, *Health inequalities in Australia: mortality*). Manual workers (such as those working in factories) often come from a lower socioeconomic background and experience more occupational hazards than those in managerial/professional occupations.

As well as influencing income and occupation, education impacts health status in a number of ways.

Those who are more educated are more likely to be health literate. **Health literacy** describes the extent to which people are able to access, critique, understand and use health information and services in ways that promote and maintain health and wellbeing. This can relate to healthy lifestyles and accessing health care when required, both of which promote health status and decrease the impact of preventable and treatable conditions, including cardiovascular disease, some cancers, respiratory diseases and type 2 diabetes.

health literacy the extent to which people are able to access, critique, understand and use health information and services in ways that promote and maintain health and wellbeing

Low levels of health literacy contribute to those of low socioeconomic status being:

- less likely to take notice of health promotion messages, therefore increasing the risk of preventable diseases
- more likely to smoke and be obese due to poor nutrition and physical inactivity, increasing the prevalence of conditions such as cancer, respiratory disease, cardiovascular disease and type 2 diabetes.

Impacts on health and wellbeing

Income increases the ability of people to engage in social activities such as going out for dinner or going to the movies, which can promote social health and wellbeing. Adequate income also decreases financial stress, which promotes mental health and wellbeing. People with adequate income are also more likely to access preventative health care, which can contribute to body systems functioning optimally, promoting physical health and wellbeing.

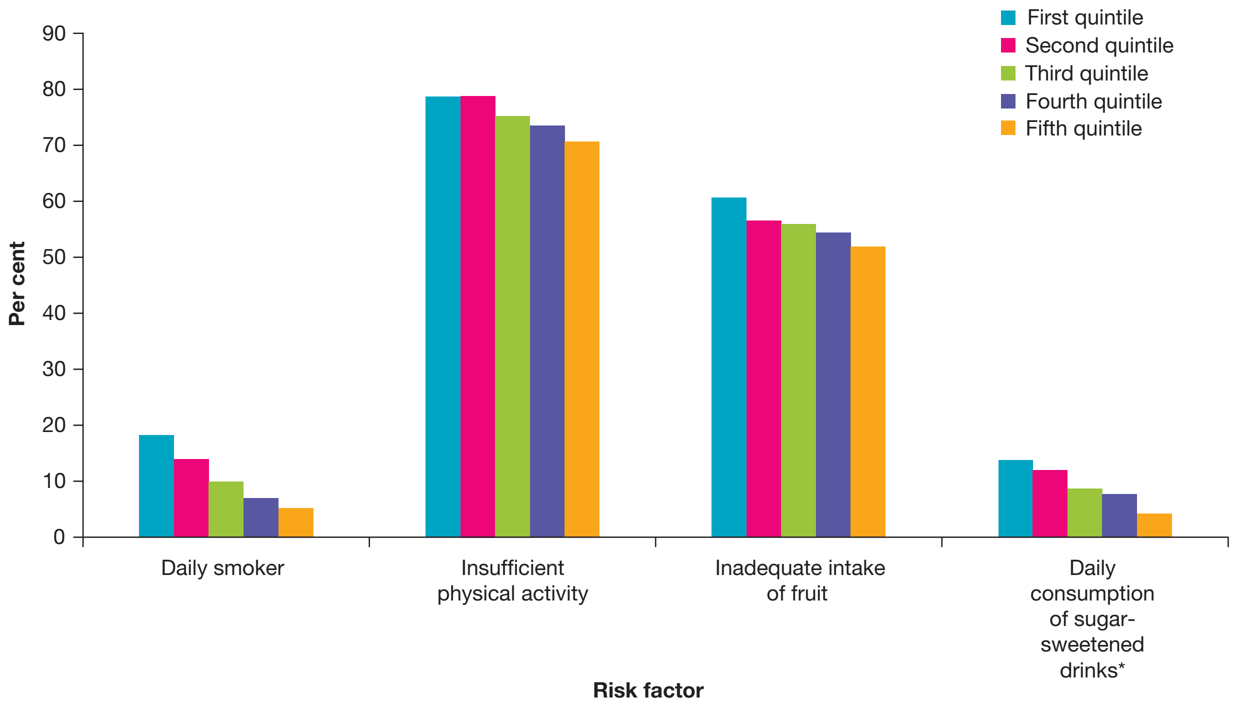
Occupations can have a range of impacts on health and wellbeing, such as:

- Shift work can interfere with sleep patterns and can contribute to a lower level of energy, decreasing physical health and wellbeing. This can contribute to people avoiding normal activities, which can have an impact on all dimensions of health and wellbeing.
- People with more prestigious jobs may feel that they have more control over their working life and gain a sense of satisfaction, enhancing emotional health and wellbeing. This can promote spiritual health and wellbeing by providing a sense of purpose in life.
- Occupations in which people work with others, such as in offices, schools and hospitals, can provide social interactions that contribute to social health and wellbeing.
- Manual occupations often involve physical exertion, which increases the risk of soft tissue injuries and back pain.

Education is linked to lower rates of risk-taking behaviour such as smoking or vaping, unhealthy eating and being physically inactive (see **FIGURE 4.12**). This can increase levels of fitness and promote healthy body weight, which in turn can increase self-esteem and promote mental health and wellbeing.

int-9272

FIGURE 4.12 Prevalence of smoking, lack of physical activity, inadequate fruit consumption and daily consumption of sugar-sweetened drinks by socioeconomic status groups, 2022



*Australian Bureau of Statistics, *National Health Survey*, 2017–18
Source: Australian Bureau of Statistics, *National Health Survey*, 2022

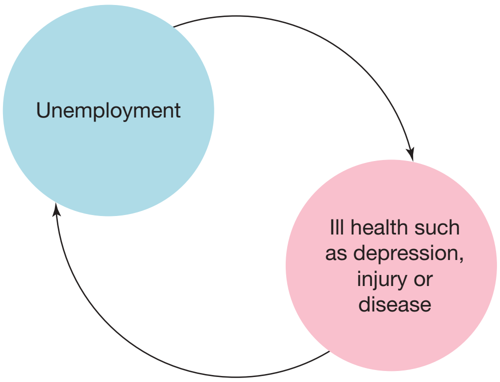
4.3.2 Employment status

It is important to understand the difference between occupation and employment status. Occupation refers to the type of job a person has, whereas employment status relates to whether a person has a job or not.

There is a two-way relationship between health outcomes and unemployment. For some it is ill health that causes unemployment (such as an injury or disease), and for others it is unemployment that causes health problems (such as stress and depression). Despite the causal relationship, ill health and unemployment often create a cycle (see **FIGURE 4.14**).

FIGURE 4.13 Unemployment can be stressful, and long-term unemployment can lead to a range of health issues, including a deterioration in mental health and wellbeing.

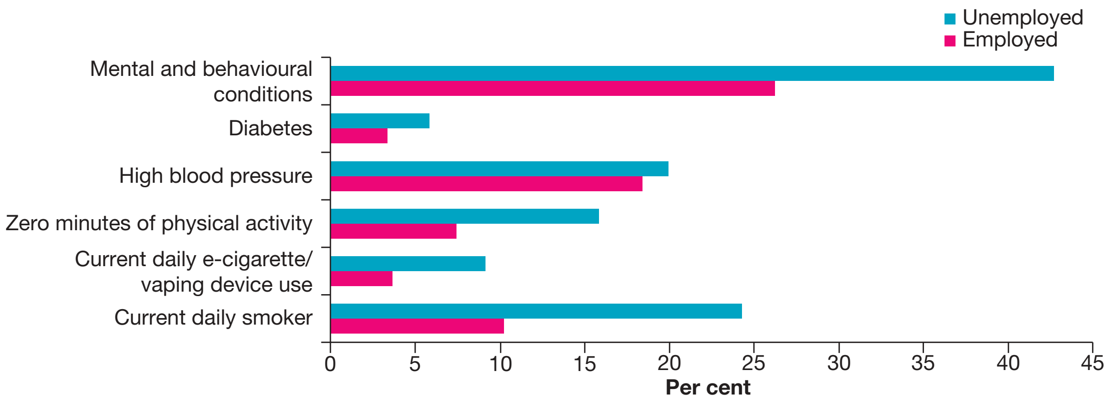
FIGURE 4.14 The cycle of unemployment and ill health



Those who are unemployed display a higher rate of many risk factors for adverse health outcomes (see **FIGURE 4.15**).

int-9273

FIGURE 4.15 Prevalence of health-related factors by employment status, people aged 15 and over, 2022



Source: Adapted from Australian Bureau of Statistics, *National Health Survey*, 2022

Impacts on health status

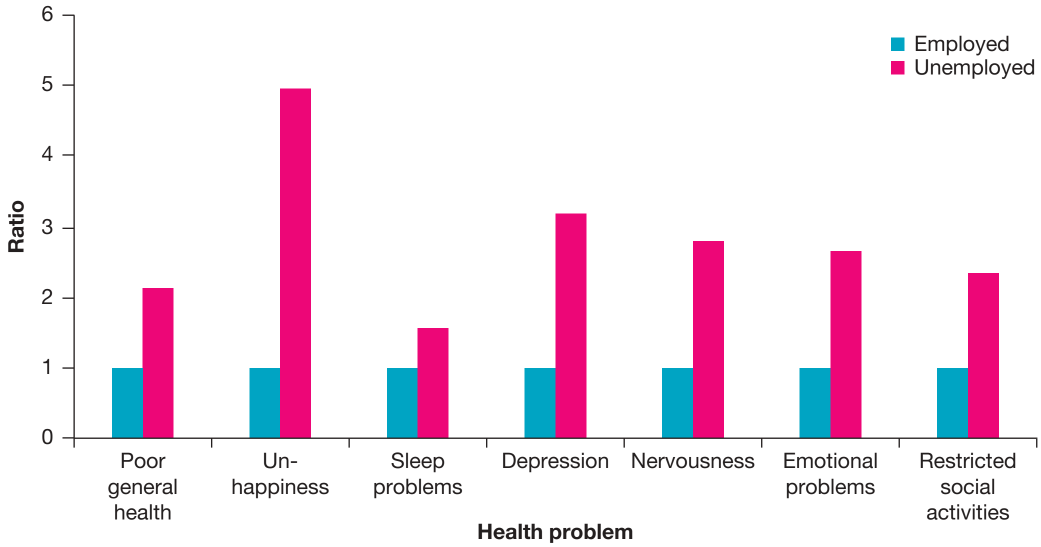
The link between unemployment and health status is well established. According to the AIHW (2006), 'the unemployed have a higher chance of dying and [suffer from] more illnesses than those of similar age who are employed'. In fact, the rates of suicide, lung cancer and cardiovascular disease are higher for those who are unemployed. The effects of long-term unemployment on health status can be particularly serious, mainly due to psychological and financial factors (especially if the person falls into debt).

Impacts on health and wellbeing

The affect of unemployment on health and wellbeing can start even while the person is still working. An employee concerned about job security may begin to experience elevated levels of stress and anxiety before they even become unemployed. This can have a range of physiological implications, such as sleep problems and increased risk of depression (see **FIGURE 4.16**).

int-8510

FIGURE 4.16 Some health problems associated with unemployment, compared with employment



Source: *Medical Journal of Australia*

People often find a sense of identity, purpose and belonging in their lives from the work they do. Unemployment can lead to people feeling that they lack direction, which negatively impacts spiritual health and wellbeing.

Being unemployed can also place significant financial stress on people. This influences mental health and wellbeing by increasing levels of stress, anxiety and depression. Prolonged unemployment also influences emotional health and wellbeing by contributing to feelings of worthlessness. This can impact mental health and wellbeing if self-esteem suffers as a result.

4.3.3 Social networks and social exclusion

Social networks relate to the bonds between an individual and their family and peer group, and the ability to participate in the society in which they live. The opposite of this social connection is social exclusion, which contributes to significant variations in health status. **Social exclusion** refers to the segregation that people experience if they are not adequately participating in the society in which they live. It also includes those who experience feelings of disconnectedness and do not get opportunities to make use of the resources available to them in a society, such as education, employment, housing, health care and social security services. In the past, such people have been referred to as 'social outcasts'.

social exclusion the segregation that people experience if they are not adequately participating in the society in which they live

The causes of social exclusion are often also the result of social exclusion. Therefore, the sufferer can find themselves in a vicious cycle (see **FIGURE 4.17**). Social exclusion can be caused by, or contribute to, a range of characteristics, including:

- increased risk-taking behaviours, such as smoking and vaping, alcohol and drug misuse
- discrimination, including racism
- disability
- inability to access services such as health care, education, employment and social security
- family breakdown
- homelessness
- low income.

FIGURE 4.17 One example of how social exclusion can form part of a cycle with other areas of health and wellbeing

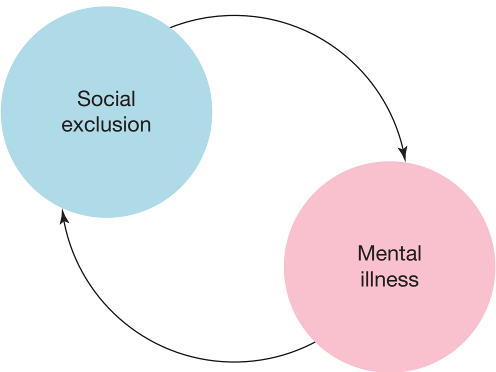
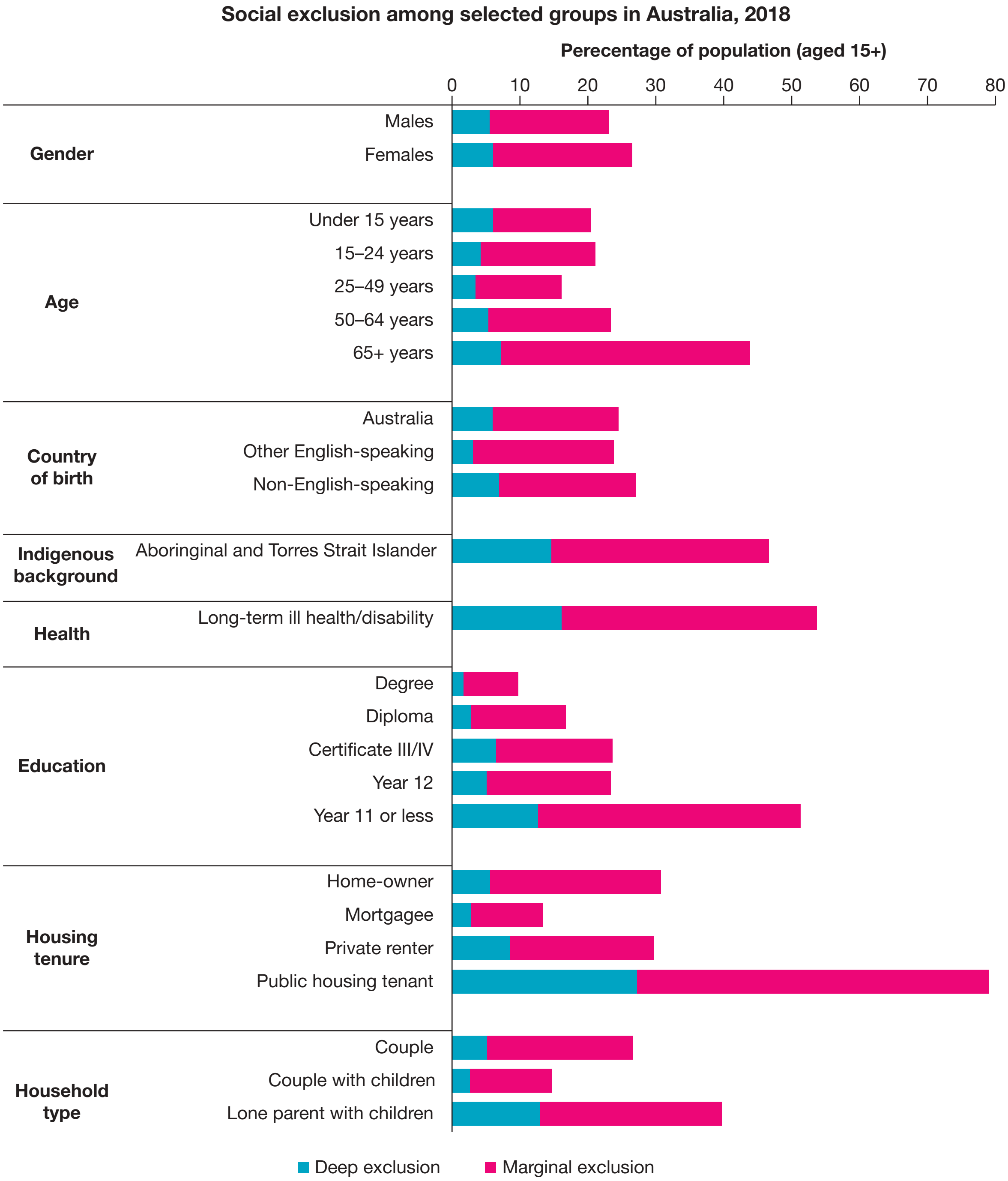


FIGURE 4.18 Social exclusion can have significant effects on health and wellbeing.

Levels of social exclusion for various groups are shown in **FIGURE 4.19**.

FIGURE 4.19 Social exclusion among groups in Australia, 2018



EXAM TIP

The inclusion of data is often required to receive full marks for certain questions. Using a ruler can assist in determining the approximate value of the data being analysed. Leniency is provided in the interpretation of data, but using terms like 'approximately', 'around' and 'about' assists in showing that the figures included in the answer may not be exact.

Impacts on health status

Being socially networks has been associated with lower morbidity and increased life expectancy (Kawachi et al. 1997). This is partly explained by the fact that social exclusion often contributes to risk-taking behaviours such as smoking and vaping and alcohol use, increasing the prevalence of some cancers, cardiovascular disease and respiratory diseases. Those who are socially excluded are also less likely to access health services, which means conditions can go undiagnosed, further increasing morbidity and mortality rates.

Although the exact causal relationship is yet to be established, those who are socially excluded experience significantly higher rates of mental health disorders, including depression and anxiety, which in turn, contribute to higher rates of self-harm and suicide.

Impacts on health and wellbeing

Strong social networks promote emotional and mental health and wellbeing by providing avenues for people to seek support when issues arise, which contributes to lower levels of emotional distress and reduced levels of stress and anxiety. Social networks also provide people with a sense of belonging to the world in which they live, enhancing spiritual health and wellbeing.

Conversely, social exclusion can lead to prolonged stress, which can contribute to physical symptoms such as headaches, feeling tired and lacking motivation. The person may have trouble sleeping, feel worthless and engage in risk-taking behaviours such as alcohol and drug abuse. The result of these impacts various aspects of health and wellbeing, for example, by decreasing fitness levels, contributing to relationship breakdown, and decreasing the ability to identify and deal with various emotions.

4.3.4 Social isolation and loneliness

Social isolation refers to not being in regular contact with others. Geographical barriers can prevent people from being able to interact with others and are an issue particularly for many people in remote areas. Disability, disease, lack of transport and communication barriers can also prevent people from socialising and contribute to social isolation, especially among the elderly and those from non-English speaking backgrounds.

social isolation refers to individuals who are not in regular contact with other people

Loneliness is a subjective concept that relates to the negative feelings that people often experience when they have less social contact than they would like. As a result, a person can be socially isolated but not experience loneliness, and vice versa.

Impacts on health status

According to the AIHW (2023), social isolation has been linked to mental illness, suicide, the development of dementia and premature death.

Like those who are socially excluded, people experiencing social isolation and loneliness report higher rates of mental health conditions, including anxiety and depression. The use of alcohol, nicotine and drugs is also higher in this group, increasing the risk of some cancers, respiratory disease and cardiovascular disease.

Impacts on health and wellbeing

Regular social contact gives people the opportunity to communicate and socialise, which can promote physical, social, emotional, mental and spiritual health and wellbeing. People who are isolated from others lack the emotional, psychological and health-related support that can improve health and wellbeing. In times of difficulty, people who are socially isolated can feel they have no-one to turn to, and this can contribute to a range of mental health problems such as depression and stress.

According to Healthdirect (2020) and the AIHW (2023), isolation and loneliness also contribute to a number of health and wellbeing impacts, as shown in **FIGURE 4.20**.

FIGURE 4.20 Social isolation and loneliness contribute to a range of health and wellbeing impacts.

4.3.5 Cultural background

Cultural background relates to customs, ideas, values and traditions of a particular society that are passed through generations. Cultural backgrounds that impact health outcomes include gender stereotypes, food intake, attitudes and beliefs. They are sometimes referred to as 'social expectations'.

Australia is one of the most culturally diverse countries in the world. In 2022, close to 30 per cent of all Australians were born overseas. According to the AIHW, 'people from **culturally and linguistically diverse (CALD)** backgrounds often face greater challenges when dealing with the health and welfare system. Language barriers, lower health literacy and difficulties navigating an unfamiliar system put them at greater risk of poorer quality health care and poorer health outcomes compared with other Australians'.

culturally and linguistically diverse (CALD) a broad term used to describe groups whose languages, ethnic backgrounds, nationalities, religions and customs differ from the majority. It also often refers to people from non-English speaking countries residing in Australia.

Gender stereotypes relate to behaviours that are culturally acceptable for males and females. Although many of these roles and expectations have broken down over the past decades, some cultures still retain distinct roles for males and females. These roles are learned from a very young age and shape many aspects of the wider society. Examples of stereotypes related to gender include:

- males working and females staying at home to look after the children
- males being 'macho' and needing to feel strong.

The dietary intake of cultural groups often evolves over a long period of time and influences the sorts of foods people consume. Traditional diets and changes to traditional diets contribute to differences in health status.

FIGURE 4.21 Culture influences many factors that impact health status, including food intake. This collection of nuts includes traditional foods of the Jawoyn People in northern Australia and are considered very healthy.

Attitudes towards education and employment, recreation (including substance use such as alcohol consumption), and health and health care (including traditional medicine) all affect health status. For example, alcohol consumption is an accepted part of life for many Australians, but as explored in topic 3, alcohol consumption can contribute to weight gain, cancer, cardiovascular disease, liver disease, injuries and mental health problems.

Impacts on health status

The impact of cultural background disproportionately affect various groups in Australia, but the extent of the impact is dependent on the aspect of the culture in question. Some examples include:

- Language barriers can isolate CALD Australians from the health system. This can mean that conditions go undiagnosed and untreated, contributing to higher rates of morbidity and mortality.
- The traditional diet of Aboriginal and Torres Strait Islander Peoples included low-fat meats and a range of fruits and vegetables. The change in diet that accompanied European colonisation contributes significantly to the high prevalence of obesity and related conditions seen today in Aboriginal and Torres Strait Islander Peoples.
- The traditional medicine of Aboriginal and Torres Strait Islander Peoples is culturally different from western medicine. The impact of cultural background contributes to the lower rate of Aboriginal and Torres Strait Islander people who access western medicine. Many feel western medicine is culturally inappropriate, and associate hospitals with death. As a result, many conditions go unchecked for extended periods of time. This can increase morbidity and mortality rates, and reduce life expectancy.
- Males typically consume more alcohol than females. Alcohol consumption contributes to a range of conditions, including injuries, which males experience more than females.

- According to the AIHW (2011), males may be less likely to access health care than females as a result of 'social norms and values associated with a traditional view of masculinity — self-reliance, suppression of emotion and perseverance in the face of pain or discomfort'. This contributes to higher rates of morbidity and mortality among males.
- Peer pressure can have differing impacts on males compared to females. Males may encourage traditional stereotypes among their peers when in groups with other males. This can include the use of violence to resolve conflicts, risk-taking behaviour and risky alcohol consumption. These behaviours increase the incidence of injury among males.

FIGURE 4.22 Traditional gender stereotypes can influence youth behaviour.

- Researchers have indicated that the way the media represent beauty, especially of females, has contributed to increasing rates of eating disorders and the greater prevalence of eating disorders among females compared to males. Female beauty is often portrayed by thin models, whereas male beauty is often portrayed by muscular individuals. These representations may have an affect on eating and exercise patterns, particularly among male and female youth.
- Those from low SES groups often believe they have less control over their health and are therefore less likely to access health services. This increases the risk of conditions leading to mortality, decreasing life expectancy.
- Different religions have different practices that can impact health outcomes. For example:
  - Many Muslims prefer to be treated by a doctor of the same gender, influencing access to health services. This can increase the impact of diseases and conditions.
  - Jehovah's Witnesses are forbidden to receive blood transfusions, which can increase morbidity and mortality rates.

Impacts on health and wellbeing

Like health status, the manner in which cultural factors influence health and wellbeing differs according to the factor in question. Examples include:

- Males are less likely to be carers of children than women. This means that some men have more opportunities for adult contact than some women. Women who provide full-time care may experience a form of social isolation, which can impact their mental health and wellbeing and contribute to higher rates of negative thought patterns.
- Physically laborious jobs are generally considered to be masculine. This can increase the risk of injury in the workplace for males undertaking such jobs.
- Although more females are playing than ever before, contact sports such as Australian Rules football and rugby league are still generally considered to be masculine sports. These sports can increase the risk of injuries among males.
- The dominance of western medicine can lead to Aboriginal and Torres Strait Islander Peoples feeling that they are excluded from society, contributing to poorer spiritual health and wellbeing.

- Attitudes towards mental health and wellbeing are changing in Australia, but some still stigmatise those with mental health conditions. This can reduce the willingness of people to access mental health services, decreasing the level of mental health and wellbeing experienced.
- Many religions have rules associated with fasting and food intake, which can influence the levels of energy people have and the functioning of their body systems.
- Research suggests that religious involvement may contribute to better physical and mental health outcomes, including lower blood pressure and reduced levels of stress. Religion can provide a sense of hope and purpose in life, as well as providing a community that often bands together in times of challenge.

4.3.6 Food security

The quality, availability and affordability of the food supply all affect what people eat. A shortage of such products (called **food insecurity**) can lead to deficiency diseases and other health complications. The other end of the scale is food plenty, which can contribute to people eating too much and therefore putting themselves at risk of diet-related diseases such as type 2 diabetes and cardiovascular disease.

food insecurity when healthy, affordable food is not obtainable

Although the environment has an impact on food availability (for example, when people live too far away from food outlets), sociocultural factors such as income and nutritional knowledge also have an effect.

Impact on health status

People living with socioeconomic disadvantage are more likely to experience food insecurity. Lack of financial resources can lead to an inability to afford nutritious foods and a reliance on cheaper processed foods. These are often made from poorer quality produce and have added fat, salt and/or sugar in an attempt to add flavour to the product. Such additives increase the risk of diet-related diseases, including obesity and cardiovascular disease, contributing to higher levels of morbidity and mortality. Australian research from 2021 suggests that healthy food options are often more expensive and harder to access in areas of socioeconomic disadvantage, which adds to the insecurity of the food supply to these groups.

Aboriginal and Torres Strait Islander Peoples are significantly more likely to report food insecurity compared with those in the general population. A range of sociocultural factors contribute to this difference, including lower incomes, the higher cost of fresh foods in many areas outside of Australia's major cities and lower levels of nutritional knowledge. Food insecurity contributes to higher rates of obesity and associated conditions, such as type 2 diabetes, kidney disease and cardiovascular disease. Traditional diets of Aboriginal and Torres Strait Islander Peoples are high in protein and low in fat, but this diet was disrupted by the negative impacts of colonisation. Dispossession and displacement from Country stopped Aboriginal and Torres Strait Islander Peoples from being able to manage and access important food sources, interrupting access to their usual fresh and nutritious foods. This has contributed to higher rates of obesity and associated conditions among that population.

People in rural and remote areas are 1.2 times more likely to experience food insecurity than their city counterparts. This is largely due to high costs and lack of access (although lack of access to location is an environmental influence). Transporting food to remote areas adds significant costs, particularly for fresh foods. This can lead to the consumption of more processed food items with a long shelf life, such as canned and packaged foods, which often have high levels of fat, salt and/or sugar. This can contribute to higher rates of obesity, type 2 diabetes and cardiovascular disease.

FIGURE 4.23 Food security exists when people can obtain nutritionally adequate, culturally appropriate, safe food regularly through local, non-emergency sources.

Impact on health and wellbeing

Food insecurity can mean that a person's nutritional requirements are not being met. This can result in a range of impacts on health and wellbeing, such as:

- Immune function may be impaired if the diet lacks essential nutrients such as iron, vitamin A, vitamin D and zinc, increasing the risk of disease.
- If an individual is unsure where their next meal will come from they can experience increased levels of stress.
- Blood cell development may be restricted, contributing to conditions such as iron-deficiency anaemia, which results in reduced levels of energy.
- Food is often central to social interactions. Therefore, food insecurity may contribute to fewer social interactions and poorer social health and wellbeing.
- An over-reliance on energy dense foods can contribute to weight gain and associated conditions, such as hypertension.

4.3.7 Early life experiences

Every person is, in part, a product of their past experiences. Such experiences help to shape each individual, their outlook on life and the behaviours they engage in throughout their lives.

Having optimal growth and strong emotional attachment in the early years can assist physical, social, emotional, mental and spiritual health and wellbeing in adulthood. Such experiences begin even before conception with the physical health and wellbeing of the mother and father, and become more important after fertilisation and during pregnancy.

Behaviours of women while they are pregnant are early life experiences for unborn babies that can contribute to a range of health issues.

Infancy is also a critical period for the impact of early life experiences. Infants who have experienced positive emotional stimulation are better prepared to take on the challenges of formal education and to exhibit positive behaviour, and are less likely to be socially excluded in adulthood.

On the other hand, abuse or neglect during the early years affects brain function and development, and contributes to emotional and behavioural problems later in life, including tobacco and substance use.

Slowed growth during infancy may lead to impaired cardiovascular, respiratory and kidney function, which can lead to ill health in later life.

FIGURE 4.24 Strong emotional attachment in the early years can promote positive health outcomes later in life.

Impact on health status

Maternal tobacco, alcohol and drug use, and maternal nutrition and exposure to certain chemicals, bacteria and viruses during pregnancy, can all have significant impacts on the individual after birth and into adulthood. For example:

- Maternal tobacco use reduces the amount of oxygen that crosses the placenta due to increasing the levels of carbon monoxide and other chemicals. This contributes to slowed growth and an increased risk of having a low-birth-weight baby. As discussed in subtopic 4.2, low birth weight increases the risk of death during infancy, increasing the infant mortality rate. Under-developed immune and respiratory systems also

increase the incidence of infectious diseases and asthma. In later life, low birth weight can increase the prevalence of overweight and obesity, hypertension, cardiovascular disease and type 2 diabetes.
- Maternal alcohol consumption also contributes to low birth weight and the associated impacts on health status. In addition, maternal alcohol use can lead to **foetal alcohol spectrum disorder (FASD)**, increasing morbidity among young people.
- Maternal stress increases the levels of some hormones that may decrease blood flow to the foetus, contributing to low birth weight and associated conditions.

foetal alcohol spectrum disorder (FASD) a group of conditions that can occur in a person whose mother drank alcohol during pregnancy. Problems that may occur in babies exposed to alcohol before birth include low birth weight, distinctive facial features, heart defects, behavioural problems and intellectual disability.

Impact on health and wellbeing

The impacts of early life experiences on health and wellbeing are largely dependent on the experience in question. Some examples include:

- Maternal smoking, alcohol use and stress can contribute to low birth weight. If the respiratory system is impacted, the individual may find exercising difficult, which can result in lower levels of fitness and higher body weight.
- Developing conditions such as overweight, obesity, type 2 diabetes and cardiovascular disease as a result of low birth weight can increase levels of stress and anxiety, impacting mental health and wellbeing.
- Behavioural issues that often occur as a result of FASD can contribute to poorer social connections at school, impacting social health and wellbeing.
- FASD can be characterised by a reduced ability to regulate emotions and express them appropriately, affecting emotional health and wellbeing.
- Those with strong emotional attachments are more likely to experience peace and harmony because they have people looking out for them, promoting spiritual health and wellbeing.

4.3.8 Access to health care

Health care refers to services that promote and preserve health and wellbeing. These services diagnose, treat and/or manage disease and injury. In Australia, these services are carried out by doctors, nurses, scientists, dentists, pharmacists and other health professionals, such as physiotherapists and naturopaths. These health professionals often work together in a hospital or medical centre.

Numerous factors can limit an individual's ability to access health care. Geographical access or proximity to health services is an environmental factor and will be explored in section 4.4.3, but there are many cultural, financial and other sociocultural barriers that prevent many Australians from accessing services they might otherwise use.

Some people who have geographical access to health services fail to use them. This may result from a lack of health literacy.

Cultural and language barriers can also influence an individual's access. For example, many Aboriginal and Torres Strait Islander Peoples do not find it culturally safe to access western medicine and associate hospitals with death. Many report discrimination in their experiences with the health system rather than an environment that is spiritually, emotionally and socially safe. This can be a barrier to accessing health care. Refugees are also less likely to access health services due to barriers in relation to health literacy, language, culture and income.

FIGURE 4.25 Culturally appropriate health care can improve access to health care.

Patients are sometimes responsible for paying for health care services. Those with a low socioeconomic status may avoid health care as a result. According to the ABS (2023), the proportion of Australians who delayed or did not see a health professional due to cost in 2021–22 was around:
- 16 per cent for dentists
- 6 per cent for specialists
- 4 per cent for general practitioners.

Impacts on health status

Sociocultural barriers to health care can contribute to conditions going undiagnosed and untreated, which can result in a range of variations in health status, including higher mortality rates and lower life expectancy.

Impacts on health and wellbeing

Lack of access to health care can also impact the dimensions of health and wellbeing because experiencing higher levels of ill health can lead to:
- a reduced ability to attend social events leading to a decline in the quality of relationships, impacting social health and wellbeing
- increased levels of stress if conditions deteriorate and interfere with daily life
- increased levels of pain, reducing physical health and wellbeing
- withdrawal from normal activities such as employment reduces the sense of purpose in life, impacting spiritual health and wellbeing
- a reduced capacity to process emotions accurately, impacting emotional health and wellbeing.

4.3.9 Commercial factors

Commercial factors relate to the impact the private sector has on consumption patterns of individuals and groups. The private sector includes all non-government entities that generally work to generate a profit. The private sector can influence health outcomes in both positive and negative ways, depending on the focus of the stakeholders involved. Commercial factors will be explored in more detail in topic 6 but include supply chains, labour conditions, distribution and affordability of products, processing, packaging and labelling, lobbying of governments, marketing strategies and use of the media. The private sector can therefore influence the use of a range of products including tobacco, e-cigarettes, alcohol, food, cars, medicine and online platforms, including social media sites. They can also influence the physical environment as a by product of the way their goods are produced, including air, noise and water pollution, deforestation and climate change.

Impacts on health and wellbeing

Commercial factors influence health and wellbeing in a number of ways.
- Industrial sites located in close proximity to residential areas may increase air and noise pollution in the area. This can increase the risk of mental health issues. In one study of neighbourhoods near Sydney airport, residents who were chronically exposed to high levels of aircraft noise were more likely to report stress and high blood pressure than those living in a matched suburb unaffected by aircraft noise (AIHW, 2012).
- Exposure to marketing techniques, including those online, can increase the likelihood of people participating in activities that can detract from health, such as consuming alcohol and e-cigarettes, gambling, consuming energy dense foods and increased participation in small-screen entertainment at the expense of physical activity. This can impact health and wellbeing in countless ways, including increasing the risk of disease and mental health issues, increasing the risk of obesity and related conditions, and leaving less money available for health-promoting activities such as accessing health care, healthy food, adequate shelter and education.
- Labour conditions and rates of pay can influence socioeconomic status and associated impacts, which were explored earlier in this section.

FIGURE 4.26 Commercial factors such as the marketing of fast food can impact health and wellbeing.

Impacts on health status

Impacts of commercial factors on health status include:

- Exposure to air pollution can contribute to higher morbidity rates due to respiratory conditions such as asthma.
- Increased consumption of products such as alcohol and energy-dense foods can increase the prevalence of type 2 diabetes, some cancers and cardiovascular disease, which can all contribute to increased mortality rates.
- Dangerous labour conditions can increase the incidence of injuries and, in some cases, lead to death, therefore reducing life expectancy.

4.3 Activity

Access the **Social justice** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Social justice worksheet (doc-32195)

Weblink Social justice

4.3 Exercises

4.3 Quick quiz on | **4.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3, 5, 6	2, 4, 7, 8, 9, 10, 15	11, 12, 13, 14

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Test your knowledge

1. Identity the three components of socioeconomic status.
2. Discuss how:
   a. unemployment can lead to ill health
   b. ill health can lead to unemployment.
3. a. Explain the difference between social exclusion and social isolation. List three impacts of social exclusion.
   b. List two possible causes of social isolation.
4. Outline three ways in which culture may contribute to differences in health status.
5. Define ‘food security’.
6. a. Outline why processed foods are generally less healthy than fresh produce.
   b. Outline why processed foods are often cheaper than fresh produce.
7. Discuss variations in health status that may occur as a result of food insecurity.
8. a. Make a list of ways parents can enhance the health and wellbeing of their child during pregnancy and in the first year after birth.
   b. Outline three variations in health status that may occur as a result of early life experiences.
9. a. Outline the sociocultural factors that can affect a person’s ability to access health care.
   b. Discuss the variations in health status and health and wellbeing that may result from a lack of access to health care.

Apply your knowledge

10. Complete the following table summarising the impact of sociocultural factors on health status.

Sociocultural factor	Explanation of impact/s	Impact on health status	Impact on health and wellbeing

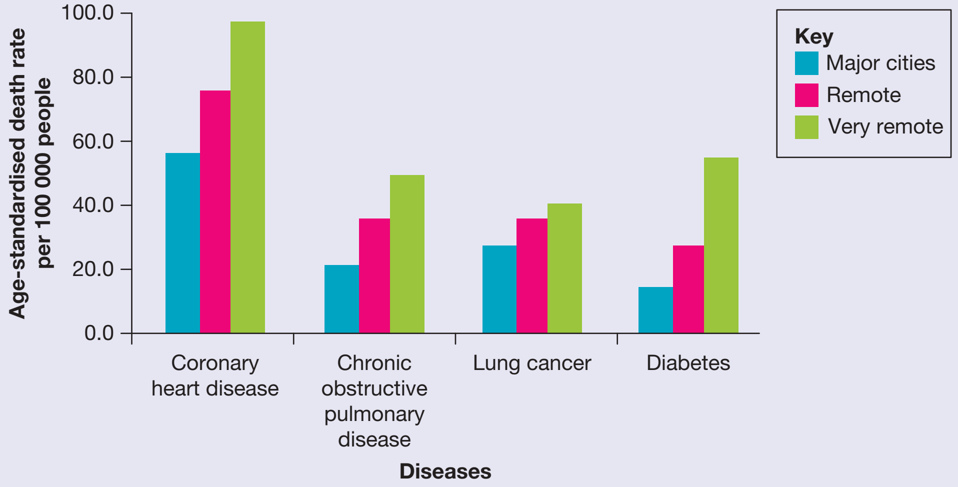
11. Discuss how the three components of socioeconomic status can affect each other and how they combine to influence health status and health and wellbeing.
12. Discuss variations in health status that may occur as a result of being socially excluded and socially isolated.
13. a. Which resources may socially excluded people not get the opportunity to use?
    b. Explain how not using these resources could influence health status and health and wellbeing.
14. 'A good start in life means supporting mothers and young children: the health impact of early development and education lasts a lifetime' (WHO, 2003). Create a flowchart illustrating how conditions early in life could have lifelong effects.
15. Using **FIGURE 4.10** as the basis of your response, create a mind map of the sociocultural factors and include a brief description of their impacts on health status and health and wellbeing.

4.3 Exam questions

Question 1 (5 marks)

Source: Adapted from *VCE 2022, Health and Human Development Exam, Q.4.b*; © VCAA

Death rate by cause and ASGS* remoteness for selected diseases, (2015–2019)



*The federal Department of Health and Aged Care uses Australian Bureau of Statistics (ABS) data to classify remoteness, with the unit of measure being the Australian Statistical Geography Standard (ASGS) – Remoteness Area.

Source: adapted from National Rural Health Alliance, 'Rural Health in Australia: Snapshot 2021', www.ruralhealth.org.au/rural-health-australia-snapshot

a. **Identify** a trend in the graph above. **1 mark**

b. Using one disease shown in the graph above, **explain** two sociocultural factors that may contribute to the trend identified in **part a**. **4 marks**

Question 2 (3 marks)

Source: Adapted from *VCE 2018, Health and Human Development Exam, Q.5.a*; © VCAA

According to the 2012-13 Australian Aboriginal and Torres Strait Islander health survey:

- obesity rates for Aboriginal and Torres Strait Islander males and females were significantly higher than the comparable rates for non-Indigenous people in almost every age group
- Aboriginal and Torres Strait Islander rates for heart disease were significantly higher than the comparable rates for non-Indigenous people in all age groups from 15–54 years
- Aboriginal and Torres Strait Islander rates for diabetes/high sugar levels were between three and five times as high as the comparable rates for non-Indigenous people in all age groups from 25 years and over.

Data: Australian Bureau of Statistics (ABS) website, 'Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13', cat. no. 4727.0.55.001, www.abs.gov.au

Select one sociocultural factor and **explain** how this factor could account for the differences in Aboriginal and Torres Strait Islander Peoples and non-Indigenous health status identified in the health survey.

Question 3 (4 marks)

List four sociocultural factors that impact the health status of population groups.

Question 4 (2 marks)

Describe one way that mental illness could lead to social exclusion, and one way that social exclusion could lead to mental illness.

Question 5 (2 marks)

Explain how early life experiences may impact health status.

More exam questions are available in your learnON title.

4.4 Environmental factors contributing to variations in health outcomes

Key knowledge	Key skills
Environmental factors that contribute to variations in health status between population groups	• Describe how examples of environmental factors can influence health outcomes • Analyse health information to explain how factors can contribute to variations in health status between population groups

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

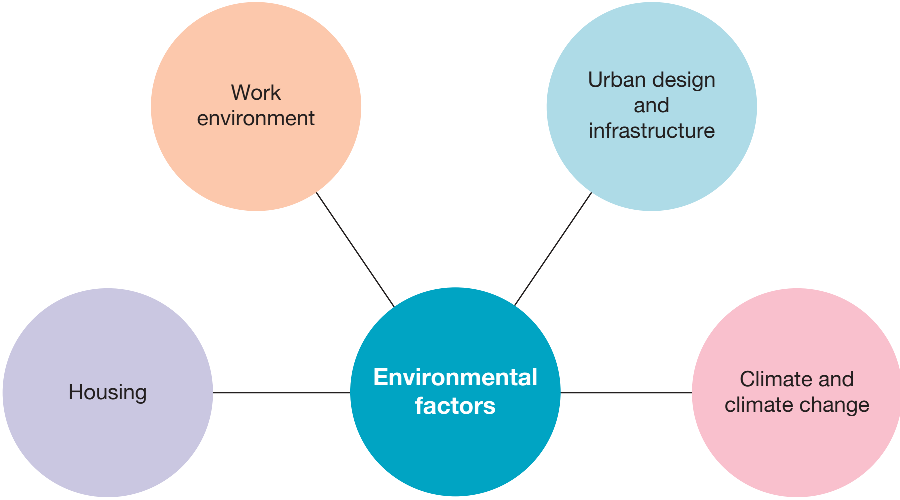
You need to know:	You need to be able to:
• what is meant by 'environmental factors' • a range of environmental factors • how environmental factors can contribute to both health status and health and wellbeing.	• make meaningful links between a range of environmental factors and variations in health status and health and wellbeing.

Environmental factors, in the context of this course, relate to the physical features that surround us. These can be natural features or those built by people. As with all factors, the relationship between the physical environment and health outcomes is complex, but there is growing evidence to suggest that the way people interact with the physical environment can increase or decrease the risk of negative health outcomes. Recent estimates suggest that over 30 per cent of the global burden of disease is due to aspects of the physical environment. Factors related to the physical environment that are explored in more detail in this subtopic are identified in **FIGURE 4.27**.

environmental factors the physical surroundings in which we live, work and play. Environmental factors include workplaces, housing, roads and geographical access to resources such as health care.

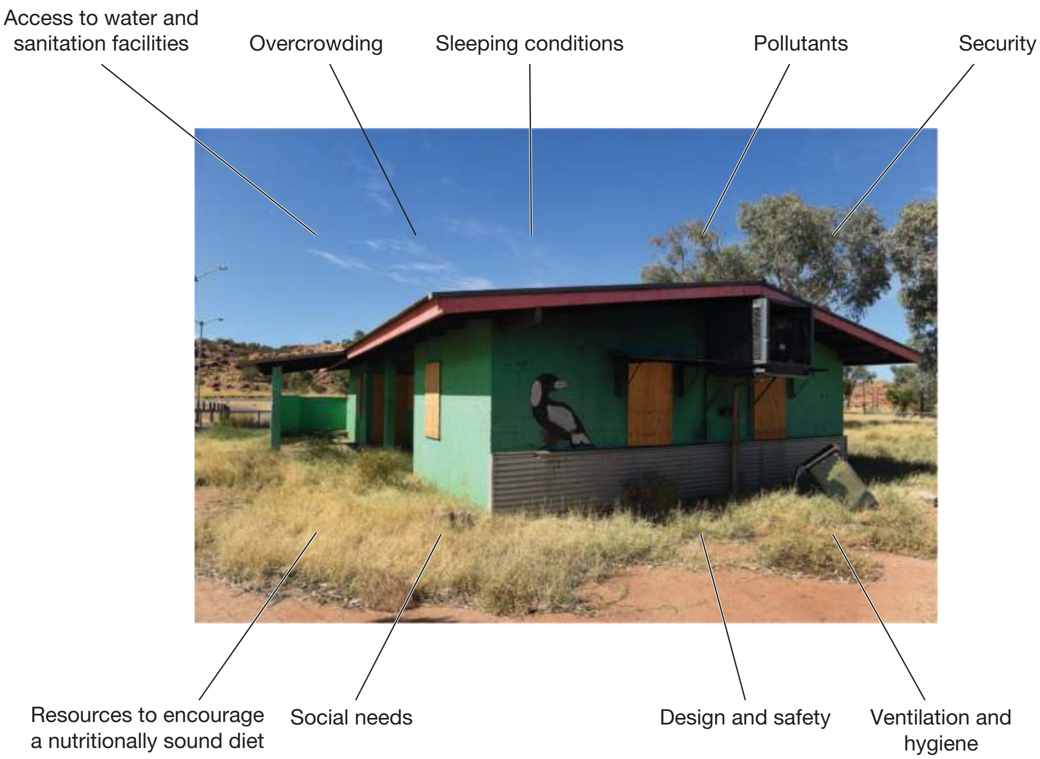
Understanding how the physical environment can affect health outcomes allows government and non-government groups to implement strategies to modify the physical environment to reduce the risk of ill health occurring among the population.

FIGURE 4.27 Environmental factors that impact health status



4.4.1 Housing

FIGURE 4.28 Housing contributes to health status in a variety of ways.



Most people spend more time in their house than in any other environment. The housing environment therefore plays a significant role in determining health outcomes.

Impacts on health status

Housing contributes to health status in many ways, including:

- ventilation and hygiene — inadequate housing has been linked to increased rates of morbidity from infectious and chronic diseases. For example, a house that is damp and has poor ventilation can promote the growth of mould, which can increase the risk of developing respiratory and asthma-related symptoms such as coughing, wheezing and irritation of the upper respiratory tract by 30–50 per cent (AIHW, 2010).
- design and safety — if not adequately maintained, features of houses such as stairs, floor surfaces (especially those that may become slippery when wet), bodies of water (such as ponds, dams and pools), balconies, electrical wiring and furniture can increase the risk of falls, cuts, drowning and electrocution. Young children and the elderly are often the most at risk of these injuries.
- overcrowding — Overcrowded conditions also place added strain on bathroom, kitchen and laundry facilities, which can lead to unsanitary conditions and increases the incidence of infectious diseases.
- pollutants — environmental tobacco smoke, asbestos, dust, pet hair and other pollutants can lead to respiratory conditions such as asthma.
- resources conducive to eating a nutritionally sound diet — refrigeration for storing food and adequate cooking appliances are examples of resources that promote healthy eating. If individuals do not have access to such resources, they may rely on takeaway foods. Such foods may be high in fat and contribute to obesity and related conditions, such as cardiovascular disease and type 2 diabetes.
- access to water and **sanitation** facilities — an adequate water supply and the infrastructure to deliver clean water to homes are required to access clean water and decrease the risk of infectious diseases. Sanitation facilities are essential to remove human waste from the immediate environment. This reduces the risk of infectious diseases such as cholera, which are spread by contact with human waste.

FIGURE 4.29 Young children are often at risk of injury in the home, although safety devices such as gates can be used to decrease the risk.

sanitation the process of eliminating contact between humans and hazardous wastes, including human and animal faeces and urine, solid wastes, domestic wastewater (sewage and grey water), industrial wastes and agricultural wastes

Impacts on health and wellbeing

Examples of impacts of housing on health and wellbeing include:

- sleeping conditions — sleep is an important aspect of good health and wellbeing, and sleeping conditions should promote restful sleep, which in turn promotes adequate levels of energy in the waking hours, enhancing physical health and wellbeing. Noise and overcrowding can impact sleeping conditions and contribute to mental health issues.
- security — having a house that is not seen as secure from the elements and intruders can promote fear among the residents and lead to high levels of stress and anxiety.

- social needs — adequate housing can provide a place for people to socialise with friends and family, which can ensure social needs are being met, promoting social health and wellbeing.
- overcrowded housing — those living in overcrowded housing experience higher rates of mental health issues because occupants find it difficult to find their own space. It can impact self-esteem and social interactions by reducing engagement in education and employment as people struggle to complete daily chores, including homework.
- heating and cooling — an inability to maintain comfortable temperatures inside the home can increase levels of stress and contribute to sleep deprivation, which can lead to lower levels of energy in the waking hours, impacting all dimensions of health and wellbeing.

4.4.2 Work environment

Many Australians spend a significant amount of time in their place of employment. As a result, the physical environment of the workplace plays a significant role in determining health outcomes. Note that two people with the same occupation (which is a sociocultural factor) can have different work environments. For example:

- A landscape gardener (occupation) could work in Melbourne or in far north Queensland, which would lead to variations in the work environment such as exposure to environmental hazards, including wildlife, climate and weather-related events.
- An outdoor education teacher would experience a different work environment than a maths teacher, even though they are both teachers (occupation).

Impacts on health status

Examples of how the physical environment of the workplace can impact health status include:

- UV exposure — those working outdoors are more exposed to UV radiation. This can increase the risk of skin cancer among these workers.
- dangerous working conditions — according to the ABS (2023), around 3.5 per cent of all employees aged 15 and over sustained a work-related injury in the previous year. Many workplaces have risks associated with the specific environment in which the work is carried out. People working on farms, fishing trawlers and mining operations, for example, often use heavy machinery, which can increase the risk of injuries. Those working in transport, such as truck drivers and taxi drivers, may have an increased risk of road trauma as a result of spending extended periods on the roads. Those working with tools such as sewing machines and saws may have an increased risk of lacerations.
- exposure to hazardous substances — hazardous substances such as paint, asbestos, fuels, gases, acids and corrosive chemicals are used in many workplaces, such as those used for manufacturing and building. Although the use of protective equipment can reduce the risks associated with handling such substances, they still contribute to morbidity and mortality in the workplace due to causes such as burns, poisoning, respiratory diseases and cancer.

Impacts on health and wellbeing

A work environment that contains hazards may increase levels of stress and anxiety among employees if they are concerned about sustaining an injury. In addition to the impacts on the functioning of body systems, injuries sustained in the workplace can influence all dimensions of health and wellbeing, particularly if the injury is significant and/or permanent.

FIGURE 4.30 Australia's large farming industry has a range of associated workplace hazards, including UV exposure and injuries associated with the use of heavy machinery.

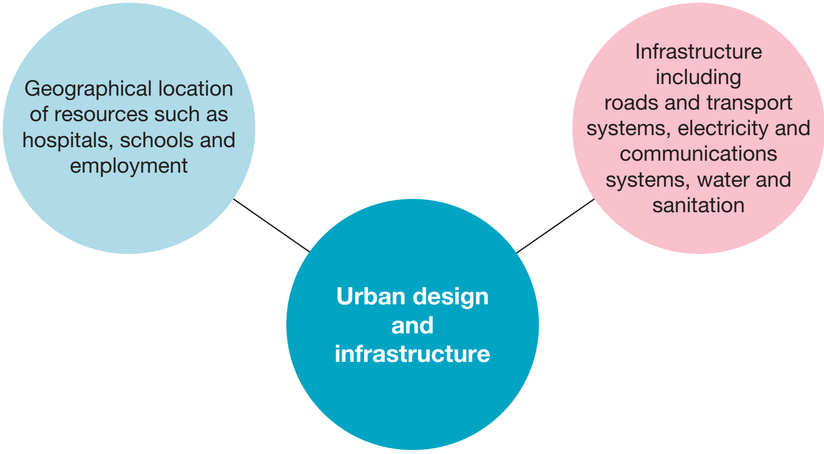
FIGURE 4.31 The use of protective equipment, such as hard hats, ear muffs and gas masks, can reduce the effects of exposure to danger in the workplace.

4.4.3 Urban design and infrastructure

Urban design and **infrastructure** relate to the features and structures of the suburbs, towns, regions and cities in which people live. Features of such areas that contribute to variations in health outcomes include the aspects summarised in **FIGURE 4.32**.

infrastructure the physical and organisational structures, facilities and systems (e.g. buildings, roads, power supplies) needed for the operation of a society

FIGURE 4.32 Factors relating to urban design and infrastructure



Geographical location of resources

Having access to goods and services can increase the ability of many people to access resources required to promote health outcomes.

Impacts on health status

Being close to supermarkets, shops and hospitals, and having the means to reach these resources, can decrease morbidity and mortality rates, because people can access the resources required to obtain adequate food and health care.

The location of health services can influence whether a person can access health care in times of need. According to the AIHW (2023), in 2022, those living in very remote areas were half as likely to access a GP compared to those in major cities. This can mean that conditions can go undiagnosed and untreated, which can increase morbidity and mortality rates for many conditions.

EXAM TIP

It is important to discuss the selected factor in the correct context. For example, access to health care can be influenced by a range of factors such as health literacy, cultural influences, geographical location of hospitals and access to transport systems. If asked to discuss a sociocultural factor, access to health care may be appropriate, provided that the discussion relates to sociocultural influences on accessing health care, such as health literacy and cultural influences. Discussing the impact of geographical location of hospitals or access to transport systems in relation to accessing health care relates to environmental factors and will not be awarded full marks.

Being near to fast-food outlets may increase the frequency people consume such products. This can increase energy intake and contribute to overweight and obesity and related conditions. Suburbs where socioeconomic disadvantage is greater often have the highest number of fast food outlets.

According to VicHealth (2015):

> It is clear that disparities in sports and recreational facilities exist according to neighbourhood-level SES. For example, a study of public open space in neighbourhoods of low and high SES in Victoria found little variation in the number of playgrounds or leisure facilities according to SES. However, public open spaces in high SES neighbourhoods were of higher quality than in low SES neighbourhoods in terms of amenities and aesthetics, such as picnic areas, foliage (provision of shade), water features, walking and cycling paths.

This contributes to lower rates of physical activity in lower socioeconomic groups, which in turn contributes to many variations in health status when compared to those living in higher socioeconomic areas.

FIGURE 4.33 Living in close proximity to services such as hospitals can increase access to health-promoting resources such as health care.

CASE STUDY

‘Living here will make you fat’ — do we need a public health warning?

By Karen Charlton, Associate Professor, School of Medicine, University of Wollongong and Abhijeet Ghosh, Researcher, University of Wollongong

Governments have invested billions in efforts to prevent obesity, yet Australians keep getting fatter, especially in areas of socioeconomic disadvantage.

Over the past two decades, the prevalence of obesity rose in adults from 19 per cent to 28 per cent. The proportion who are overweight remained similar at around 38 per cent. This means two-thirds of Australian adults are now overweight, with a body mass index (BMI) of 25–29.9, or obese (BMI >= 30).

A new study published in BMJ Open confirms that obesity is highest in Australians who live in areas of socioeconomic disadvantage. The age-adjusted odds ratio of being overweight or obese was determined for high and low levels of socioeconomic disadvantage. We analysed data collected from almost 37 000 patients based on their interactions with their general practitioners over two years (September 2011 to 2013).

...

Patients' area of residence was categorised using the Socio-Economic Index for Areas of relative socioeconomic disadvantage. Both men and women living in areas of highest socioeconomic disadvantage had a 29 per cent higher risk of being obese. The opposite association was found for being overweight, at least in men (those in areas of lesser relative socioeconomic disadvantage were more likely to be overweight).

What makes low-SES areas 'obesogenic'?

It is well recognised that an inverse relationship exists between socioeconomic status (SES) and obesity. But the reasons for this are not straightforward.

'Obesogenicity' (the sum of influences that physical surroundings have on promoting excessive weight gain) of neighbourhoods may relate to the food environment (inadequate access to local sources of healthy foods, such as supermarkets and greengrocers, or easy access to unhealthy foods, such as fast-food restaurants) or the physical activity environment (less green space, unsafe neighbourhoods).

In the US, it has been demonstrated that neighbourhoods in lower socioeconomic areas are more 'obesogenic' than those in richer areas. This translates to higher levels of obesity in children and adults. But these findings are not directly transferable to Australia.

A study of socioeconomically disadvantaged areas in Victoria ranked neighbourhoods using an index that included three domains:

- food resources (supermarkets, green grocers, fast-food restaurants)
- recreational activity resources (gyms, pools, park space)
- walkability (four or more intersections within a 2 km buffer, walking environment, neighbourhood safety).

Surprisingly, neighbourhood 'obesogenicity' was not associated with BMI of residents. It seems other factors may be at play.

Supermarkets and shelf space

Supermarket proximity may not necessarily reflect access to healthier foods. About 30 per cent of supermarket shelf space comprises junk (or non-core) foods. However, the shelf space dedicated to non-core foods does not differ according to the location of the supermarket.

There is also no association between proportion of shelf space allocated to non-core foods and their purchase. But low-SES Australian shoppers do buy significantly more non-core foods than high-SES shoppers, especially chips and sugar-sweetened carbonated beverages and cordials.

This behaviour is likely to be driven by the economics of food choice theory: people on low incomes maximise energy availability per dollar. They buy foods that provide the most energy (usually with few other nutrients) for the least cost. This has been shown to influence food purchases in Indigenous communities.

There may also be less segregation in Australia between neighbourhoods classified as high versus low SES. Or there may be less clustering of fast-food restaurants in low-SES neighbourhoods than occurs in the US. Also, people may not necessarily shop or eat out where they live, particularly if they commute to work and access fast-food outlets on their way home.

Green space effects vary

A study in NSW found that proximity of residence to green space was associated with undertaking more moderate-to-vigorous physical activity and having less sitting time in both men and women.

However, this activity translated into lower body weight only in women; those who lived close to green space had a 10–20 per cent lower risk of being overweight or obese, respectively, compared to those who lived further from such areas.

It could be that men compensate for being active by eating more, regardless of where they live, but this hypothesis remains to be proven.

There is little doubt that state government investment to enhance green spaces may promote physical activity in middle-to-older-aged adults. This has to be a good thing, but the impact on obesity may not benefit everyone to the same extent.

How can we reduce obesity in low-SES areas?

Our study provides new insights for population health planning. The findings highlight a need for preventive health initiatives to be specific to gender and the socioeconomic attributes of the target population.

We propose that, in areas of highest socioeconomic disadvantage, primary care providers could have more streamlined approaches to direct obese patients to existing weight loss programs. These include the free government-funded, population-based Get Healthy Information and Coaching Service.

In areas of low socioeconomic disadvantage, efforts could be focused on preventing further weight gain in adults, particularly men, who are already in the overweight range.

Encouraging patients to keep a close eye on their weight could be achieved through routine weighing every time they attend their general practitioners. This is an effective strategy and is relatively simple. However, recording of height and weight measures in general practices especially in regional settings is much lower than optimal.

Source: 'Living here will make you fat' – do we need a public health warning?, Karen Charlton and Abhijeet Ghosh, *The Conversation*, 4 May 2016, http://theconversation.com/living-here-will-make-you-fat-do-we-need-a-public-health-warning-57119

CASE STUDY REVIEW

1. Compared to those in high socioeconomic areas, identify how much more likely those in low socioeconomic areas were to be obese.
2. Outline what is meant by the term 'obesogenic'.
3. Identify the factors that may contribute to a neighbourhood being obesogenic.
4. Outline variations in health status that occur for low socioeconomic groups as a result of the differences between low and high socioeconomic groups discussed in the article.

Impacts on health and wellbeing

If specialist health services or hospitalisation are required, family members often have to take time off work to transport those who are ill to these services. This adds additional costs and increases the level of stress and anxiety experienced.

Living far away from resources such as schools and places of employment can reduce opportunities for social interaction, negatively impacting social health and wellbeing. It can also mean that people are not able to work towards their purpose in life, reducing spiritual health and wellbeing.

Infrastructure

Having adequate infrastructure assists in promoting health outcomes. Adequate infrastructure includes:

- sealed roads
- electricity grids and supply
- clean water facilities and sanitation systems
- public transport systems
- information and communication technologies, such as telephone and internet connections
- adequate parks, gardens and recreation facilities.

FIGURE 4.34 The availability of public transport increases access to goods and services for many Australians.

Impacts on health status

Impacts on health status can include:

- Adequately maintained roads and traffic systems such as traffic lights, signage and road lighting can improve safety and decrease the risk of morbidity and mortality from road trauma.
- A reliable supply of electricity is essential for ensuring that medical and household appliances can operate effectively. Life support machines, heating and cooling can all assist in reducing morbidity and mortality, especially for vulnerable people including those with chronic disease and the elderly. More people die in Australia from heatwaves than all other extreme weather events combined. A 2024 study by the Australian Council of Social Service found that almost 80 per cent of people in social housing and around 72 per cent of Aboriginal and Torres Strait Islander Peoples struggled to cool their home and 14 per cent of respondents had sought medical attention for heat stress.
- Water is essential for life. It is required for drinking, bathing, cooking and sanitation. Having access to a clean and reliable water supply reduces the incidence of infectious diseases, such as dysentery.
- Adequate sanitation infrastructure, such as sewerage systems, eliminates waste from the environment. Removing substances such as faeces, solid wastes and domestic wastewater reduces the risk of contracting infectious diseases such as cholera.

Impacts on health and wellbeing

Possible impacts on health and wellbeing include:

- Public transport systems can help people access resources that can promote health outcomes, such as food, employment, health care and social interaction. People living outside of Australia's major cities may be particularly vulnerable to transport issues. In this sense, a lack of transport can actually prevent people from taking steps to promote their health and wellbeing, such as having a balanced food intake and seeking medical care when required.
- Digital technologies can assist in maintaining social networks, and this promotes social and mental health and wellbeing and can decrease the risk of mental illness. Internet connections can also promote education for those living outside major cities, helping to increase socioeconomic status by increasing opportunities for employment. Digital resources are increasingly being used to educate consumers in relation to health-related matters, for example, through internet symptom checkers, healthy living advice and online medical consultations, counselling and support. Together, these resources can improve health literacy and health outcomes.
- Having access to adequate public spaces such as parks and gardens, and recreation facilities such as walking paths, cycling tracks and basketball and tennis courts, means people are more likely to be physically active. This can reduce the risk of mental health problems and obesity. They also provide people with opportunities for relaxation which can promote spiritual health and wellbeing by increasing a sense of peace and harmony.

FIGURE 4.35 Access to information and communication technologies can assist in maintaining social connections and promotes educational outcomes.

4.4.4 Climate and climate change

Climate relates to the long-term weather patterns of a particular area and includes rainfall, temperature, snow, wind or any other weather condition. Climates have been changing in Australia over the past century, and such changes also impact health status and health and wellbeing. The global impacts of climate change are discussed in topic 10.

Australia is a geographically large country and experiences a range of climates as a result. Rainfall, temperature and wind patterns vary across the country, producing different impacts on health outcomes. Australia is also the driest inhabited continent on Earth and is more susceptible to bushfires than many other countries as a result.

There is increasing concern that changes to the environment are contributing to climate change, resulting in extreme temperatures, rising sea levels and increases in the occurrence of natural disasters and the spread of vector-borne diseases such as dengue fever and Ross River fever, which are spread by infected mosquitoes. Human settlement, industrialisation, land clearing and farming practices all affect environmental systems, including climate systems (AIHW, 2010).

FIGURE 4.36 The results of bushfires continue to affect health and wellbeing long after the fires are extinguished.

The impacts of climate change on health outcomes of individuals and population groups will vary depending on a range of factors. However, according to the AIHW (2012), 'the most vulnerable groups will be those living in remote areas, on lower incomes or with poor housing; the young and elderly; and the sick. Aboriginal and Torres Strait Islanders living in remote communities are also likely to be disproportionally affected by climate change because of their relative isolation and limited access to support facilities'.

Impacts on health status

Health status is influenced by climate and climate change in a number of ways, including:

- Ultraviolet (UV) radiation levels are comparatively high in Australia, contributing to Australia having the highest rates of skin cancer in the world.
- Events such as droughts and floods are common in some Australian climates and are expected to increase as a result of climate change. Access to resources such as water, food and health care can all be impacted when such events occur, increasing morbidity and mortality rates in affected areas. Floods in Queensland, New South Wales and Victoria in 2010–11 and again in 2022 caused widespread damage, including the loss of life. Thousands of farms were affected by extensive livestock and crop losses. Infrastructure was also destroyed, limiting the ability of people to access resources such as food, clean water and health care, contributing to increased morbidity and mortality rates.
- Increasing temperatures are expected to lengthen bushfire seasons and increase the frequency and intensity with which bushfires occur. In 2009, Victoria experienced the Black Saturday fires, which were the most intense and most lethal in Australia's recorded history. More than 170 people died, and many others were hospitalised with severe burns. Towns were wiped out by fires that destroyed infrastructure such as electricity supply, dams, housing and schools. Thousands of sheep and cattle were killed, and entire crops destroyed.
- The smoke generated by bushfires can spread hundreds of kilometres from the site of the fire, contributing to higher rates of respiratory diseases. As well as the immediate impact on mortality and morbidity, such events take a long time to recover from and can increase the risk of mental health disorders and reduce access to health-promoting resources for years to come.

Impacts on health and wellbeing

The impacts of climate change on health and wellbeing include:

- Extreme weather events such as droughts and floods cause considerable stress and anxiety in affected areas and can prevent people from working towards their purpose in life, especially when usual activities must cease to allow people to address the associated impacts.
- As well as the loss of human and animal life that occurs with bushfires, houses and infrastructure can also be destroyed, limiting the availability of goods and services that are required for optimal health and wellbeing. Exposure to bushfire smoke can worsen existing health conditions such as asthma and cardiovascular disease, further impacting health and wellbeing.

4.4 Activities

1. Draw an annotated diagram highlighting the features a house should have in order for it to promote optimal health and wellbeing.
2. Access the **Climate change** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Climate change worksheet (doc-32199)

Weblink Climate change

4.4 Exercises

4.4 Quick quiz on | **4.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3, 6	2, 4, 5, 7, 8, 11	9, 10, 12

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Test your knowledge

1. Explain what is meant by 'environmental factors'.
2. Outline one way that adequate housing could promote:
   a. physical health and wellbeing
   b. mental health and wellbeing.
3. Explain what is meant by urban design and infrastructure.
4. Explain how geographical location of resources may impact food security.
5. Explain how climate and/or climate change can impact health status.

Apply your knowledge

6. Draw a flowchart that illustrates how poor housing could lead to poor health status.
7. Complete the following table summarising the impact of environmental factors on health status.

Environmental factor	Explanation of impact/s	Impact on health status	Impact on health and wellbeing

8. Complete the following table by identifying three work environments and explaining how each may contribute to differences in health status for people working in them.

Work environment	Contribution to differences in health status

9. Brainstorm the infrastructure in your neighbourhood that promotes health status and health and wellbeing. Explain the link between each resource and improved health outcomes.
10. Explain how education and employment opportunities may be impacted by overcrowded housing.
11. Using **FIGURE 4.27** as the basis of your response, create a mind map of the environmental factors and include a brief description of their impacts on health status.
12. a. List the types of infrastructure that are affected by climate change.
    b. Discuss how damage to each type of infrastructure could impact health outcomes.

4.4 Exam questions

Question 1 (5 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.2.b*; © VCAA

The mortality rate of Indigenous Australians is 2.0 times that of non-Indigenous Australians for injury and poisoning.

Source: Australian Institute of Health and Welfare (AIHW), 'Aboriginal and Torres Strait Islander Health Performance Framework, Injury and poisoning', indigenoushpf.gov.au/measures/1-03-injury-poisoning

Identify one environmental factor and one sociocultural factor and **explain** how each could contribute to the difference in mortality rates from injury and/or poisoning between Indigenous and non-Indigenous Australians.

Question 2 (3 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.1.a.i, ii*; © VCAA

Lucy is 17 years old and lives with her parents, her two younger brothers and her grandmother. Lucy also has a large extended family of aunts, uncles and cousins who get together regularly. Lucy trains with her netball team twice a week and plays in competitions every Saturday.

Answer the following.

a. Apart from physical activity, **identify** one factor that has an impact on physical health and wellbeing. **1 mark**

b. **Describe** how the factor identified in **part a** supports optimal health and wellbeing. **2 marks**

Question 3 (1 mark)

Identify three examples of environmental factors that impact the health status of population groups.

Question 4 (3 marks)

Explain how housing may impact two dimensions of health and wellbeing.

Question 5 (2 marks)

Identify an environmental factor and describe how it may impact life expectancy.

More exam questions are available in your learnON title.

4.5 KEY SKILLS

4.5.1 Describe how examples of biological, sociocultural and environmental factors can influence health outcomes

tlvd-11358

KEY SKILL Describe how examples of biological, sociocultural and environmental factors can influence health outcomes

Tell me

This skill requires meaningful links to be made between a range of biological, sociocultural and environmental factors to variations in both health status and health and wellbeing. To become proficient at this skill, you need to be able to:

- identify a range of biological, sociocultural and environmental factors
- describe how the various factors can contribute to a range of diseases and/or injuries
- use a range of biological, sociocultural and environmental factors to explain variations in health status and differences in the dimensions of health and wellbeing in different scenarios.

Note that factors rarely contribute to variations in health status and health and wellbeing in isolation. Therefore, responses should avoid including definite statements and instead state that various factors 'can' contribute to these differences.

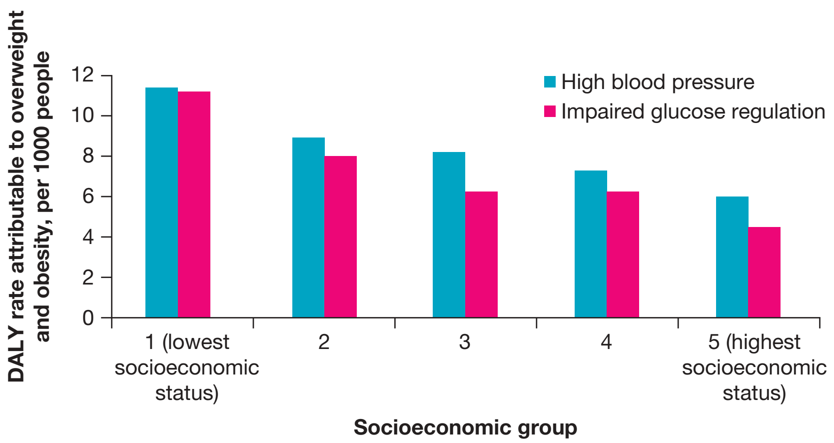
This key skill may provide a variation in health outcomes in which students must suggest and explain how various factors may contribute to the difference. Alternatively, questions may provide a difference in relation to a specific factor and then links must be made to potential variations in health outcomes.

Show me

In the following example, data are presented relating to the rate of DALY caused by high blood pressure and impaired glucose regulation according to socioeconomic status in 2018.

int-8513

FIGURE 4.37 DALY (rate per 1000 people) caused by high blood pressure and impaired glucose regulation, according to socioeconomic status group, 2018



Source: AIHW, Australian Burden of Disease Study, 2018, https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/

Once the difference in the rate of DALY between the two groups is understood based on the information provided, an example of a biological, sociocultural and environmental factor can be used to explain possible reasons for the differences.

Biological — Body weight.[1] Those from the lowest socioeconomic group may have higher rates of overweight and obesity compared to those from the highest socioeconomic group.[2] Overweight and obesity place extra strain on the heart, increasing the rate of DALY from high blood pressure from causes such as heart attack and stroke for the lowest socioeconomic group.[3]

Sociocultural — Health literacy.[4] Those from the highest socioeconomic group may have higher health literacy, which can mean that they access health services more often than those from the lowest socioeconomic group.[5] This can mean that conditions such as high blood pressure are more likely to be managed with interventions such as medication, which can contribute to a lower rate of DALY due to this condition.[6]

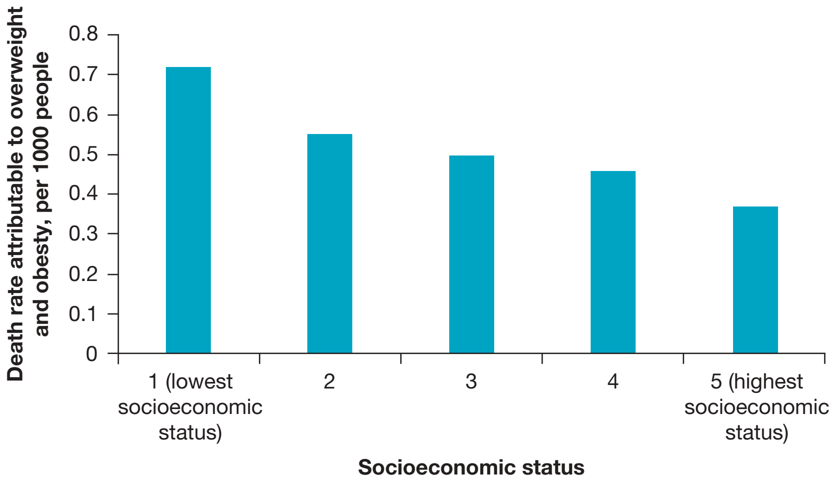
Environmental — Proximity of fast food outlets.[7] Lower socioeconomic suburbs often have a greater number of fast food outlets compared to the highest socioeconomic suburbs.[8] This can lead to a greater intake of energy dense foods, which can contribute to overweight and obesity, which is a risk factor for impaired glucose regulation.[9] This may account for the higher rate of DALY from this factor compared to those in the highest socioeconomic group.[10]

[1] An example of a relevant biological factor is identified.
[2] The possible difference in relation to the factor for the groups is stated with reference to both groups included.
[3] The role of the factor in relation to the difference in health status is demonstrated by linking to the difference in the rate of DALY.
[4] An example of a relevant sociocultural factor is identified.
[5] The possible difference in relation to the factor for the groups is stated with reference to both groups included.
[6] The role of the factor in relation to the difference in health status is demonstrated by linking to the difference in the rate of DALY.
[7] An example of a relevant environmental factor is identified.
[8] The possible difference in relation to the factor for the groups is stated with reference to both groups included.
[9] The role of the factor in relation to health outcomes is provided.
[10] A link to the difference in health status is included.

Practise the key skill

1. People in rural and remote areas are 1.2 times more likely to experience food insecurity than their city counterparts. Briefly explain how this difference could contribute to two variations in health status.
2. The following graph shows the rate of deaths (per 1000 people) attributable to overweight and obesity by socioeconomic status in 2018. Explain how this difference between the highest and lowest socioeconomic groups could contribute to a difference in physical and mental health and wellbeing.

FIGURE 4.38 Death rate attributable to overweight and obesity, per 1000 people, 2018



Source: AIHW, Australian Burden of Disease Study, 2018, https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-data-risk-factors/contents/overweight-including-obesity#group

3. Males report higher rates of injuries than females. Identify one biological, sociocultural and environmental factor and explain how each may contribute to this difference.

4.5.2 Analyse health information to explain how factors can contribute to variations in health status between population groups

tlvd-11359

KEY SKILL Analyse health information to explain how factors can contribute to variations in health status between population groups

Tell me

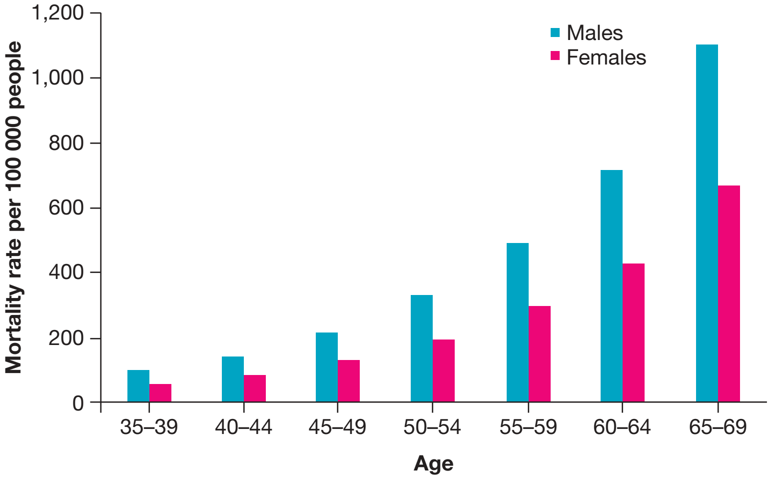
Analysing health information and having knowledge about the factors that contribute to the variations in health status is important so that interventions can be put in place to promote health status for all.

Analysing health information is the first step in this skill. Such analysis is required to identify differences in health status and/or risk factors that exist between population groups. In addition to differences in health status and/or risk factors, health information may relate to differences between two groups over time. Information can be presented in many different forms including written text, graphs, tables and charts. Practising identifying trends, similarities and differences in health status and/or risk factors is important to develop this skill.

The possible impacts of a range of factors on health status must be understood so reasons for differences in health status can be explained. Once these are known, it is possible to identify and explain the factors that may contribute to specific differences in health status between groups.

For example, if information relating to mortality rates for males and females were provided (see **FIGURE 4.39**), the factors that may have led to the differences between males and females could be discussed.

FIGURE 4.39 Mortality rates for males and females aged 35–69 according to sex, 2021



Source: https://www.aihw.gov.au/reports/life-expectancy-deaths/grim-books/contents/grim-excel-workbooks

Show me

Males had higher mortality rates than females for each age group shown.[11] For example, the rate for males in the 35–39 age group was around 100 per 100 000 population compared to around 50 per 100 000 for females. In the 65–69 age group, the rate for males was around 1100 per 100 000 compared to around 650 per 100 000 for females in the same age group.[12]

[11] An overall statement relating to the difference in mortality rates between males and females is made.
[12] Data is used to support the initial statement.

Tell me

The next step is to make meaningful links between factors and the difference in health status presented (in this example, it is mortality rates). If the information provided relates to differences in factors, then they will be used to make meaningful links to variations in health status.

It is important to read the question carefully to determine if specific factors must be used as the basis of the response or if you are given a choice.

In this example, smoking and a sociocultural factor will be discussed and linked to the higher rates of mortality among males.

Show me

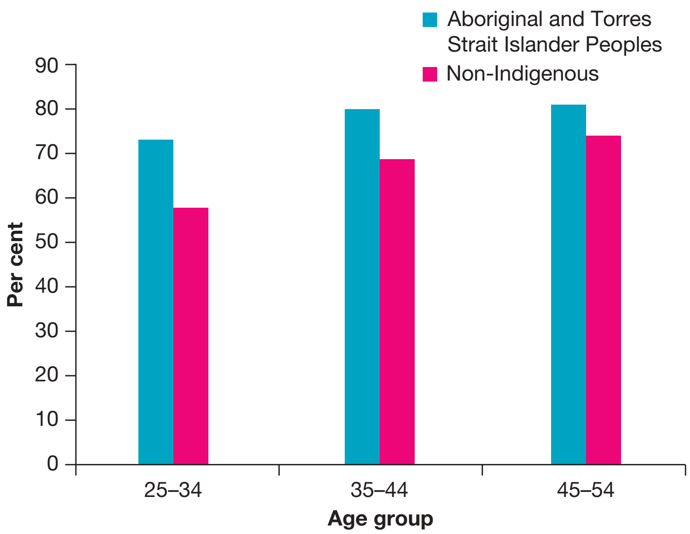
- smoking — Males may be more likely to smoke than females.[13] Tobacco smoke contains hundreds of harmful chemicals that can contribute to faults in cells as they divide. These faulty cells may become a tumour, which can lead to conditions such as lung cancer. [14] Lung cancer is a leading cause of death in Australia and could contribute to the higher mortality rates experienced by males compared to females.[15]
- sociocultural — cultural background[16] plays a role in health outcomes for males compared to females. Males are often portrayed as having to be strong, and this contributes to males being less likely to access health care. As a result, risk factors for heart attack such as hypertension may go untreated, and this can increase mortality rates for males compared to females.[17]

[13] A comparison is made between males and females in relation to smoking. Note that unless the actual difference in relation to the factor is presented or known, wording such as 'males may smoke more' should be used.
[14] A meaningful link is made between smoking and disease.
[15] The disease is used to explain a potential reason for different mortality rates between males and females.
[16] A specific sociocultural factor is identified.
[17] A meaningful link is made from the sociocultural factor to higher mortality rates for males compared to females.

Practise the key skill

4. Identify two trends within the overweight/obesity rates shown in **FIGURE 4.40**.
5. Using two biological, sociocultural and/or environmental factors as a basis of your discussion, discuss possible reasons for the difference in rates of overweight/obesity between Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians.

FIGURE 4.40 Proportion of overweight/obese Australians aged 25–54, by Indigenous status and age group, 2018



Source: Adapted from ABS, *National Health Survey*, 2017–18 and *National Aboriginal and Torres Strait Islander Health Survey*, 2018–19.

4.6 EXTENDED RESPONSE — Build your exam skills

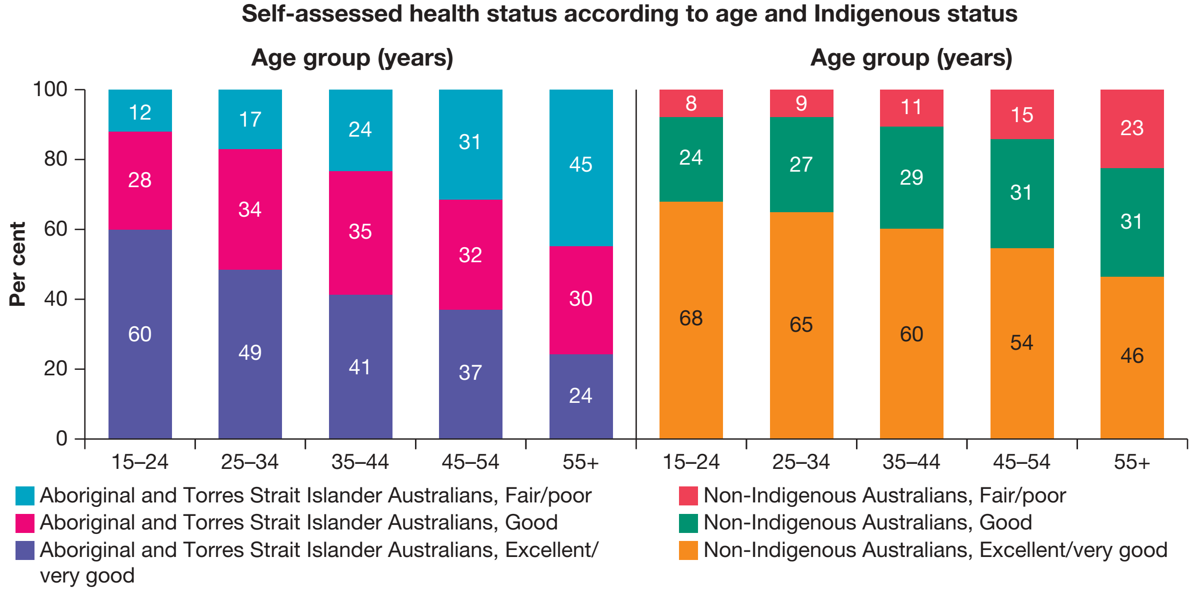
tlvd–11360

Interpreting stimulus material

An important skill in answering extended response questions is being able to interpret the information. That is, you will need to make judgements as to what the stimulus material is actually telling or showing you. In this subtopic, a number of stimuli will be interpreted and basic links established between them.

The first step in interpreting the material provided is to explore each piece independently to determine the information it presents. This is done below with a series of dot points for each source.

Source 1



Step 1: Explore Source 1

- People are asked to assess their own level of health, which can move beyond the physical dimension by taking other dimensions into account.
- This graph shows data relating to self-assessed health status. This is a subjective concept that can mean different things to different people.
- Aboriginal and Torres Strait Islander Australians are less likely to assess their health as excellent or very good compared to non-Indigenous Australians for each age group shown. For those aged 15–24, the rate of Aboriginal and Torres Strait Islander Australians assessing their health as excellent or very good is 60 per cent compared to 68 per cent for non-Indigenous Australians.
- The rate of those assessing their health as excellent or very good decreases for both Aboriginal and Torres Strait Islander and non-Indigenous Australians for each age group. Twenty-four per cent of Aboriginal and Torres Strait Islander people aged 55+ assess their health as excellent or very good compared to 46 per cent in the non-Indigenous group.
- The proportion of those assessing their health as excellent or very good decreases at a greater rate for Aboriginal and Torres Strait Islander Australians compared to non-Indigenous Australians.
- The rate of people assessing their health as fair or poor is higher among the Aboriginal and Torres Strait Islander group compared to the non-Indigenous group for each age group shown. For example, in the 35–44 age group, 24 per cent of Aboriginal and Torres Strait Islander people assessed their health as fair or poor compared to 11 per cent for non-Indigenous people.
- The rate of people assessing their health as fair or poor increases as age groups increase. For Aboriginal and Torres Strait Islander people it increases from 12 per cent in the 15–24 age group to 45 per cent in the 55+ age group. For non-Indigenous Australians, the rate increases from 8 per cent in the 15–24 age group to 23 per cent.

Source 2

Jarli is a 68-year-old Yawuru woman who lives in a remote community in Western Australia. During a recent check-up from a visiting health worker, she was told that she is likely to be obese and has high blood pressure and impaired glucose regulation. Since the visit from the health worker, Jarli has had to travel nearly three hours each way from her home to access the culturally appropriate services she needs to address her health issues. As a result, she has not been able to spend as much time with her family members as she normally would. This has contributed to Jarli feeling stressed and anxious.

Step 2: Explore Source 2

From this information, it can be determined that Jarli:

- is female
- is an Aboriginal person
- is living in a remote part of Australia
- is possibly obese
- has high blood pressure
- has impaired glucose regulation
- is travelling three hours each way to access culturally appropriate health services.

This information can be unpacked further to explore possible impacts of Jarli's situation:

- Being obese increases the risk of high blood pressure and impaired glucose regulation and Jarli is experiencing all of these issues.
- High blood pressure increases the risk of cardiovascular and kidney disease.
- Impaired glucose regulation is seen as a pre-curser to type 2 diabetes.
- Living in a remote area makes accessing health services more difficult.
- Jarli is accessing services that are culturally appropriate.
- Jarli's social health and wellbeing has been impacted by spending more time away from her family and friends.
- Jarli's mental health and wellbeing has been impacted by experiencing increased rates of stress and anxiety.

Source 3

TABLE 4.1 Estimated resident population, by Indigenous status and remoteness, 2021

	Aboriginal and Torres Strait Islander	Non-Indigenous
Major cities	40.8	73.4
Inner regional	24.8	17.5
Outer regional	19.0	7.7
Remote	6.0	1.0
Very remote	9.4	0.4

Source: ABS 2023, Estimates of Aboriginal and Torres Strait Islander Australians

Step 3: Explore Source 3

- This table shows the proportion of each population group living in major cities, and inner regional, outer regional, remote and very remote areas. The table does not show how many people are living in each area, so the term 'proportion' or 'per cent' should be used.
- A significantly higher proportion of Aboriginal and Torres Strait Islander people live in remote and very remote areas compared to non-Indigenous Australians (around 10 per cent compared to 1.4 per cent).
- A significantly higher proportion of non-Indigenous Australians (73.4 per cent) live in major cities compared to Aboriginal and Torres Strait Islander people (40.8 per cent).

Step 4: Linking information between sources

Once each source has been explored, basic links between the information can be established. For example:

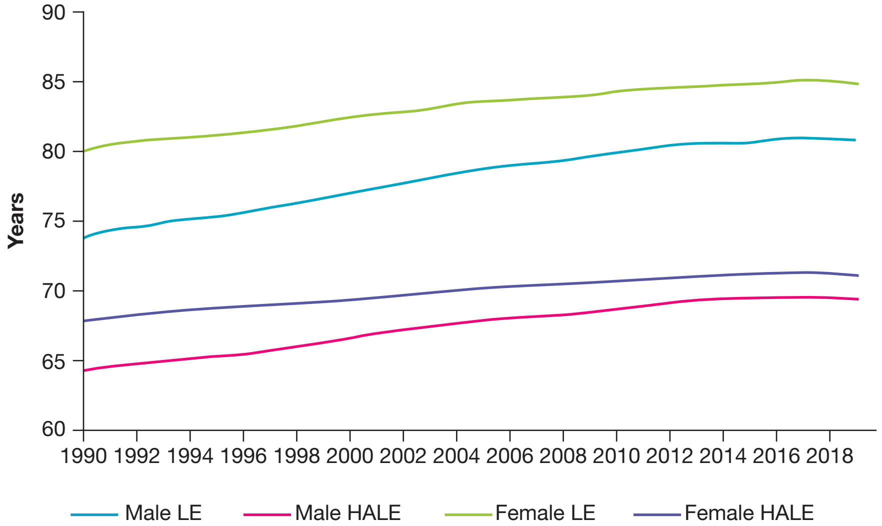
- Aboriginal and Torres Strait Islander people are more likely to live in remote and very remote areas compared to non-Indigenous Australians. Living in remote areas can make accessing health services more difficult, which can mean that people with health conditions (like Jarli) may find it a challenge to seek the assistance they require. This could contribute to a higher proportion of Aboriginal and Torres Strait Islander people assessing their health as fair or poor compared to non-Indigenous Australians.
- People like Jarli spend extended periods of time accessing health services. This can impact other aspects of life such as social interactions, which can decrease the proportion of people assessing their health as excellent or very good.
- Aboriginal and Torres Strait Islander people may find it more difficult to access culturally appropriate health services compared to non-Indigenous Australians. This can mean that travel time is longer, or conditions go untreated, which can contribute to differences in self-assessed health status between Aboriginal and Torres Strait Islander people and non-Indigenous Australians.

Practise this skill

Follow the examples in steps 1–4 to explore each source below independently to determine the information it presents and then make links between the three sources.

Source 1

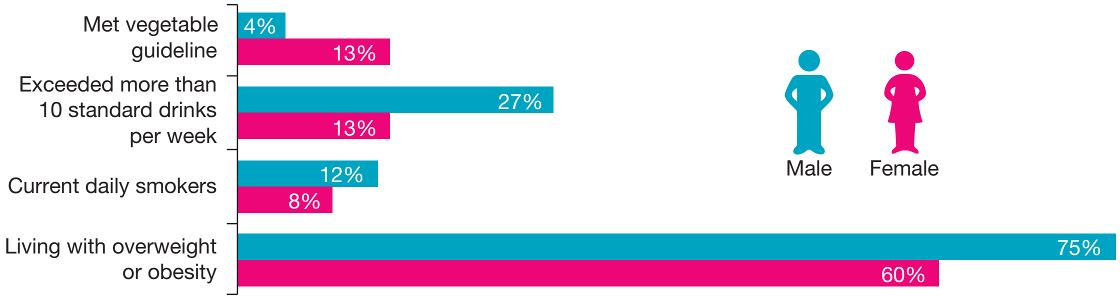
The following graph shows life expectancy (LE) and health-adjusted life expectancy (HALE) for males and females in Australia from 1990 to 2019.



Source: Adapted from IHME, 2023

Source 2

The following information shows the proportion of males and females displaying selected factors in 2022.



Source: https://www.aihw.gov.au/getmedia/32ea8a7f-50d5-4047-b70b-92dd63d387b8/aihw-phe239-240-factsheet.pdf.aspx

Source 3

Brett is 19-years-old and works as an apprentice electrician in a coal mine in Queensland. He grew up in Melbourne and moved away from home to start his apprenticeship. Brett has made some new friends among his work mates and spends time with them at the local pub, where he drinks moderate to high amounts of alcohol. Brett does not have adequate cooking skills so he relies on foods that are readily available, such as takeaway and processed foods. This has contributed to an increase in Brett's body mass over time.

4.7 Review

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4.7.1 Topic summary

4.2 Biological factors contributing to variations in health outcomes

- There are three categories of factors that influence health outcomes: biological, sociocultural and environmental. These factors influence overall health and wellbeing and lead to variations in health status between individuals and population groups.
- Factors affecting health are interrelated and can affect each other. For example, lack of education (sociocultural) can contribute to obesity (biological) by not having the knowledge and skills to consume healthy foods.
- Biological factors include factors that usually have both genetic and lifestyle causes. Examples include body weight, age, blood pressure, blood cholesterol, glucose regulation, birth weight, sex and hormones.
- Overweight and obesity are risk factors for a range of conditions including high blood pressure, high blood cholesterol, impaired glucose regulation, cardiovascular disease, some cancers, respiratory problems, type 2 diabetes, arthritis and mental health problems.
- Aging increases the incidence and prevalence of a range of conditions including hearing loss, cataracts and other sight disorders, back and neck pain, osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia. It also results in a gradual physical and mental decline in most people.
- High blood pressure is one of the leading contributors to the overall burden of disease in Australia.
- Excessive cholesterol production can be caused by genetics and poor diet, and elevated cholesterol levels are associated with a range of cardiovascular conditions.
- Impaired glucose regulation is becoming more common in Australia and can be thought of as a precursor to type 2 diabetes.
- Babies born with a low birth weight (less than 2.5 kilograms) are more likely to have an underdeveloped immune system, making them more susceptible to infections. Low birth weight also increases the risk of some conditions later in life, including hypertension, type 2 diabetes and cardiovascular disease.
- Genetic factors such as sex and hormones play a role in putting people at greater risk of, or protecting them from, ill health.

4.3 Sociocultural factors contributing to variations in health outcomes

- Sociocultural factors include socioeconomic status (SES), unemployment, social networks, social exclusion, social isolation, cultural background, food security, early life experiences, access to culturally appropriate, affordable health care and commercial factors.
- Socioeconomic status (SES) refers to a person's income, occupation and education in relation to others in their society. People with low SES generally have poorer health outcomes.
- Unemployment can lead to stress and financial hardship. People without secure employment are at higher risk of a range of health issues.
- Social exclusion occurs when a person cannot or does not participate adequately in the society in which they live. Social exclusion often forms part of a vicious cycle with other health issues, such as mental illness.
- Social isolation occurs when individuals are not in regular contact with others. Social isolation increases the risk of mental health issues and psychological distress.

- Cultural background includes customs, ideas, values and traditions of particular social groups. Examples include factors relating to gender stereotypes, dietary choices, attitudes towards employment, education and health care, all of which impact health outcomes.
- Food availability and affordability (called food security) has a relationship with health outcomes. Those who cannot afford or access healthy foods are at higher risk of chronic conditions.
- Early life experiences impact health status in both the short and long term. Maternal tobacco, alcohol and drug use, and maternal nutrition and exposure to certain chemicals, bacteria and viruses during pregnancy, can contribute to a range of health issues in the individual after birth and into adulthood.
- Being able to access affordable and culturally appropriate health care is an important part of promoting health outcomes. Many conditions can be avoided or treated effectively with regular check-ups and early diagnosis.
- Commercial factors relate to the impact the private sector has on consumption patterns of individuals and groups. They include supply chains, labour conditions, distribution and affordability of products, processing, packaging and labelling, lobbying of governments, marketing strategies and use of the media.

4.4 Environmental factors contributing to variations in health outcomes

- Environmental factors relate to the physical environment and include housing, the work environment, urban design and infrastructure, climate and climate change.
- The housing environment can promote or detract from health and wellbeing. Poor quality housing is associated with higher rates of injury, mental health problems and infectious diseases.
- Many Australians are employed and spend significant periods of time in their work environment. All working environments have associated risks. Factors such as UV exposure, accidents and injuries, and exposure to hazardous substances can all impact health outcomes.
- Urban design and infrastructure relate to the features and structures in the areas in which people live. They include aspects such as geographical location of resources (including health care) and the quality of infrastructure relating to roads and transport systems, electricity and communications systems, and water and sanitation.
- Australia's varying climates affect health outcomes. Aspects such as extreme temperatures, rainfall patterns, and natural disasters such as bushfires, floods, droughts and high winds all affect Australian communities.
- Like all countries, Australia is experiencing a change in climate. The resulting greater extremes in climate and increased frequency of natural disasters can affect health outcomes in numerous ways.

on Resources

Digital document Summary (doc-41590)

4.7.2 Key terms

biological factors factors relating to the body that impact health and wellbeing, such as genetics, body weight, blood pressure, cholesterol levels and birth weight
culturally and linguistically diverse (CALD) a broad term used to describe groups whose languages, ethnic backgrounds, nationalities, religions and customs differ from the majority. It also often refers to people from non-English speaking countries residing in Australia.
environmental factors the physical surroundings in which we live, work and play. Environmental factors include workplaces, housing, roads and geographical access to resources such as health care.
fertilisation the fusing of a sperm and egg cell; marks the beginning of pregnancy (also known as conception)
foetal alcohol spectrum disorder (FASD) a group of conditions that can occur in a person whose mother drank alcohol during pregnancy. Problems that may occur in babies exposed to alcohol before birth include low birth weight, distinctive facial features, heart defects, behavioural problems and intellectual disability.
food insecurity when healthy, affordable food is not obtainable
genetic predisposition an increased likelihood of developing a particular disease based on a person's genetic makeup (often indicated by a person's family history of disease)

health literacy the extent to which people are able to access, critique, understand and use health information and services in ways that promote and maintain health and wellbeing
infrastructure the physical and organisational structures, facilities and systems (e.g. buildings, roads, power supplies) needed for the operation of a society
low birth weight weighing less than 2.5 kilograms at birth
menopause when the menstrual cycle stops permanently, ending the ability of a female to reproduce
sanitation the process of eliminating contact between humans and hazardous wastes, including human and animal faeces and urine, solid wastes, domestic wastewater (sewage and grey water), industrial wastes and agricultural wastes
social exclusion the segregation that people experience if they are not adequately participating in the society in which they live
social isolation refers to individuals who are not in regular contact with other people
sociocultural factors the social and cultural conditions into which people are born, grow, live, work and age. These conditions include socioeconomic status, social networks, family and cultural background, food security, early life experiences, and access to affordable, culturally appropriate health care.
socioeconomic status the social standing of an individual in comparison to others in that society. It is based on education, income and occupation.

4.7 Exercise

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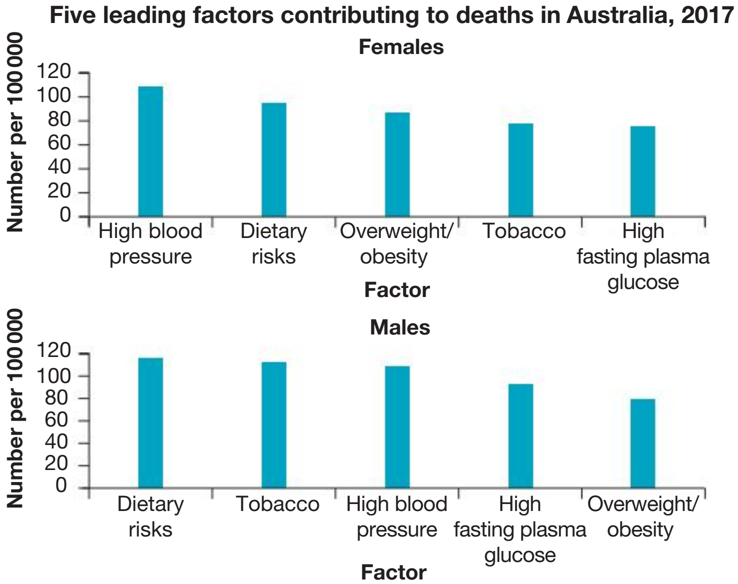
4.7 Exam questions

Question 1 (5 marks)

Source: Adapted from *VCE 2020, Health and Human Development Exam, Q.3;* © VCAA



a. From the graphs above, **select** one example that represents a biological factor. **1 mark**

b. **Explain** how the differences in factors that are evident in the graphs could contribute to two variations in health status between males and females. **4 marks**

Question 2 (6 marks)

Source: Adapted from *VCE 2011, Health and Human Development Exam, Section B, Q.1;* © VCAA

Aboriginal and Torres Strait Islander males and females in Australia have significantly poorer health than their non-Indigenous counterparts.

For example:

- the estimated life expectancy for Aboriginal and Torres Strait Islander males is approximately 12 years less than that of non-Indigenous males
- the estimated life expectancy for Aboriginal and Torres Strait Islander females is approximately 10 years less than that of non-Indigenous females
- the rates for diabetes mellitus for Aboriginal and Torres Strait Islander Peoples are six times higher than non-Indigenous Australians
- the rates of hospitalisations and mortality for Aboriginal and Torres Strait Islander Peoples are around twice the rate of non-Indigenous Australians
- per person expenditure on health for Aboriginal and Torres Strait Islander Peoples was almost $6000 per person in 2006–2007, while for non-Indigenous Australians the spending was approximately $4500 per person

Source: Australia's health 2010

a. **Explain** how one sociocultural factor may impact on the variations in health status between Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians. **2 marks**

b. Use two other factors to **explain** why Aboriginal and Torres Strait Islander Peoples have significantly poorer health status than non-Indigenous Australians. **4 marks**

Question 3 (3 marks)

Source: *VCE 2008, Health and Human Development Exam, Q.5.c.i;* © VCAA

TABLE 2 shows the difference in the prevalence of self-reported conditions in metropolitan areas compared to inner regional and outer regional and remote areas.

TABLE 2 The prevalence of self-reported conditions 2004–05 for inner regional and outer regional and remote compared with metropolitan areas

	Inner regional – Increase in % compared with the metropolitan area	Outer regional and remote – Increase in % compared with the metropolitan area
Diabetes	3%	4%
Asthma	22%	8%
Arthritis	24%	23%
Injuries	20%	21%
Depression	15%	4%
Overweight/obesity	5%	12%

Source: Adapted from Australian Institute of Health and Welfare, *Rural, regional and remote health 2008*

Compare the self-reported health status of those living in metropolitan areas with those living in inner regional and outer regional and remote areas for asthma, injuries and overweight/obesity.

Question 4 (4 marks)

Those from low socioeconomic groups experience a significantly higher U5MR than those in high socioeconomic groups.

Identify two factors and **explain** how each contributes to a higher U5MR among low socioeconomic groups when compared to high socioeconomic groups.

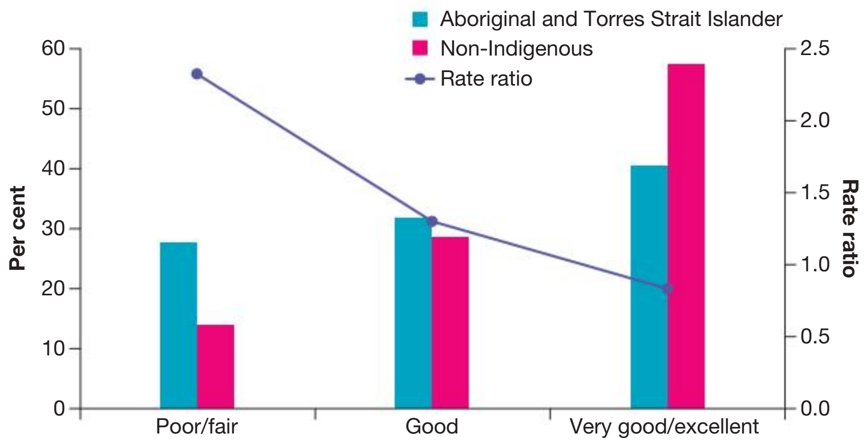
Question 5 (5 marks)

Refer to **FIGURE 4.41**.

a. Outline the difference in the proportion of Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians who assess their health status as fair or poor. **1 mark**

b. Identify two factors and **explain** how each contributes to the difference outlined in **part a**. **4 marks**

FIGURE 4.41 Self-assessed health status among people aged 15 and over, by Indigenous status, 2018–19



Source: https://www.indigenoushpf.gov.au/measures/1-17-perceived-health-status/data #DataVisualisation

Resources

Digital document	Key terms glossary (doc-41589)
Interactivities	Crossword (int-9234) Definitions (int-9235)
Exam question booklet	Topic 4 Exam question booklet (eqb-0248)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 4 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- **4.2** Blood pressure animation worksheet (doc-32192) ☐
- Impaired glucose regulation worksheet (doc-32194) ☐
- **4.3** Social justice worksheet (doc-32195) ☐
- **4.4** Climate change worksheet (doc-32199) ☐
- **4.7** Summary (doc-41590) ☐
- Key terms glossary (doc-41589) ☐

Interactivities

- **4.3** Prevalence of smoking, lack of physical activity, inadequate fruit consumption and daily consumption of sugar-sweetened drinks by socioeconomic status groups, 2022 (int-9272) ☐
- Prevalence of health-related factors by employment status, people aged 15 and over, 2022 (int-9273) ☐
- Some health problems associated with unemployment, compared with employment (int-8510) ☐
- **4.5** DALY (rate per 1000 people) caused by high blood pressure and impaired glucose regulation, according to economic status group, 2018 (int-8513) ☐
- **4.7** Crossword (int-9234) ☐
- Definitions (int-9235) ☐

Teacher-led videos

- **4.5** Key skill: Describe how examples of biological, sociocultural and environmental factors can influence health outcomes (tlvd-11358) ☐
- Key skill: Analyse health information to explain how factors can contribute to variations in health status between population groups (tlvd-11359) ☐
- **4.6** Extended response: Interpreting stimulus material (tlvd-11360) ☐

Weblinks

- **4.2** Blood pressure animation ☐
- Impaired glucose regulation ☐
- **4.3** Social justice ☐
- **4.4** Climate change ☐

Exam question booklet

- **4.7** Topic 4 Exam question booklet (eqb-0248) ☐

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School-Assessed Coursework Unit 3

OUTCOME 1

Explain the complex, dynamic and global nature of health and wellbeing, interpret and apply Australia's health status data, and analyse variations in health status.

School-Assessed Coursework 1 online only

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Digital document School-Assessed Coursework 1 (doc-41694)

Key knowledge

- Concepts of health and wellbeing (physical, social, emotional, mental and spiritual dimensions), illness, and the dynamic and subjective nature of these concepts
- Benefits of optimal health and wellbeing and its importance as a resource individually, nationally and globally
- Indicators used to measure and understand health status:
  - incidence
  - prevalence
  - morbidity
  - burden of disease
  - disability-adjusted life year (DALY)
  - years of life lost (YLL)
  - years lived with disability (YLD)
  - life expectancy
  - health-adjusted life expectancy (HALE)
  - mortality (maternal, infant and under five)
  - self-assessed health status
- Biological, sociocultural and environmental factors that contribute to variations in health status between population groups
- The contribution to Australia's health status of:
  - smoking and vaping
  - alcohol
  - overweight and obesity
  - nutritional imbalance (under-consumption of fruit and vegetables, and dairy foods; high intake of fat, salt and sugar; low intake of fibre).

Key skills

- Explain the dynamic and subjective nature of the concepts of health and wellbeing and illness
- Describe the relationship between dimensions of health and wellbeing
- Explain the individual, national and global importance of health and wellbeing as a resource
- Interpret and apply indicators used to measure health status
- Use data to evaluate the health status of Australians
- Describe how examples of biological, sociocultural and environmental factors can influence health outcomes
- Analyse health information to explain how factors can contribute to variations in health status between population groups

5 Changes in Australia's health status

LEARNING SEQUENCE

5.1 Overview

	Key knowledge	Key skills	Subtopic
◯	Reasons for improvements in Australia's health status since 1900 focusing on: – 'old' public health – the biomedical approach to health and improvements in medical technology – the concept of the social model of health and the Ottawa Charter for Health Promotion (not including the principles of the social model of health)	Analyse data that show improvements in health over time and draw conclusions about reasons for improvements	**5.2**
		Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes	**5.3, 5.4, 5.5**
		Describe the relationship between biomedical and social models of health, including the strengths and limitations of each	**5.4, 5.5, 5.6**

Key terms

biomedical approach to health

health promotion

life expectancy

'old' public health

Ottawa Charter for Health Promotion

public health

social model of health

Exam terminology

Analyse	Examine the components of; look for links, patterns, relationships and anomalies
Describe	Provide a general description
Draw conclusions	Make reasoned decisions or judgement
Explain	Make plain, make clear (may require reasons)

on Resources

Digital document Key terms glossary (doc-41460)

Exam question booklet Topic 5 Exam question booklet (eqb-0249)

5.2 Changes in Australia's health status over time

Key knowledge	Key skill
Reasons for improvements in Australia's health status since 1900	Analyse data that shows improvements in health over time and draw conclusions about reasons for improvements

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the changes that have occurred in Australia's health status since 1900 • reasons why these changes and improvements have occurred.	• interpret and understand health-related graphs and data and use this data to explain the changes and improvements in Australia's health status over time • use the reasons for the changes in health status to draw conclusions about why Australia's health status has improved over time.

As society evolves and changes, the patterns of disease and illness also change. In the early part of the last century, Australia was dealing with high rates of communicable diseases. Measures were put in place to address these and over time we saw the patterns of disease and illness shift to more lifestyle or noncommunicable diseases.

Looking at long-term health patterns is important for researchers and governments as they help identify points in time when actions were implemented and the success of these in improving health status. This can help governments to make better decisions moving forward.

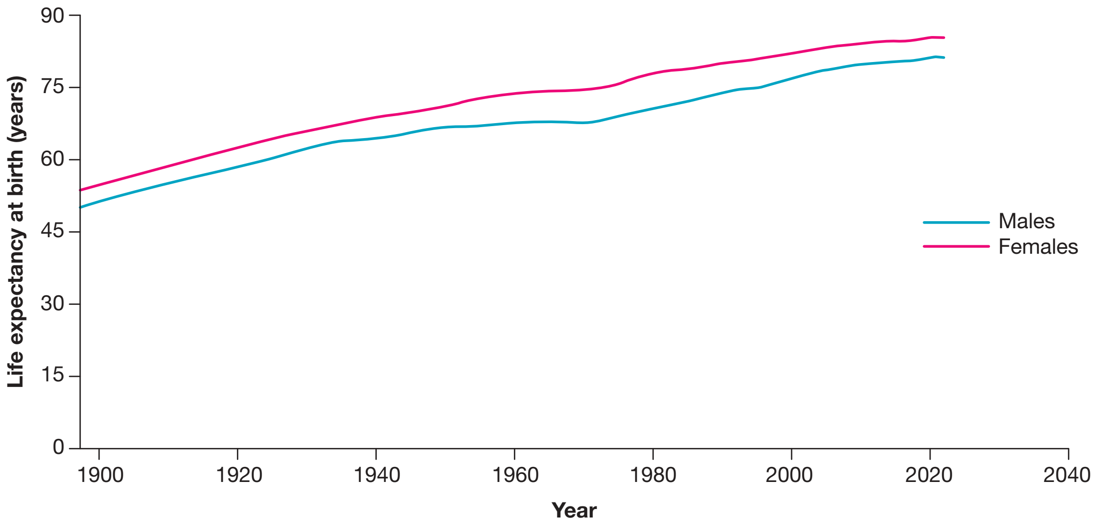
A range of health indicators are used to analyse changes in health status and over time.

5.2.1 Changes in life expectancy

Trends in **life expectancy** over time show that significant improvements have been made since 1900, with males expected to live 81.2 years in 2022 compared to 53.8 years in 1900. Similarly, female life expectancy has increased from 57.5 years in 1900 to 85.3 years in 2022 (see **FIGURE 5.1**). A major reason for this trend has been the huge decline in infant and under-5 mortality rates (see **TABLE 5.1**).

life expectancy the number of years of life, on average, remaining an individual at a particular age if death rates do not change. The most commonly used measure is life expectancy at birth (AIHW, 2018).

FIGURE 5.1 Life expectancy at birth, by sex, in Australia, 1890–2022



Source: ABS, Life tables, various years.

Despite the increase in life expectancy since 1900, the gains have not been even. **FIGURE 5.1** shows that there was a steady increase in the years leading up to 1961, with life expectancy at birth increasing by 14 years for males and 17 years for females. However, between 1961 and 1972, life expectancy at birth tended to even out or plateau.

TABLE 5.1 Infant mortality rates per 1000 live births, 1912 and 2022

	Males	Females
1912	80	63
2022	3.3	3.1

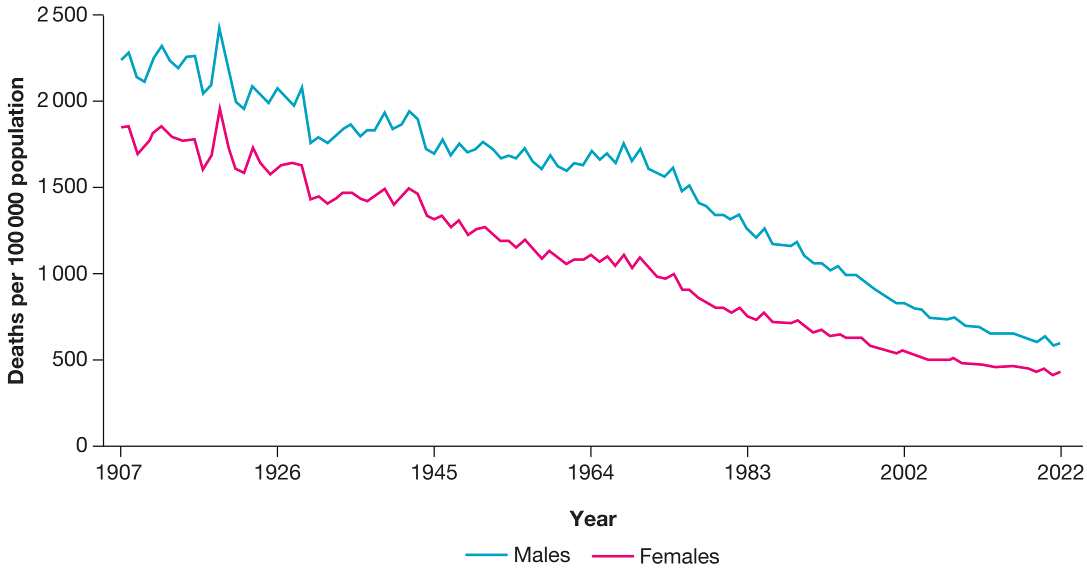
Source: World Bank data.

In 1972, male life expectancy fell slightly (67.9 to 67.8 years), while for females there was only a small improvement (74.2 to 74.5 years). It was during this time that deaths from cardiovascular diseases reached their highest level, and other lifestyle diseases, such as cancer, were much more prevalent.

Increases in life expectancy are connected to changes in death rates, which have also decreased. They fell by 73 per cent for males between 1907 and 2022, and by 77 per cent for females over the same time (see **FIGURE 5.2**).

int-9266

FIGURE 5.2 Age-standardised death rates in Australia, by sex,1907–2022



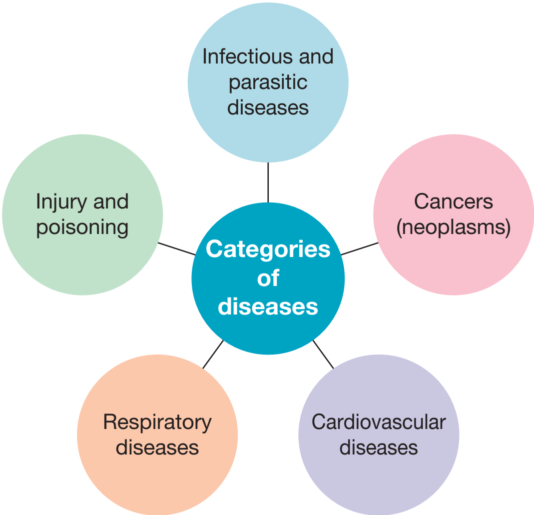
Source: AIHW National Mortality Database, Table S5.1

5.2.2 Changes in patterns of disease and illness

Not only have there been changes in death rates and life expectancy, but since 1900 the patterns of diseases and conditions responsible for the majority of deaths have also changed. These diseases and conditions are grouped into five broad categories (see **FIGURE 5.3**).

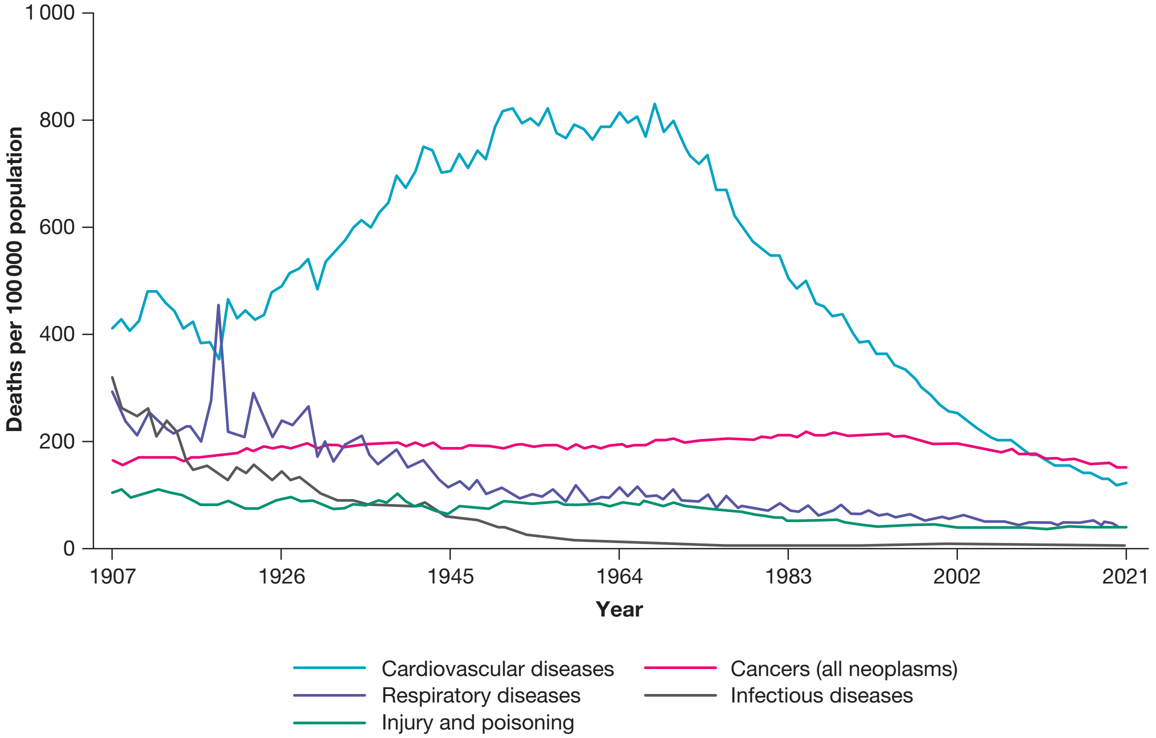
The diseases that are part of each of these categories continue to affect the health status of Australians, however, their contribution to the overall death rate have changed significantly since 1990 (see **FIGURE 5.4**).

FIGURE 5.3 Categories of disease



int-9267

FIGURE 5.4 Age-standardised death rates in Australia by broad cause of death, 1907–2021



Source: AIHW National Mortality Database, Table S5.2

Infectious and parasitic diseases

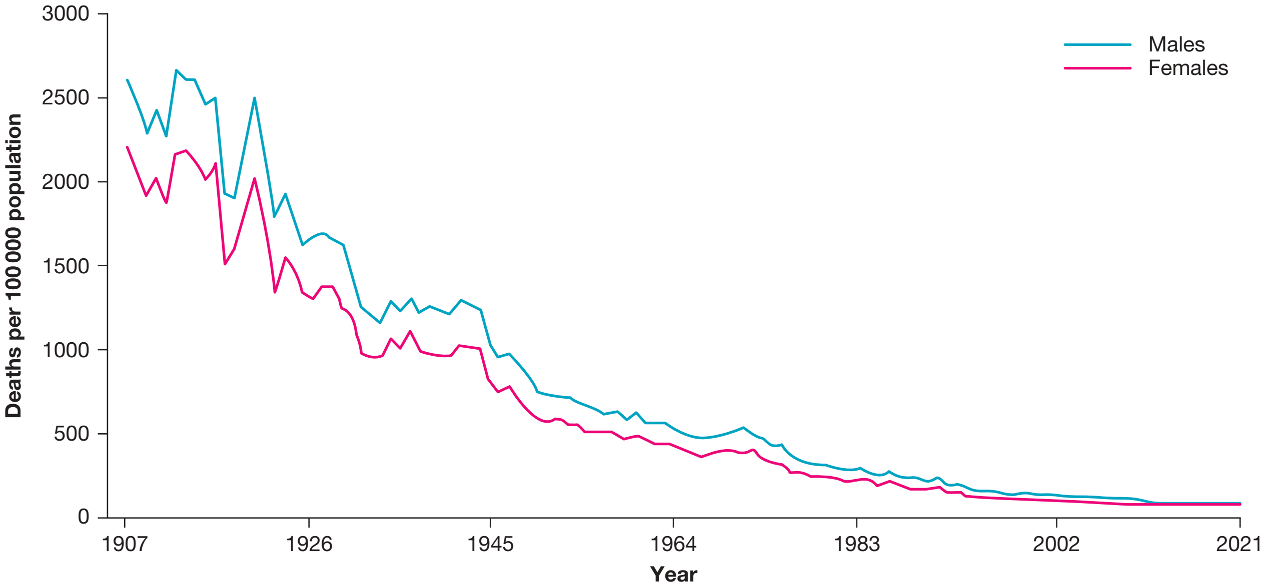
Infectious diseases include diseases such as tuberculosis, polio, smallpox, hepatitis and sexually transmitted infections, such as syphilis and HIV. Parasitic diseases occur when parasites such as worms, skin mites, body lice and protozoa enter the body through contaminated food or water, or from contact with others who have parasites on their skin or hair. Once in the body, the parasites can cause sickness and, in some cases, death. Infectious and parasitic diseases were the most common causes of death in Australia in the first part of the twentieth century, contributing to 13 per cent of all deaths (see **FIGURE 5.5**).

FIGURE 5.5 Infectious diseases such as cholera were responsible for many deaths in the first part of the twentieth century and contributed to high rates of child mortality.

Living conditions at the time were poor, which led to outbreaks of diarrhoea and diseases including cholera, smallpox, polio, tuberculosis, measles, whooping cough and diphtheria, all of which had the greatest impact on children. In 1911, gastroenteritis, diphtheria, scarlet fever, whooping cough and measles were responsible for the death of one in every 30 live-born children. This led to high rates of child mortality (see **FIGURE 5.6**). Deaths of children aged 0–4 years accounted for more than 25 per cent of all deaths at that time.

Death rates from diarrhoea and tuberculosis fell dramatically over the twentieth century leading to lower death rates from infectious diseases. However, in the last part of the twentieth century, diseases such as HIV/AIDS and hepatitis C were responsible for an increase in death rates from infectious and parasitic diseases.

FIGURE 5.6 Deaths of children aged 0–4, 1907–2021



Source: https://www.aihw.gov.au/reports/life-expectancy-deaths/deaths-in-australia/contents/age-at-death

Cancer (neoplasms)

Cancer death rates increased throughout the twentieth century, reaching a peak in the mid-1980s before falling gradually. This rise was the result of an increase in lung cancer due to high rates of cigarette smoking in the 1920s. For males, the age-standardised death rates from cancer also peaked during the 1980s then fell to 340 deaths per 100 000 in 2000 and fell further to 241 per 100 000 in 2023. This decline reflected the reduction in male smoking rates that started to occur in the mid-1970s. For females, the age-standardised death rate from cancers fell from 196 per 100 000 in 2000 to 158 in 2023.

There have also been reductions in the incidence and mortality rates from breast, bowel and cervical cancers.

Cardiovascular disease

Since 1900, cardiovascular diseases, in particular coronary heart disease and stroke, have been one of the major causes of death. Death rates increased and reached their peak in the mid-1960s. Although there has been a decline in death rates from cardiovascular diseases since then, they continue to be one of the major causes of death in Australia.

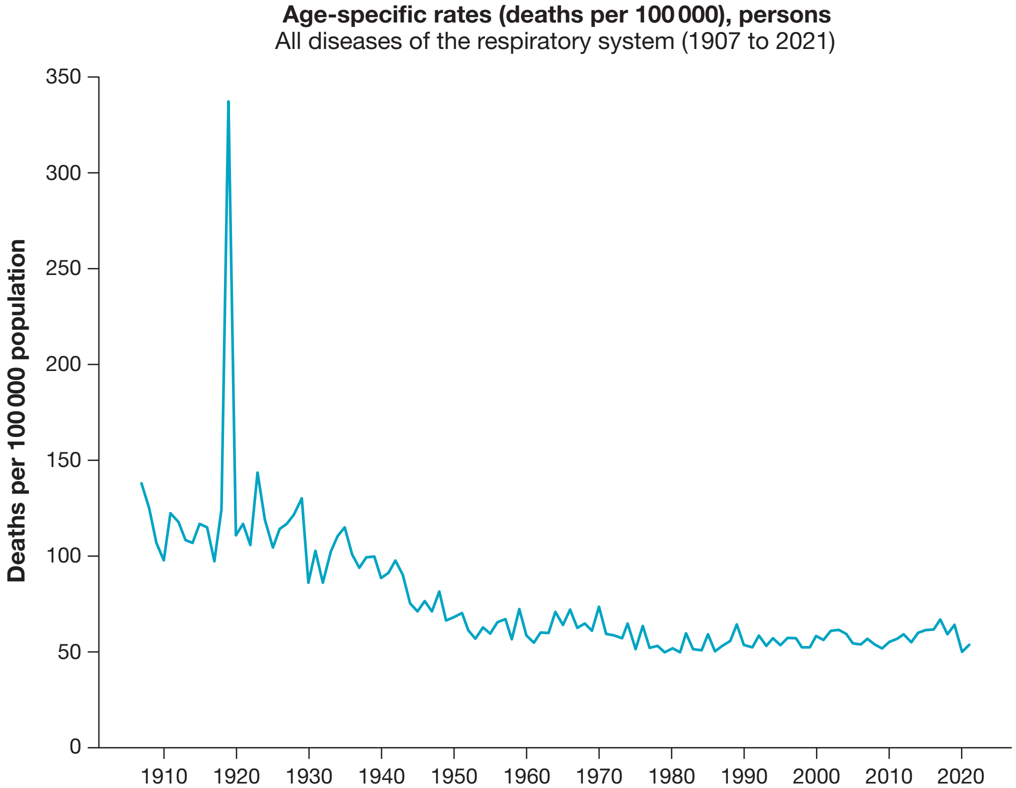
Respiratory diseases

Respiratory diseases include COVID-19, pneumonia, influenza, asthma and chronic obstructive pulmonary disease (COPD). Pneumonia and influenza were the major causes of death from respiratory diseases in 1907 but were replaced by deaths from COPD by 2000.

Apart from the 1919 Spanish influenza pandemic (shown by the spike in **FIGURE 5.8**), death rates from respiratory diseases fell dramatically across the century, and by 2000 were less than 10 per cent of 1907 levels. Pneumonia deaths have also fallen considerably since 1900.

FIGURE 5.7 The lockdowns that were taken in response to COVID-19 in 2020 and 2021 reduced the number of people who were exposed to and died from influenza. However, in 2022, COVID-19 became one of the five leading causes of death in Australia.

FIGURE 5.8 Age-standardised death rates for diseases of the respiratory system, by year, 1907–2021



Source: AIHW, 2023, GRIM books.

Death rates from COVID-19 also contributed to high death rates from respiratory diseases between 2020 and 2023. In 2022, COVID-19 entered the top five leading causes of death in Australia. It was the first time an infectious disease had been a leading cause of death in more than 50 years.

Injury and poisoning

Deaths from injury and poisoning include those from motor vehicle and other accidents, suicide, assault, poisoning, drowning, burns and falls, and complications from medical and surgical care. Since 1900, death rates for injury and poisoning have more than halved for both males and females, with the most rapid decline occurring from the 1970s. Deaths from motor vehicle crashes were at their highest in 1970 at 49 deaths for males per 100 000 population and 18 per 100 000 for females. Death rates fell to 14 and 6 per 100 000 for males and females respectively by 2000. This decline reflected the range of **public health** actions that were introduced by the government, commencing with the introduction of the compulsory wearing of seatbelts in 1970. Transport-related injury deaths fell by an average of 3.7 per cent between 2000 and 2016–17.

FIGURE 5.9 Since 1900, death rates for injury and poisoning more than halved for both males and females. The reduction in deaths from road traffic crashes has contributed to this.

Male death rates from injury and poisoning were affected by war deaths. During World War I and World War II, many Australian men served overseas, but deaths that occurred overseas were not counted as part of Australian official mortality statistics (AIHW, 2006).

public health the ways in which governments monitor, regulate and promote health status and prevent disease

Work-related accidents have contributed to a significant proportion of accidental deaths since 1900. Working conditions in the early part of the twentieth century were dangerous, involving exposure to toxic substances or physical injury due to limited occupational health and safety regulations. Workers were often paid an additional allowance, called 'danger money', for agreeing to work in risky or hazardous environments. There has been an increase recently in the number of deaths of young people from suicide and other causes, such as drug misuse, which has affected males more than females.

EXAM TIP

When interpreting data it is important to read and understand the information that is being provided. Always read the title of the graph closely so you know what the graph is about. Read the labels on both axes and use the specific measurements on the relevant axis in your answer. Take particular note of the unit of measurement being used. For example, if the heading uses millions, make sure you use millions in your answer.

5.2 Exercises

5.2 Quick quiz on | **5.2 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5, 6, 7, 8	9, 10

Test your knowledge

1. Explain two health indicators used to measure health status within a country that are evident in the graphs provided in this chapter.
2. State the five broad categories of diseases that contribute to mortality patterns over time and briefly explain each one.
3. Which infectious diseases were responsible for the increase in death rates in the early part of the twentieth century?
4. Identify when cancer death rates reached their peak and what the reason was for this peak.
5. Outline how deaths due to COVID-19 have influenced the major causes of death in Australia.
6. Explain changes in death rates for injury and poisoning since 1970 and provide one reason for the change.
7. Explain why many deaths due to war are not represented in the data for injury and poisoning.

Apply your knowledge

8. Explain the changes in deaths from respiratory diseases between 1907 and 2021 and explain how they might have affected the changes in life expectancy.
9. Use the data in **FIGURE 5.4** to compare the trends in death rates for cardiovascular diseases and cancer and neoplasms between 1907 and 2022.
10. Consider the following two birth notices:

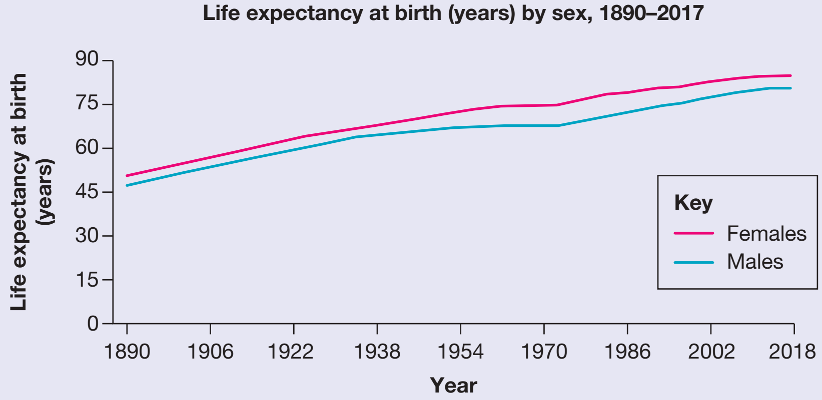
Anna Marie, Born 7th October 1916 Mother and baby doing well	Madelaine Louise, Born 7th October 2022 Mother and baby doing well

   a. Compare the life expectancy of these two babies.
   b. What are the most likely causes of illness and death during their lifetime? Explain reasons for the differences.

5.2 Exam questions

Question 1 (4 marks)

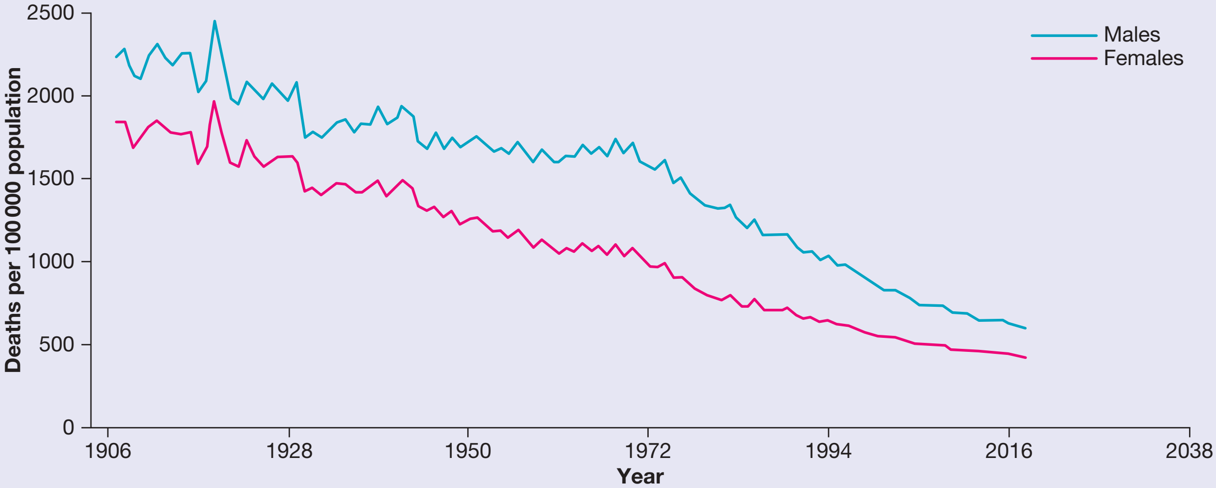
Source: *VCE 2020, Health and Human Development Exam, Q.5; © VCAA*



a. **Identify** two trends that are evident in the graph above. **2 marks**
b. Select one trend from **part a** and **provide** two reasons for this trend. **2 marks**

Question 2 (2 marks)

Using data from the following graph, **identify** a trend in mortality rates since 1900.



Question 3 (2 marks)

Injury death rates have decreased in Australia since 1900. **Outline** two reasons for why injury death rates have decreased.

Question 4 (2 marks)

Child mortality rates from infectious and parasitic diseases have decreased in Australia since 1900. **Outline** two reasons for why infectious and parasitic death rates in children have decreased.

Question 5 (1 mark)

In 1911, gastroenteritis, diphtheria, scarlet fever, whooping cough and measles were responsible for the death of one in every 30 live-born children. **What** category of diseases are these examples of?

More exam questions are available in your learnON title.

5.3 Initiatives relating to the 'old' public health and Australia's health status

Key knowledge	Key skill
Reasons for improvements in Australia's health status since 1900, focusing on: – 'old' public health	Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by 'old' public health • initiatives or actions associated with 'old' public health.	• define the term 'old' public health • explain a range of initiatives associated with the 'old' public health • make meaningful links from these initiatives to improvements in health outcomes over time.

Changes in Australia's health status since 1900 have occurred due to a combination of changes in approaches to public health and improvements in medical science and technologies. Public health is concerned with the organisation and a collective effort to improve the health status of the entire population. It refers particularly to the ways in which governments monitor, regulate and promote health status and prevent disease. This subtopic explores the role of early public health measures that were introduced in response to Australia's health status.

sanitation the process of eliminating contact between humans and hazardous wastes, including human and animal faeces and urine, solid wastes, domestic wastewater (sewage and grey water), industrial wastes and agricultural wastes

on Resources

Teacher-led video Concepts of the 'old' public health and the social model of health (tlvd-11346)

5.3.1 'Old' public health

At the beginning of the twentieth century, the living conditions for many people in Australia were very poor. Access to clean water and **sanitation** facilities was minimal and little was known about good hygiene practices. Waste littered the streets, attracting huge numbers of rats and mice, which carried disease. Overcrowded and poor-quality housing was common; the quality and safety of food was poor and working conditions were dangerous. This meant infectious diseases such as diarrhoea, cholera, measles, smallpox, diphtheria, tuberculosis and whooping cough were common and accounted for much of the death and disability at this time. As you saw in the last subtopic, children were particularly at risk and infectious diseases were responsible for high rates of infant and child mortality.

FIGURE 5.10 Destroyed rats during the bubonic plague in Brisbane, 1900–02

Pressure was placed on governments to take action to improve people's health. As a result, a range of initiatives were introduced by governments that became known as the **'old' public health**. These initiatives played a significant role in reducing the prevalence of infectious and parasitic diseases, respiratory diseases and injuries that were common during the first half of the twentieth century. As a result, significant improvements occurred in life expectancy, maternal and child mortality and overall death rates.

'old' public health government actions that focused on changing the physical environment to prevent the spread of disease, such as providing safe water, sanitation and sewage disposal, improved nutrition, improved housing conditions and better work conditions

5.3.2 Initiatives associated with the 'old' public health

Some of the initiatives that were implemented as part of the 'old' public health are summarised in **FIGURE 5.11** and explained in **TABLE 5.2**.

FIGURE 5.11 A range of initiatives were introduced as part of the 'old' public health and were effective in reducing the major causes of morbidity at that time, in particular infectious diseases, respiratory diseases and injuries.

TABLE 5.2 'Old' public health initiatives and how they affected health status

'Old' public health initiative	What it means	How it affected health status
Clean drinking water was provided	• People were provided with safe water to drink	• Infectious diseases such as diarrhoea, typhoid and cholera were reduced • Improved infant and child mortality rates • Improved life expectancy

'Old' public health initiative	What it means	How it affected health status
Sewage systems were established and sanitation was improved	• Sewage systems help to keep human wastes separated from water supplies, and garbage and waste were removed from the streets	• Infectious diseases such as gastroenteritis, diarrhoea, cholera and hepatitis were reduced • Improved infant and child mortality rates • Improved life expectancy
Better-quality housing and the elimination of housing slums	• Laws required all houses be built with drains and a sewerage system or cesspit (a hole in the ground to separate human excrement). • Houses had to have ventilation and be better designed with less overcrowding. • Efforts were made to clean up slums in major cities.	• Reduced deaths from respiratory diseases such as pneumonia, influenza and infectious diseases such as typhoid, cholera and diarrhoea • Improved infant and child mortality rates • Improved life expectancy
Improved food and nutrition	• Food often transmitted diseases from bacteria, parasites, toxins and viruses due to poor hygiene and storage. The Pure Foods Act in 1905 brought about improvements in the safety and standards of food. • Public health campaigns promoted the importance of food hygiene and the importance of fruit and vegetables. • Refrigeration after World War II reduced the use of harmful preservatives in meat-curing. • The School Milk Program, introduced after World War I, provided milk for school children.	• Reduction in stomach cancer • Improved nutrition increased resistance to infectious and respiratory diseases • Improved infant and child mortality rates • Improved life expectancy
Improved working conditions	• Workplaces had to have better ventilation and toilets (water closets) for workers. • Employment of children under 13 years of age was prohibited. • The Harvester Judgement in 1907 meant workers were paid a minimum wage that helped reduce poverty. • Workplace regulations better protected people working in dangerous occupations.	• Reduced industrial-related child deaths • These actions contributed to a reduction in workplace injuries. • Improved life expectancy
Mass immunisation programs	• With the scientific discovery of vaccines, the government funded mass vaccinations in the 1930s for diphtheria, 1939 for tuberculosis, the 1950s for pertussis (whooping cough), tetanus and poliomyelitis, the 1960s for measles and in 2021–22 for COVID-19.	• Reductions from infectious diseases such as smallpox, polio, diphtheria, pertussis, tuberculosis, tetanus, polio, measles, mumps, rubella, hepatitis B and COVID-19 • Improved infant and child mortality rates • Improved life expectancy
Establishment of public health campaigns	• During World War I, health campaigns targeted the prevention of tuberculosis (TB) and STIs.	• Reduction in infectious diseases such as TB and venereal disease • Improved infant and child mortality rates • Improved life expectancy

(continued)

TABLE 5.2 'Old' public health initiatives and how they affected health status *(continued)*

'Old' public health initiative	What it means	How it affected health status
More hygienic birthing practices	• There were safe and hygienic birthing conditions with trained and registered midwives and doctors.	• Reduction in maternal and infant mortality rates
Antenatal and infant welfare services were provided	• Following World War II, antenatal and infant welfare services were established, which supported mothers and babies.	• Reduced fertility rates and lower maternal mortality rates • Reduced infant mortality rates
Quarantine laws	• An outbreak of the bubonic plague in 1900 triggered the introduction of strict quarantine laws to prevent the arrival and transmission of infectious diseases from other countries. • Quarantine laws were also introduced to control the spread of COVID-19 in 2020–2022.	• Reduction in infectious diseases • Improved life expectancy

Many initiatives associated with the 'old' public health were introduced alongside advancements in medical technology in relation to the diagnosis, treatment and monitoring of diseases. This is often referred to as a biomedical approach and will be discussed further in this topic. The discovery of vaccines is one example that enabled a public health response to be implemented. Developments in medical science led to better understanding of immunity, and vaccines were produced. To make sure that as many people as possible received these vaccines, mass public vaccination programs were implemented in schools initially, and then followed in other community settings.

FIGURE 5.12 Antenatal and infant welfare services helped improve infant mortality rates.

EXAM TIP

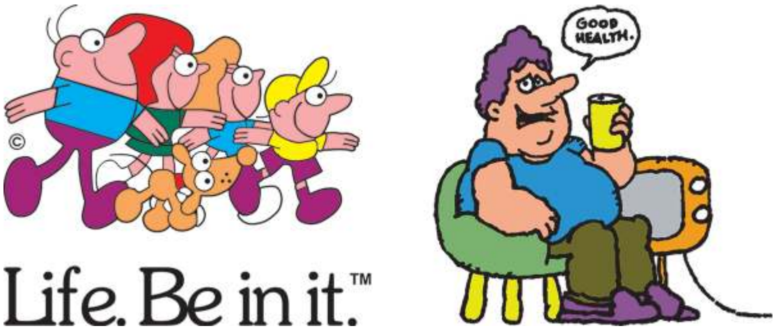
If you are using immunisation as an example of an initiative associated with the 'old' public health, it is important to focus your discussion on the mass vaccinations that were made possible with this discovery, not the discovery of vaccines themselves. As you will see in subtopic 5.4, the discovery of vaccines represents an example of the biomedical approach to health. It is the mass vaccinations that represent public health action.

5.3.3 The shift to health promotion

As life expectancy increased and people were living longer, the patterns of disease and illness started to change. Australia, like many other countries, experienced a 'health transition'. With infectious diseases being controlled and rapidly decreasing, mortality from diseases such as cardiovascular diseases and cancer were becoming the major cause of death. The emergence of lifestyle diseases during the 1950s and 60s required a different approach to public health. It was during this time that a shift towards the implementation of publicly funded **health promotion** campaigns occurred. These were designed to bring about individual behaviour change by making people aware of the causes of ill health, such as tobacco smoking, physical inactivity, poor diet and excessive alcohol consumption. It was believed that people would make positive changes to their behaviour if they were aware of the effects that their behaviour would have on their health and wellbeing. This became the focus of health promotion programs at this time.

health promotion the process of enabling people to increase control over and improve their health

FIGURE 5.13 'Life. Be in it.' was one of the first health promotion campaigns designed to bring about behaviour change.



5.3 Activity

Access the **Life. Be in it**. weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Life. Be in it. worksheet (doc-32200)

Weblink Life. Be in it.

5.3 Exercises

5.3 Quick quiz on | 5.3 Exercise

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Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
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Test your knowledge

1. What is public health?
2. Describe the 'old' public health.
3. Outline what factors led to the introduction of initiatives associated with the 'old' public health.

4. Identify what public health measure was introduced by the Commonwealth Government in response to the outbreak of the bubonic plague in 1900 and was also an important measure in helping to contain the spread of COVID-19 within Australia.
5. Explain how the discovery of vaccines influenced public health initiatives.
6. a. When were publicly funded health promotion campaigns introduced and why?
   b. Describe the focus of these health promotion campaigns.

Apply your knowledge

7. The following table lists a range of examples of 'old' public health initiatives. Beside each one, identify how it contributed to improvements in Australia's health status.

   The first row is completed for you.

Example of 'old' public health policy	Contribution to improvements in Australia's health status
Mass immunisation programs	Reduction in infectious diseases
Better quality food and nutrition	
Better quality housing and fewer slums	
Introduction of quarantine laws	
Improved water and sanitation	
More hygienic birthing practices	

8. Select three initiatives from the table above that were introduced as part of the 'old' public health and explain how they contributed to improvements in Australia's health status.
9. Explain the difference between the discovery of vaccines and mass vaccination programs that the discovery enabled.

5.3 Exam questions

Question 1 (1 mark)

Identify three areas that 'old' public health focused on.

Question 2 (1 mark)

'Old' public health saw the establishment of antenatal and infant welfare services. By 1937, there were more than two hundred infant welfare centres operating in Victoria. **Identify** what this led to a significant decrease in.

Question 3 (3 marks)

'The emergence of lifestyle diseases during the 1950s and 60s saw a shift towards the implementation of publicly funded health promotion campaigns.'

Using an example, **outline** how the introduction of health promotion campaigns led to improvements in health status.

Question 4 (1 mark)

Apart from the development of health promotion campaigns and the establishment of infant welfare services, **identify** another example of 'old' public health.

Question 5 (2 marks)

'The emergence of lifestyle diseases during the 1950s and 60s saw a shift towards the implementation of publicly funded health promotion campaigns.'

Identify two examples of lifestyle diseases.

More exam questions are available in your learnON title.

5.4 The biomedical approach to health

Key knowledge	Key skills
Reasons for improvements in Australia's health status since 1900, focusing on: – the biomedical approach to health and improvements in medical technology	• Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes • Describe the relationship between the biomedical and social models of health, including the strengths and limitations of each

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by the biomedical approach to health and its key features • how advances in medical technology have contributed to improvements in health outcomes • the strengths and limitations of the biomedical approach to health.	• describe the biomedical approach to health • make meaningful links between aspects of the biomedical approach to health and improvements in health outcomes • discuss the strengths and limitations of the biomedical approach to health.

The biomedical approach to health and developments in medical technology have contributed to improvements in the health status of Australians since 1900. Along with public health actions, the biomedical approach has assisted in bringing about increased life expectancy, reduced death rates and improved maternal and child mortality rates.

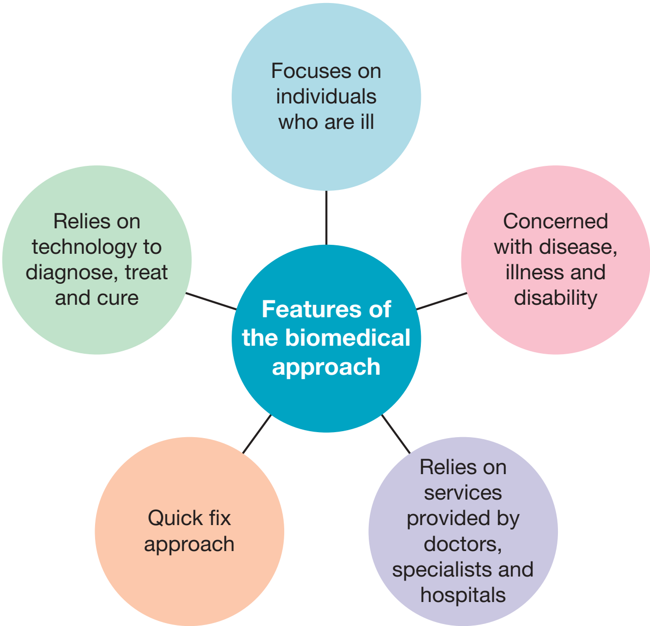
biomedical approach to health focuses on the physical or biological aspects of disease and illness; a medical model practised by doctors and health professionals and is associated with the diagnosis, treatment and cure of disease

5.4.1 The biomedical approach to health

The **biomedical approach to health**, sometimes referred to as the 'band aid' or 'quick fix' approach, focuses on the physical or biological aspects of disease and illness. It involves diagnosing the disease or illness and then treating the illness or condition once symptoms are present. It focuses mainly on the use of technology to diagnose and cure disease, and on the services provided by doctors, specialists and hospitals. Individuals are the focus of the biomedical approach, in contrast to the population-based focus of public health actions.

The biomedical approach concentrates on disease, illness or disability, and works to return a person to a pre-illness state of health and wellbeing. Addressing the reasons for illness is not at the centre of the biomedical approach; the condition itself is the focus, and treatments are considered the solution to the disease. As a result, education on the behavioural and sociocultural factors that can improve health status is generally excluded.

FIGURE 5.14 The biomedical approach to health focuses on individuals and seeks to return them to their pre-illness state of health and wellbeing.



Dominance of medical science

The biomedical approach to health became dominant throughout the twentieth century as people sought to understand the causes and treatments of the diseases that were present at the time. This saw a shift in health policy to one that focused on curative and restorative medicine and led to an increased demand for hospital and medical care. Treatment involves skilled diagnosis and the use of increasingly complex and expensive medical technology, which places financial pressure on the healthcare system and accounts for a significant proportion of the healthcare budget.

FIGURE 5.15 The biomedical approach focuses on treating the condition rather than the cause.

Advances in medical technology

Advancements in medical technology allow us to better diagnose, treat and cure many diseases and have therefore contributed to increases in life expectancy over time. As seen in section 5.3.2, the discovery of vaccines saw significant improvements in health status throughout the twentieth century and new vaccines continue to be developed to address the causes of disease and illness. Examples of this have been the ongoing work to find a vaccine for HIV/AIDs and the recent vaccine for COVID-19.

FIGURE 5.16 Advances in technology, such as MRI scans, help save the lives of many people.

One of the advances in medical technology following World War II was the discovery of antibiotics. Along with vaccines, this contributed to further reductions in death rates from infectious diseases such as pneumonia, venereal disease and syphilis. The discovery of penicillin as a form of antibiotic was also important in reducing the morbidity and mortality associated with infections. It also contributed to a decline in maternal mortality because many women had previously died due to infection during childbirth.

Medical technologies continue to develop.

- People born with diseases or defects can now sometimes be cured with the help of advanced technology.
- Doctors can now transplant body parts such as the heart, liver and kidneys and perform various brain surgeries.
- Cosmetic surgeries and synthetic skin mean people with burns can be successfully treated.
- Robotic surgeries allow complicated surgeries to performed with improved accuracy.
- Developments in drug therapies have seen the death rates from diseases such as HIV, cancers and heart disease decrease.
- Treating a heart attack is now more about how quickly a person can get to the hospital so that the clot that blocks the heart can be broken down.
- Stem cell research allows many diseases to be cured using embryonic or adult stem cells.
- Nanotechnology provides medical treatment at the molecule level and immunotherapy is changing the way cancer is treated.

The desire to better understand the causes and treatment of disease and the corresponding advancements in technology can be seen clearly when looking at an example such as cardiovascular disease.

Diseases of the cardiovascular system

Diseases of the cardiovascular system were a major cause of death early in the twentieth century, and little was known about the causes of the diseases or how the heart and cardiovascular system functioned. The introduction of the **sphygmomanometer** and **stethoscope** in 1910 enabled doctors to measure blood pressure for the first time, and in 1941 new X-ray techniques enabled doctors to view the action of the heart using dye inserted into a blood vessel.

sphygmomanometer an instrument used for measuring blood pressure. It typically has an inflatable rubber cuff that is applied to the arm. The blood pressure is taken by gradually increasing and decreasing the pressure in the cuff

stethoscope a medical instrument for listening to the internal sounds of a body, often the heart, lungs or intestines

Doctors were better able to diagnose cardiovascular problems but were still unable to treat them. In the mid-1950s, the heart–lung bypass machine allowed surgeons more time to undertake complicated heart procedures. From 1967, surgery was being used to bypass obstructions in the coronary arteries. This helped to relieve pain, improve an individual's quality of life and decrease mortality. The development of drugs to treat high blood pressure also helped reduce mortality from cardiovascular disease through the management of hypertension. Improvements in drug therapies and CT scans that can create a 3D image of the arteries allow more precise treatment and potentially avoid invasive heart surgery. Developments in 3D printing are exploring ways to create an artificial heart. There continues to be ongoing advancements in technology and a focus on reducing mortality rates from cardiovascular disease.

5.4.2 Strengths and limitations of the biomedical approach to health

The biomedical approach to health has many strengths or advantages and has contributed to improvements in Australia's health status over time. It is an important component of the healthcare system (see **TABLE 5.3**). However, this approach to health also has a number of disadvantages or limitations (see **TABLE 5.4**).

TABLE 5.3 Strengths of the biomedical approach to health

Strengths of the biomedical approach	Explanation
Funding brings about improvements in technology and research.	Without the biomedical approach to health, there would be no X-rays, antibiotics or anesthetics. There would also be relatively little knowledge about how to diagnose and treat illness.
It enables many illnesses and conditions to be effectively treated.	Most people have had a range of medicines over the course of their lives. These are often taken for granted because they stop diseases or conditions that would otherwise develop and cause considerable ill health or death.
It extends life expectancy.	Many causes of death that were common in the past, such as some infectious diseases, can now be treated and cured. This increases life expectancy.
It improves quality of life and health-adjusted life expectancy.	Many chronic conditions can be managed with medication, therapy or surgery, reducing pain and suffering.

Although the biomedical approach is a vital part of the health system and has contributed to the high level of health status experienced in Australia, it has some limitations or disadvantages

TABLE 5.4 Limitations of the biomedical approach to health

Limitations of the biomedical approach	Explanation
It relies on professional health workers and technology and is therefore costly.	Because individuals are the focus of this approach, people with specialist knowledge about the disease and treatment are required to adequately treat the patient. As knowledge and technology have developed, the cost of training and equipment has also increased. Some machines required for diagnosis (such as MRI machines) and treatment (such as robotic surgery systems) can cost millions of dollars and only treat a small number of patients each day.

(continued)

TABLE 5.4 Limitations of the biomedical approach to health *(continued)*

Limitations of the biomedical approach	Explanation
It doesn't always promote good health and wellbeing.	The biomedical approach can encourage a reliance on quick-fix solutions to health issues. Because the focus is on the condition itself rather than the factors that caused it, the biomedical approach does not encourage people to be responsible for their own health and wellbeing.
Not every condition can be treated.	Those relying on the biomedical approach to restore optimal health and wellbeing may experience conditions that cannot be cured or treated effectively. These conditions may be preventable through behaviour change, but this is not a focus of the biomedical approach. Cancer is an example of a condition that has treatments available but, in many cases, no cure.
It is not always affordable.	Not all individuals can afford the medical technologies and resources that are a part of the biomedical approach to health. This is an important factor contributing to the differences experienced in health status between population groups.

EXAM TIP

When asked to discuss the strengths and/or limitations of the biomedical approach to health care, you need to do more than list the strength or limitation. For example, if you simply stated that a strength of the biomedical approach is that it improves quality of life, you would not be awarded full marks because you have not discussed how the biomedical approach improves quality of life. A better response would be:

> A strength of the biomedical approach is that it improves quality of life. The biomedical approach can diagnose and treat disease and illness, reducing pain and suffering, and allowing individuals to enjoy an improved quality of life.

5.4 Exercises

5.4 Quick quiz on | **5.4 Exercise**

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Test your knowledge

1. Explain the biomedical approach to health.
2. Outline why the biomedical approach is sometimes called the 'band aid' or 'quick-fix' approach.
3. Explain why the biomedical approach places pressure on the healthcare system.
4. How did the discovery of antibiotics impact the changing patterns of disease and illness?
5. Identify and explain three strengths and three limitations of the biomedical approach to health.

Apply you knowledge

6. Use the example of cardiovascular diseases to explain how the biomedical approach and medical technology have contributed to improvements in health status since 1900.
7. What factors led to dominance of the biomedical approach? Outline two disadvantages that are associated with this.

8. 'Improvements in technology have brought about changes in the numbers of very pre-term babies surviving after birth. In the 1980s it was rare to resuscitate a baby of 26 weeks; today doctors are likely to refuse a parent's request not to resuscitate a baby of this age. By 2012, 70 per cent of children born at 24 weeks survived to go home, rising to 80 per cent of those born at 25 weeks and 92 per cent at 26 weeks. The first time we put a baby on a ventilator was 1969 and at that time we were looking at ventilating babies of 34 weeks. By the 1980s, a baby of 28 weeks would be routinely resuscitated but it was less likely under that age. Now at 26 weeks, resuscitation is routine.'

Source: Adapted from Barrowclough, A. 2015, 'Premature babies, medical miracles and the hardest decision a parent will ever face', *The Australian*, 2 February.

Discuss the advantages and disadvantages of the improvements in technology outlined above.

5.4 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2019, Health and Human Development Exam, Q.8;* © VCAA

Outline two limitations of the biomedical model of health.

Question 2 (2 marks)

Source: *VCE 2010, Health and Human Development Exam, Section A, Q.7;* © VCAA

Outline two major characteristics of the biomedical model of health.

Question 3 (2 marks)

Source: *VCE 2009, Health and Human Development Exam, Q.4.b;* © VCAA

List two examples that represent a biomedical approach to health.

More exam questions are available in your learnON title.

5.5 Development of the social model of health and the Ottawa Charter for Health Promotion

Key Knowledge	Key skills
Reasons for improvements in Australia's health status since 1900, focusing on: – the concept of the social model of health and the Ottawa Charter for Health Promotion (not including the principles of the social model of health)	• Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes • Describe the relationship between the biomedical and social models of health, including the strengths and limitations of each

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by the social model of health and why it was developed • the five action areas of the Ottawa Charter for Health Promotion and examples of each • the strengths and limitations of the social model of health.	• describe the social model of health and how it is different from the biomedical approach • identify and apply the action areas of the Ottawa Charter for Health Promotion • analyse data, case studies and health promotion programs in relation to how the action areas of the Ottawa Charter for Health Promotion can lead to improved health outcomes • discuss the strengths and limitations of the social model of health.

5.5.1 The social model of health

As medical technologies and knowledge of disease and illness developed, there was an expectation and belief that these would solve the health and wellbeing problems faced at that time. However, towards the 1970s there was concern that, while the control of infectious diseases had been achieved, the leading causes of morbidity and mortality had changed. Lifestyle diseases, especially cardiovascular diseases, had become the leading cause of death and disability. While the biomedical approach could achieve improvements in health status, many of the causes of these diseases were lifestyle related. This brought about a belief that if individuals were made aware of the consequences of their health behaviours, they would take action to change their behaviour. This led to the introduction of a range of health promotion strategies that sat alongside the biomedical approaches.

FIGURE 5.17 As people became aware that behaviours such as smoking and over-consumption of alcohol and processed foods could affect health outcomes, many did not change their behaviour.

It soon became evident that while people were aware that behaviours such as smoking, poor diet and lack of exercise could impact health and wellbeing, knowledge on its own was not successful in bringing about behaviour change. Inequalities in health status were also increasing. Those who were wealthier were more likely to have better health outcomes. It became clear that there are many factors, often beyond the control of an individual, that can affect health outcomes. This brought about an increased understanding of the significant influence that health behaviours and the physical, sociocultural and political environments have on health outcomes. With this understanding came a new approach to health promotion called the **social model of health**.

The social model of health takes into account the important role that sociocultural factors such as socioeconomic status, social inequalities, access to health care and social connectedness play in bringing about improved health outcomes. If these factors can be addressed, many diseases and illnesses can be prevented. The most effective way of achieving this is to take a community-development approach (as opposed to the individual focus of the biomedical approach), in which communities, governments and non-government organisations work together or collaborate. Policies, education and health promotion activities are key aspects of the social model of health. This recognition led to the development of the Ottawa Charter for Health Promotion.

5.5.2 The Ottawa Charter for Health Promotion

One of the responses to the social model of health came at the World Health Organization's first International Conference on Health Promotion held in 1986 in Ottawa, Canada (see **FIGURE 5.18**). At this meeting, the delegates had the task of coming up with guidelines that would help organisations and key stakeholders incorporate health promotion ideas into their strategies, policies and campaigns. Before this, there was no framework to guide them in the development of health promotion strategies. The resulting framework was known as the **Ottawa Charter for Health Promotion**, often referred to as the Ottawa Charter. The Ottawa Charter includes five action areas that underpin successful health promotion. The Ottawa Charter continues to guide the development and implementation of health promotion programs.

social model of health an approach that recognises improvements in health and wellbeing can only be achieved by directing effort towards addressing the physical, sociocultural and political environments of health that have an impact on individuals and population groups

Ottawa Charter for Health Promotion an approach to health developed by the World Health Organization that aims to reduce inequalities in health. It reflects the social model of health and provides five action areas that can be used as a basis for improving health outcomes.

Health promotion, as defined by the World Health Organization, is the process of enabling people to increase control over, and to improve, their health. Health promotion therefore focuses on prevention rather than cure and uses the causes of disease as the starting point rather than diseases themselves.

FIGURE 5.18 Ottawa, Canada, the host city of the First International Conference on Health Promotion in 1986

5.5.3 Action areas of the Ottawa Charter

The five action areas of the Ottawa Charter are:

- build healthy public policy
- create supportive environments
- strengthen community action
- develop personal skills
- reorient health services.

TABLE 5.5 describes each of the action areas and provides an example to illustrate.

FIGURE 5.19 The five action areas of the Ottawa Charter of Health Promotion

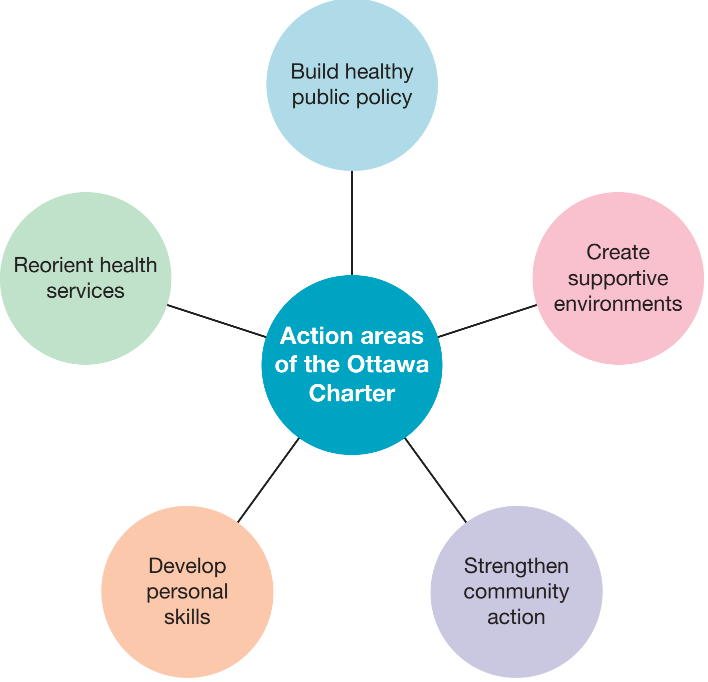

TABLE 5.5 The five action areas of the Ottawa Charter for Health Promotion, meaning and examples

Action area	Meaning	Examples
Build healthy public policy	• Relates directly to the decisions made by government and organisations regarding laws and policies that make it more difficult for people to undertake unhealthy behaviours and seek to make healthier choices the easier choices	• Removing the goods and services tax (GST) on unprocessed foods (which are healthier options than processed foods), which makes them cheaper to purchase • Increasing the tax on tobacco and alcoholic drinks, which aims to discourage unhealthy behaviour by making them more expensive • Banning smoking in public places, which makes the environment healthy for everyone • Compulsory wearing of seatbelts, which aims to directly influence behaviour
Create supportive environments	• Recognises the impact that the broader determinants have on health and wellbeing and health status • Aims to promote a healthy physical and sociocultural environment for all members of the community • A supportive environment is one that promotes health and wellbeing by being safe, stimulating, satisfying and enjoyable	• The establishment of Quitline (a support service for smokers wanting to quit) • Providing a safe working environment • Providing shaded areas in school playgrounds and outdoor areas (reducing the rate of UV exposure) • Having a supportive family in which health-promoting behaviours are practiced • Investing in sustainable energy production (ensuring that future generations have access to a healthy environment) • Ensuring a smoke-free environment
Strengthen community action	• Focuses on building links between individuals and the community, and centres around the community working together to achieve a common goal • Giving the community a sense of ownership of a health and wellbeing strategy and working together increases the likelihood that it will be effective	• The Central Australian Aboriginal Congress (CAAC) in Alice Springs is a health service provider run by Aboriginal people for Aboriginal people. The rates of participation in the program are high because people feel a connection. A range of Aboriginal people in central Australia work together to promote the health and wellbeing of their community. The service provides health care, education and advocacy. • An immunisation strategy that involves media, doctors, schools and parents working together to achieve higher immunisation rates for children
Develop personal skills	• Education is the main aspect of this action area. Education refers to gaining health-related knowledge and skills that allow people to make informed decisions that may indirectly affect health and wellbeing (such as talking to people to resolve conflict rather than using violence or teaching people the skills they need to cook a healthy meal). • Education can occur in many places, including school and work settings, families, and government and non-government organisations.	• A community health centre running cooking classes for the community • Quit campaign educating people about the harmful effects of smoking • Educating parents about the importance of putting sunscreen on their children when they are out in the sun

Action area	Meaning	Examples
Reorient health services	• Refers to changing the health system so that it promotes health and wellbeing rather than just focusing on diagnosing and treating illness, as is the case with the biomedical model • Addressing all factors that influence health and wellbeing, not just diseases. This requires a shift towards health promotion, which includes doctors taking on the role of educator.	• Doctors focusing a discussion around healthy eating rather than just medication and surgery to reduce the impact of cardiovascular disease • Medical professionals recommending physical activity to prevent the development of damaging conditions such as type 2 diabetes • Ambulance workers providing road safety sessions for secondary school students • A dietitian conducting cooking classes for community members with an emphasis on achieving adequate nutrition

FIGURE 5.20 Education programs such as cooking classes play an important role in developing personal skills

EXAM TIP

When identifying the five action areas of the Ottawa Charter, you must accurately name each one. You should be able to explain the meaning of each of the action areas. You need to be able to recognise these actions in a range of stimuli provided, or apply them to address an aspect of health, such as the reduction of cardiovascular diseases.

CASE STUDY

THE OTTAWA CHARTER IN ACTION – MY HEALTH FOR LIFE

My health for life is a Queensland State government-funded initiative that is designed to help Queenslanders stay well and reduce their risk of developing conditions such as type 2 diabetes, heart disease, stroke, high cholesterol and high blood pressure. These diseases are major burdens of disease in Australia and as such, the program is reorienting health services by funding a program to prevent these diseases from occurring and assist people to remain in good health.

My health for life

It is targeted towards Queenslanders who are:

- Aged 18 years and over who have been identified as being at high risk of developing a chronic condition such as type 2 diabetes, heart disease or stroke; or
- Aged 18 years and over with pre-existing conditions – previous history of gestational diabetes, or have been diagnosed with pre-diabetes, high blood pressure or high cholesterol.

It is a free, six-session program where participants work with a health coach to achieve their health goals. In this way they are creating supportive environments. Participants can choose either small group sessions, or one-on-one phone coaching. With the support of a coach, participants develop a step-by-step action plan to achieve their health goals. Participants have six appointments with their health coach. The first session is a one-on-one appointment to gain an understanding of the participant's needs and goals. Sessions are then run fortnightly with a 4-week break between sessions five and six where participants put into practice what they've learnt.

Participants are supported by a range of resources, a manual and workbook to track progress, messages after each session with a review of what was covered, and a reminder about at-home activities. At the end of the program, participants can move into an online maintenance program that provides them with access to tools and resources for another six months. Participants can do the program again if they would like further support.

The program strengthens community action as it is delivered by an alliance of health organisations. The *My health for life* community is diverse and includes local health professionals, a range of cultural groups and communities, sporting groups, councils and workplaces across Queensland.

The program develops personal skills as participants learn how to break goals into small achievable steps, learn how to incorporate healthier choices into everyday life and create strategies to overcome hurdles when they arise. They develop an understanding of their personal risk of developing health conditions and how to make healthier choices a part of everyday life.

Source: Adapted from https://www.myhealthforlife.com.au/

CASE STUDY REVIEW

1. Identify the aims of the *My health for life* program and explain why this program is important.
2. Identify the action area of the Ottawa Charter that is not represented in the program.
3. Explain how the *My health for life* program reflects four of the action areas of the Ottawa Charter for Health Promotion.

5.5.4 Strengths and limitations of the social model of health

The social model of health sits alongside the biomedical approach and has become a key part of Australia's health system. This approach has many strengths, which are outlined in **TABLE 5.6**.

TABLE 5.6 Strengths of the social model of health

Strengths of the social model of health	Explanation
It promotes good health and wellbeing and assists in preventing diseases.	Because the social model focuses on the broader determinants of health and wellbeing, it can prevent conditions from developing in the first place, therefore improving health and wellbeing and health status.
It takes a more holistic approach to health and wellbeing.	The social model doesn't just focus on diseases that are present, so it has the potential to promote the overall health and wellbeing of individuals by focusing on all dimensions.
It is less expensive than the biomedical approach.	Although health promotion programs can cost millions of dollars to implement, the investment is often significantly cheaper than treating conditions once symptoms arise.

Strengths of the social model of health	Explanation
It focuses on vulnerable population groups.	Because it focuses on promoting equity, many disadvantaged groups are the target of health promotion programs, including Aboriginal and Torres Strait Islander Peoples, those from low socioeconomic backgrounds and those living outside of Australia's major cities.
Education can be passed on from generation to generation.	The social model of health often uses education to enhance health and wellbeing. This knowledge can be passed on to future generations, promoting sustainable improvements in health status.
The responsibility for health and wellbeing is shared.	The social model of health makes health and wellbeing the responsibility of more than just the health sector so that the reasons behind poor health and wellbeing are more likely to be addressed.

Although the social model of health is effective in promoting health outcomes, there are still a number of disadvantages or limitations associated with it. These are outlined in **TABLE 5.7**.

TABLE 5.7 Limitations of the social model of health

Limitations of the social model of health	Explanation
Not every illness or condition can be prevented.	The causes of some conditions, including many genetic conditions, can be very difficult to prevent.
It does not promote the development of technology and medical knowledge.	Because it focuses on the broader determinants of health and wellbeing, it does not promote medical advancements.
It does not address the health and wellbeing concerns of individuals.	Those who are sick, for example, are not a specific focus of the social model of health, which can impact negatively on their health and wellbeing and the health status of the population.
Health promotion messages may be ignored.	The social model of health relies on public cooperation. If people choose to ignore the health messages provided, health and wellbeing may not improve.

on Resources

Teacher-led video Ottawa Charter (tlvd-0262)

5.5 Exercises

5.5 Quick quiz on | **5.5 Exercise**

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Learning pathways

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Test your knowledge

1. a. What is meant by the social model of health?
   b. What led to the development of the social model of health?
2. What factors that exist outside the control of individuals and that impact on health outcomes are taken into consideration in the social model of health?

3. Define health promotion according to the Ottawa Charter for Health Promotion.
4. Give reasons for the development of the Ottawa Charter.
5. What are the five action areas of the Ottawa Charter? Briefly explain each one.
6. Outline three strengths and three limitations of the social model of health.

Apply your knowledge

7. For each of the examples of interventions for measles in the table below, decide whether it is an example of the biomedical approach or the social model of health approach. Place a tick in the relevant column.

	Biomedical (B) or Social (S)	
Example of intervention for measles	**B**	**S**
All children enrolling in primary school must be immunised.		
Free measles vaccinations are provided for all children.		
Antibiotics are used to treat complications arising from measles.		
A GP is consulted to diagnose measles.		
Children with measles must be kept away from pre-school and school.		
Vaccination information is provided in many different languages.		

8. 'The biomedical approach and the social model of health view health and wellbeing and illness from different perspectives.' Analyse what is meant by this.
9. For each of the following examples, tick the most appropriate column to indicate which action area of the Ottawa Charter it represents.

Example	Build healthy public policy	Create supportive environments	Strengthen community action	Develop personal skills	Reorient health services
Nutrition labels have to include the amount of added sugar per serving.					
A health promotion campaign is a joint initiative between the Heart Foundation, Cancer Council, local sporting organisations and local community health workers.					
Funding is provided to implement a program designed to recognise early signs of mental illness and encourage people to seek help as soon as possible.					

Example	Build healthy public policy	Create supportive environments	Strengthen community action	Develop personal skills	Reorient health services
Older residents in an aged care facility are taught the importance of exercise and how to exercise safely to minimise injury.					
An Aboriginal health service employs Aboriginal health workers who know and understand the needs of the local community.					
A group of workers having to work from home are provided with a series of cooking classes delivered using an online platform.					

10. Explain how two or more action areas of the Ottawa Charter could be used to reduce the incidence of:
    a. skin cancer
    b. respiratory diseases.

5.5 Exam questions

Question 1 (5 marks)

Source: Adapted from *VCE 2018, Health and Human Development Exam, Q.2;* © VCAA

a. **What** is meant by the social model of health? **2 marks**

b. **Analyse** one way in which the social model of health may have contributed to improvements in Australia's life expectancy over time. **3 marks**

Question 2 (6 marks)

Source: *VCE 2018, Health and Human Development Exam, Q.11.a;* © VCAA

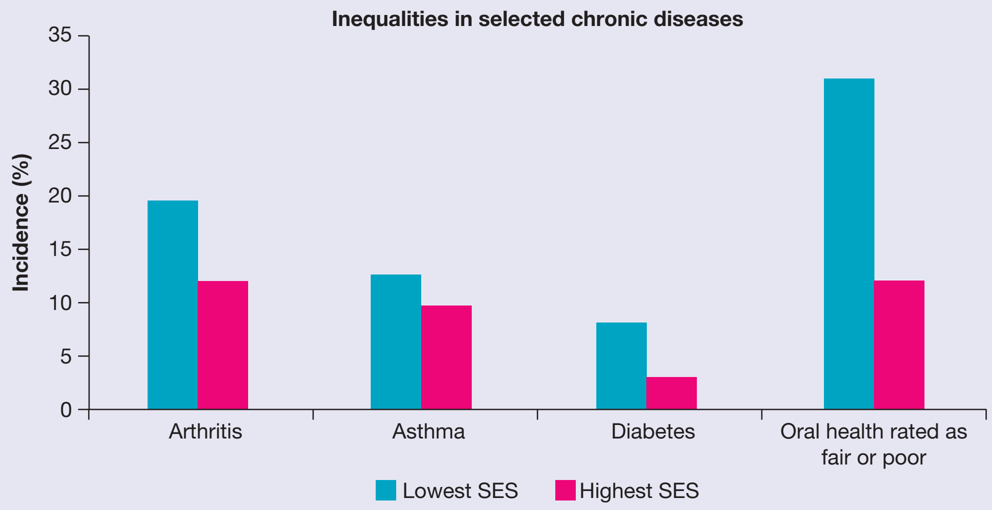
> The AMA [Australian Medical Association] wants the Government to use tax policy to force up the prices of sugar-sweetened drinks to change behavior…
>
> For the AMA, taxing them is far from the single solution to the obesity or diabetes epidemics …
>
> ***Source:*** Emily Clark, 'The AMA wants sugar-sweetened drinks taxed, but will it happen?', ABC News, 7 January 2018, <www.abc.net.au>

Using your knowledge of effective health promotion, including the Ottawa Charter for Health Promotion, **explain** why taxing soft drinks is not the only solution to addressing the obesity epidemic.

Question 3 (4 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.7.c;* © VCAA

The following graph shows the incidence of selected chronic diseases by socioeconomic status (SES) in Australia in 2014–2015.



Select one chronic disease from the graph. **Explain** how two action areas of the Ottawa Charter for Health Promotion could be used to address this chronic disease.

Question 4 (3 marks)

Source: Adapted from *VCE 2014, Health and Human Development Exam, Q.10; ©* VCAA

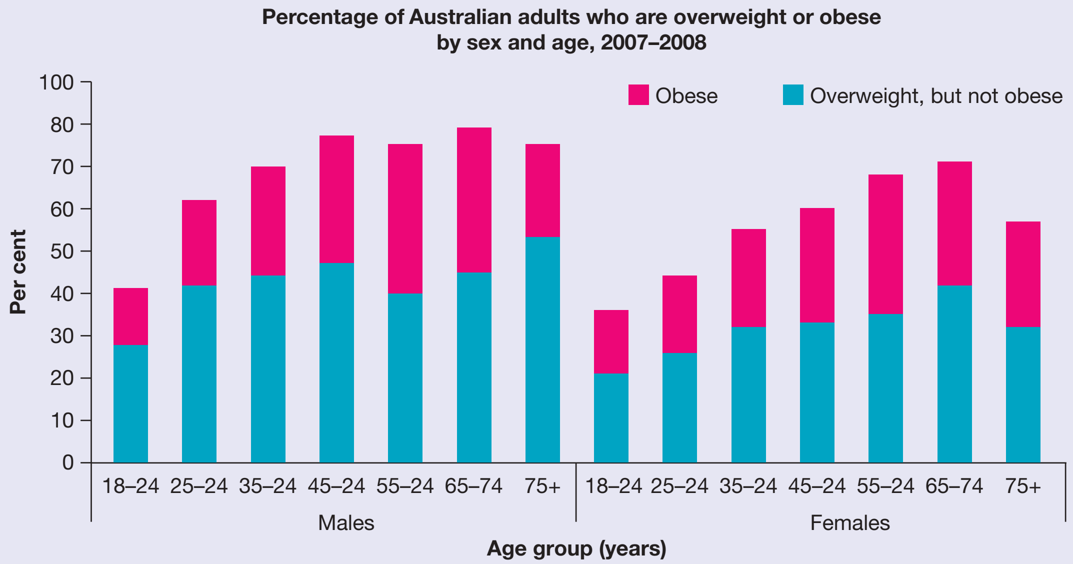
> Local primary schools will receive support to participate in 'walk to school' opportunities … Monash Council has received $10,000 from VicHealth to implement the Walk to School program … The program is designed to raise awareness of the physical, environmental and social benefits of active transport, and to encourage school children to walk to and from school more often. Aside from supporting schools, Council will use the funding to develop a Monash walking map and online portal.
>
> ***Source:*** *Active Monash*, issue 69, October 2013

a. **Identify** two action areas of the Ottawa Charter for Health Promotion. **2 marks**

b. Select one of the above action areas and briefly **outline** how it is reflected in the Walk to School program. **1 mark**

Question 5 (4 marks)

Source: Adapted from *VCE 2012, Health and Human Development Exam, Section B, Q.2.c; ©* VCAA



Use two action areas identified in the Ottawa Charter for Health Promotion to **describe** how the levels of obesity in Australia could be reduced.

More exam questions are available in your learnON title.

5.6 The relationship between the biomedical and social models of health

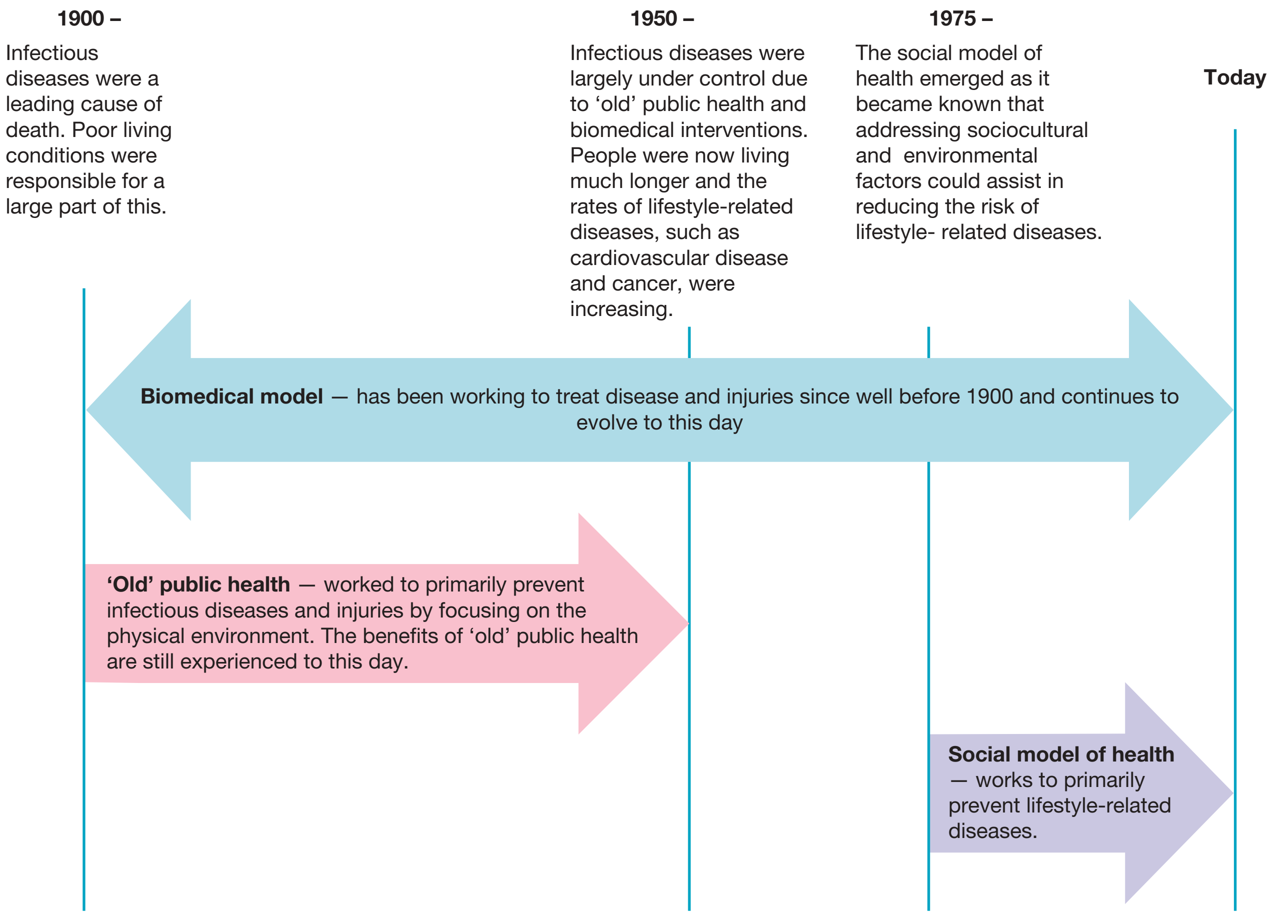
Key knowledge	Key skill
Reasons for improvements in Australia's health status since 1900	Describe the relationship between the biomedical and social models of health, including the strengths and limitations of each

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• how the biomedical approach to health and the social model of health are needed to bring about improvements in health outcomes.	• use specific examples to discuss the relationship between the social model of health and the Ottawa Charter for Health Promotion in bringing about improvements in health status.

As we have seen, significant advances have been made in Australia's health status over the last century, and the patterns of death and disease have also changed. In response, the strategies that have been developed and implemented have also changed. The biomedical approach and the development of the social model of health have strengths and limitations. However, both approaches sit alongside each other and together have contributed to the improvements in health outcomes over time. This is shown in **FIGURE 5.21**.

FIGURE 5.21 The biomedical approach has a long history and has contributed to improvements in health outcomes over time. As the patterns of disease and illness have changed, we have seen the introduction of a range of public health approaches. Both the biomedical and social models of health play an important role in bringing about improvements in health outcomes.



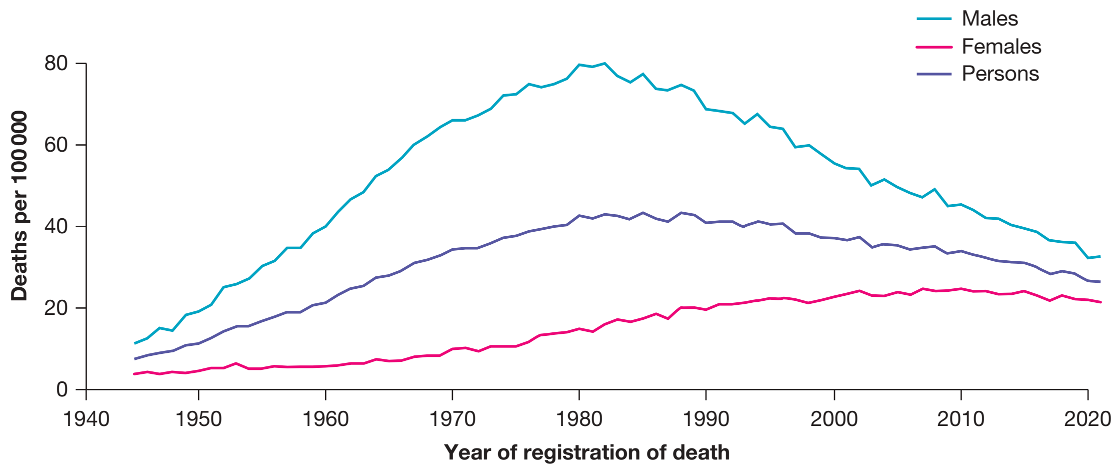
The importance of these approaches in improving health outcomes can be seen by looking at changes in mortality and morbidity over time in relation to lung cancer.

5.6.1 Lung cancer

Early in the twentieth century, lung cancer was thought to be rare, and deaths from lung cancer as a specific type of cancer were not measured until 1945. **FIGURE 5.22** shows the death rates for lung cancer since 1945. For males, there was a rapid increase in deaths, peaking in 1980. Tobacco smoking accounted for most lung cancer deaths for males and females, and the decline in deaths reflects changes in smoking rates brought about by a range of health promotion strategies and public health policies (the social model of health), and improved technology in terms of better diagnosis and more effective treatments (the biomedical approach to health).

int-9268

FIGURE 5.22 Age-standardised death rates for lung cancer, by sex and year, 1945–2021



Source: AIHW, 2023, GRIM books.

Health promotion and the social model of health

Anti-smoking health promotion campaigns were first introduced in the early 1970s when there was a growing understanding of the relationship between smoking and many forms of cancer, particularly lung cancer. It followed the release in 1964 of the US Surgeon General's report on smoking, which linked the habit to disease and death and urged the government to take action.

In line with the understanding that sociocultural and environmental factors can impact health and wellbeing, state and Commonwealth governments introduced a range of population-based approaches designed to promote health and wellbeing, reduce the impact of passive smoking on others, and encourage people to quit or not take up smoking at all.

These approaches reflect the social model of health and included comprehensive anti-smoking media campaigns and policies that made tobacco products expensive. Tobacco products became highly regulated, were not allowed to be advertised, had to be sold in plain packaging and kept out of consumers' sight in retail outlets. The introduction of health warnings on cigarette packets reflects healthy public policy along with the banning of smoking in pubs and clubs. This also helped create a supportive environment. These population-wide strategies helped reduce the uptake of smoking and encouraged smokers to quit (see **FIGURE 5.23**)

FIGURE 5.23 Examples of public health approaches designed to reduce smoking behaviour

1973 — The first health warnings on cigarette packets are introduced in Australia.

1976 — Tobacco advertising is banned on radio and television in Australia.

1985 — Quit is established and anti-smoking commercials appear on Australian television.

1987 — The Commonwealth Government bans smoking on domestic air flights.

1990 — The Commonwealth Government bans tobacco advertising in newspapers and magazines.

1995 — Most tobacco sponsorship is phased out.

1996 — Billboards, outdoor and illuminated signs advertising cigarettes are banned.

2006 — Graphic anti-smoking advertisements go to air.

2010 — Smoking in pubs and clubs is banned and tobacco taxes are increased by 25 per cent.

— All states and territories (except NT) ban smoking in cars carrying children and point-of-sale displays in retail outlets selling tobacco, and plain packaging becomes mandatory for all tobacco products. It becomes an offence for any person to publish tobacco advertising on the internet or other electronic media.

2013 — First 12.5 per cent tobacco excise increase on 1 December.

2017 — Additional four annual 12.5 per cent tobacco excise (tax) increases implemented on 1 September each year from 2017 to 2020 inclusive.

Source: Adapted from 'Key events in anti-tobacco campaign in Australia', ABC News online, 11 January 2014 and Department of Health: Tobacco control timeline. http://www.health.gov.au/internet/publications/publishing.nsf/Content/tobacco-control-toc~timeline

Decline in smoking rates

The social model of health has been very effective in reducing smoking and the associated harm. Data from the ABS indicates that 10.1 per cent of adults smoked daily in 2021–22. This daily smoking rate has continued to decline over time, halving since 1991. While it is predicted that the prevalence of smoking will continue to decline, there are still many Australians who continue to smoke and put themselves at risk of lung cancer and other smoking-related diseases. There is also concern that the increasing use of tobacco vaping products has the potential to affect the success of public health approaches in this area.

Biomedical approach to lung cancer

Although death rates from lung cancer have declined, cancer is still a major cause of death and disability in Australia, despite a long history of health promotion initiatives. It is therefore important that those who develop lung cancer are given access to medical care to ensure early diagnosis of the disease, and then provided with medical treatment if necessary. The biomedical approach to health is therefore also important if we are to improve individuals' health and wellbeing and health status.

Improvements in our understanding of the disease and in medical technology have increased the chance of an individual surviving for five years after their cancer diagnosis. In 1983–87, the five-year survival rate was 8 per cent. This more than doubled to 20 per cent per cent between 2015 and 2019. Continued improvements in cancer diagnosis and treatments are expected to extend this survival rate much further as we move forward.

These improvements are largely due to developments in medical technology and the biomedical approach to health. More effective and earlier diagnosis of lung cancer is now possible, along with a range of treatments that increase an individual's likelihood of surviving the disease.

Diagnosis and treatment of lung cancer

Lung cancer is diagnosed using a range of tests and procedures that include:

- chest X-rays
- sputum cytology (examining phlegm under a microscope)
- bronchoscopy (insertion of a flexible tube through the mouth or nose and into the lungs)
- fine needle aspiration, which removes a small sample of tissue from the lungs through the chest wall
- **CT scans**
- **PET scans**
- bone scans.

Further developments are occurring in relation to being able to diagnose lung cancer through specific blood tests.

Once diagnosed, a range of treatments can take place. These include surgery to remove the affected parts of the lung, radiotherapy and chemotherapy.

Until recently, there was little evidence to suggest that those with terminal lung cancer could be cured, but new technology is being trialled that may give those with advanced cancer the chance to be cured. Improvements in technology have also enabled sufferers of terminal lung cancer to have more effective **palliative care** to manage the symptoms of the disease and better manage the pain.

It is evident that both the biomedical and social models of health, with a focus on bringing about behaviour change and improving diagnosis and treatment services, have contributed to reductions in death rates from lung cancer and improvements in health status. If we look at the five categories of diseases that represent the causes of morbidity and mortality over time, we can also see how the biomedical and social models of health have operated together to bring about improvements in health outcomes. This is summarised in **TABLE 5.8**.

CT scans computed tomography scan, which is a specialised X-ray taken from many different angles to build a 3-dimensional picture of the body

PET scans involves having an injection of a small amount of radioactive material, which enables a scanner to build up a picture of the body

palliative care an approach designed to improve the quality of life of patients with a life-threatening illness with little or no prospect of a cure. This is achieved through the prevention and relief of suffering and the treatment of pain.

TABLE 5.8 The contribution of both the biomedical and social models of health in bringing about improvements in Australia's health status over time

Category of disease	Contribution of the biomedical model of health	Contribution of the social model of health
Infectious and parasitic	• Technology to diagnose these diseases • Antibiotics and penicillin to treat infectious and parasitic disease	• Exclude children from school if they suffer from these diseases to prevent their spread • Conduct free vaccinations for children and adults to build immunity and prevent these diseases
Cancers	• Technology to conduct biopsies, X-rays and MRI scans to diagnose cancer • Chemotherapy and radiotherapy to treat cancer • Surgery to remove cancerous cells	• Use health promotion campaigns such as Quit and SunSmart to encourage people to undertake behaviours that will prevent the development of cancer • Make changes to the environment in which people live and work to reduce exposure of people to cancer-causing substances • Introduce laws and policies that help people to make healthy decisions, such as increasing the cost of tobacco, unhealthy food and alcohol

Category of disease	Contribution of the biomedical model of health	Contribution of the social model of health
Cardiovascular diseases	• Technology to diagnose problems with the cardiovascular system • Heart transplants • Open-heart surgery to repair blockages in the arteries • Medication to reduce blood pressure, cholesterol levels and blood thinners	• Use health promotion campaigns designed to encourage people to consume a healthy diet, not smoke and exercise more • Make changes to the environment in which people live and work to encourage physical activity and to reduce exposure to risks such as passive smoking
Respiratory diseases	• Technology to diagnose respiratory diseases • Antibiotics to treat respiratory infections • Ventolin and oxygen to manage the impact of respiratory diseases	• Use health promotion campaigns such as Quit to encourage people to give up or never take up smoking • Make changes to the environment in which people live and work to reduce exposure of people to air contaminants
Injury and poisoning	• Technology to diagnose and treat those who suffer from injuries and poisoning • Surgery to repair broken bones or to treat damage to the body from accidents • Antibiotics to prevent infection following an injury	• Use health promotion campaigns such as Kidsafe to provide a safe environment for children • Introduce legislation such as the mandatory fencing of pools to protect children from drowning, and laws relating to drink and drug driving and speeding to prevent road injuries • Use road safety campaigns to encourage safe driving • Improve the safety of the roads to prevent road crashes

5.6 Activities

1. Access the **Personal consequence ads** and **Breakthrough in lung cancer treatment** weblinks in the Resources tab and then complete the **Smoking** worksheet.
2. Select one other example of a disease and research examples of how the biomedical and social models of health have contributed to improvements in health status over time.

on Resources

Digital document Smoking worksheet (doc-32201)

Weblinks Personal consequence ads
Breakthrough in lung cancer treatment

5.6 Exercises

5.6 Quick quiz on

5.6 Exercise

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Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	6, 7, 8	5, 9, 10

Test your knowledge

1. Identify when deaths from lung cancer as a specific type of cancer start being recorded.
2. Outline what was responsible for the increase in lung cancer deaths for males between 1945 and 1980.
3. Identify what factors contributed to the decrease in lung cancer deaths for males from 1980 to the present.
4. Describe when anti-smoking campaigns were first introduced in Australia and why.
5. To what extent was the social model of health effective in reducing the prevalence of smoking?
6. Explain why the biomedical model of health is important if we are to further reduce death and disability from lung cancer.
7. Briefly outline how the biomedical model of health can help reduce the level of death and disability from lung cancer.

Apply your knowledge

8. Use the data in **FIGURE 5.22** to identify two trends in death rates for lung cancer over time and explain one reason for each of the trends identified.
9. Select two of the public health approaches listed in **FIGURE 5.23** and discuss how they reflect the social model of health.
10. Draw a diagram that shows examples of how the biomedical and social models of health have brought about improvements in deaths from infectious and parasitic diseases over time.

5.6 Exam questions

Question 1 (6 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.4;* © VCAA

'The harmful use of alcohol is one of the leading risk factors for population health worldwide…'

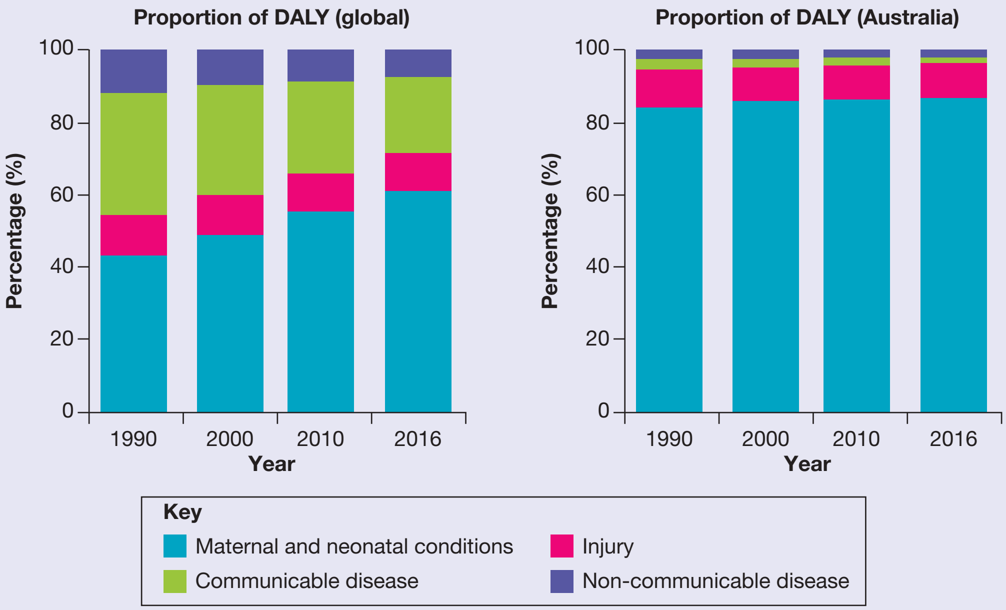
Source: World Health Organization, *Global Status Report on Alcohol and Health 2018*, Geneva, 2018, p. xii, licence: CC BY-NC-SA 3.0 IGO

Discuss two action areas of the Ottawa Charter for Health Promotion that could be used to address increased rates of alcohol consumption.

Question 2 (4 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.8;* © VCAA

Burden of communicable disease, injury, maternal and neonatal conditions and non-communicable disease, globally and in Australia, 1990, 2000, 2010 and 2016



Source: Australian Institute of Health and Welfare (AIHW), *Australia's health 2018*, 'Australia's Health' series no. 16, AUS 221, AIHW, Canberra, 2018, p. 95; GBD Collaborative Network 2017, Table S3.3.1

Using the graph 'Proportion of DALY (global)', select one burden of disease that has decreased in proportion from 1990 to 2016. **Explain** how the biomedical and social models of health may have contributed to this reduction.

Question 3 (4 marks)

Source: *VCE 2016, Health and Human Development Exam, Q.8.d;* © VCAA

Explain how both the biomedical and social models of health could be used to reduce the burden of disease associated with cardiovascular disease.

Question 4 (4 marks)

Source: Adapted from *VCE 2014, Health and Human Development Exam, Q.13;* © VCAA

Complete the following table by **outlining** one strength and one limitation of the biomedical model of health and the social model of health.

	Biomedical model of health	Social model of health
Strength		
Limitation		

Question 5 (2 marks)

Source: *VCE 2013, Health and Human Development, Section A, Q.6;* © VCAA

Explain one difference between the biomedical model of health and the social model of health.

More exam questions are available in your learnON title.

5.7 KEY SKILLS

5.7.1 Analyse data that show improvements in health over time and draw conclusions about reasons for improvements

tlvd-11349

KEY SKILLS Analyse data that show improvements in health over time and draw conclusions about reasons for improvements

Tell me

Interpreting information from tables and graphs is the focus of this skill. When given information in a table or graph, it is important to be able to interpret what the data is showing in relation to changes in health status over time and then think about the possible reasons that might have resulted in these changes.

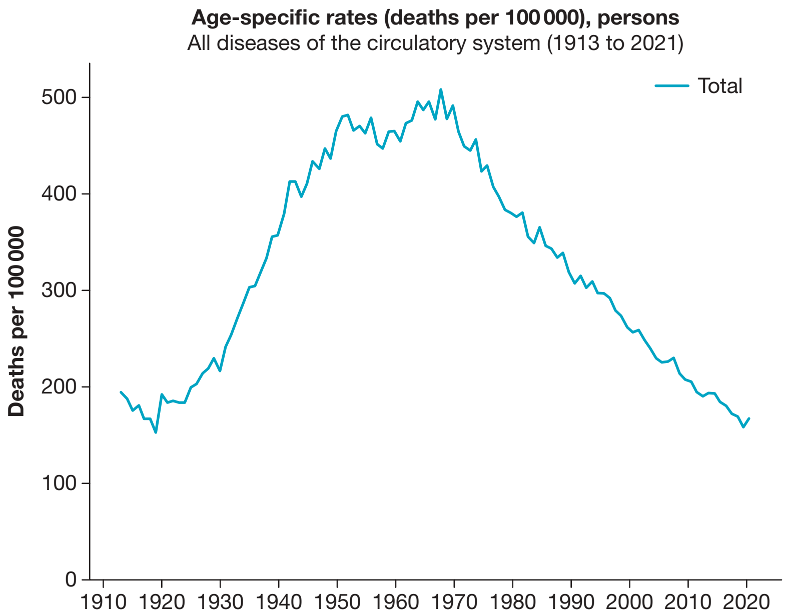
To do this, you will need to understand the major reasons for the improvements in health status over time and relate these to the data provided.

The reasons that have been discussed throughout this topic are:
- initiatives as part of the 'old' public health that took place early in the twentieth century that focused on improving aspects of the physical environment, such as providing safe water to drink, sewage facilities and better sanitation, improved nutrition, better housing conditions and safer work conditions
- the discovery of vaccines and the mass immunisation programs that were put in place after 1930
- government actions such as quarantine to protect Australia from outbreaks of diseases in other countries
- improved medical technology, which led to better diagnosis, treatment and cure of diseases
- the introduction of health promotion campaigns
- the development of the social model of health.

FIGURE 5.24 shows changes in age-specific death rates for all diseases of the circulatory system from 1913–2021.

Our sample below shows how to use this data to explain improvements in health status over time and reasons for these changes.

FIGURE 5.24 Age-specific death rates for all diseases of the circulatory system from 1913–2021



Source: Adapted from AIHW, 2023, GRIM books.

Show me

A suggested approach to this could be:

The patterns of disease and illness in Australia changed over time from 1913–2021. One example of this is shown in figure 5.24 with changes in the age-standardised death rates from diseases of the circulatory system. Early in the twentieth century, life expectancy was much lower than it is today. Age is a risk factor for diseases of the circulatory system such as heart attacks and strokes.[1]

[1] This shows an understanding of the data shown in the table.

The main diseases and illnesses present in the early part of last century were infectious and parasitic diseases and respiratory diseases. These contributed to high rates of morbidity and mortality especially of children. In response to these major causes of disease and illness, pressure was placed on governments to take action to improve health status.[2] This resulted in the development and implementation of a range of initiatives known as the 'old' public health. This brought about improvements in living conditions and making sure that people had clean water to drink, better sanitation and sewage systems, improved nutrition and better -quality housing. These changes focused on bringing about changes to the physical environment and successfully reduced morbidity and mortality from infectious and parasitic diseases and respiratory diseases.[3] With improved health status, life expectancy started to increase and we experienced a transition from communicable diseases to more lifestyle-related diseases, such as diseases of the circulatory system.[4]

[2] This shows an understanding of how the patterns of diseases have changed over time.

[3] An understanding of initiatives taken as part of the 'old' public health is evident along with an understanding of the reasons why they were introduced.

[4] An understanding of how the patterns of disease and illness moved from communicable to non-communicable and why is clear.

These diseases increased quite rapidly from 1920, reaching their peak in 1966, and required a new approach to public health.[5] This saw the introduction of health promotion campaigns that were designed to focus on raising awareness of lifestyle risk factors with the expectation that increased knowledge would bring about behaviour change.[6] This approach brought about some success because the age-standardised death rates started to decline.[7] At the same time, advancements in medical technology saw great improvements in the diagnosis and treatment of diseases of the circulatory system. Advances in medical technologies were expensive and not always accessible to everyone and focused on waiting for diseases to occur rather than focusing on their prevention.[8]

[5] An understanding of the data is evident.

[6] The move to health promotion and the reasons why are explained.

[7] The data has been used and understood.

[8] The role of medical technology and its link to reducing deaths from circulatory diseases is evident.

In the 1980s, it became evident that knowledge alone could not change behaviour and we saw the development of the social model of health. This approach took into consideration the range of sociocultural and environmental factors that influence health but often lie outside of the control of individuals.[9] This was followed in 1986 by the development of the Ottawa Charter for Health Promotion, which provided a framework that set out how the social model of health could be implemented for successful health promotion campaigns.

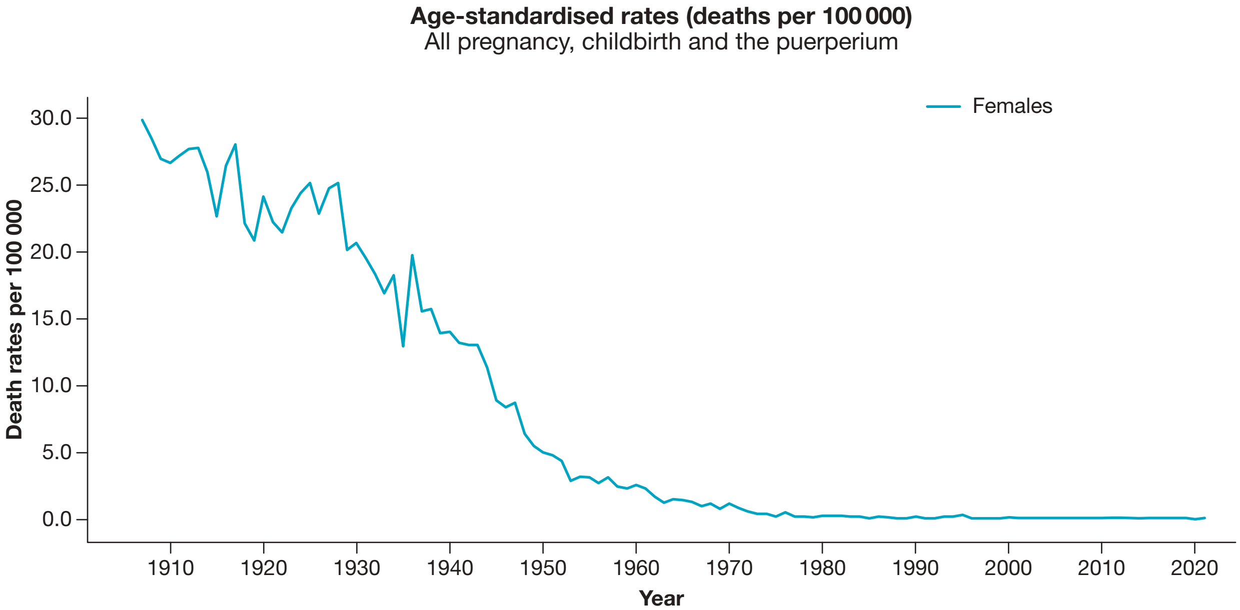
[9] An understanding of the social model of health and why it was important is provided.

While diseases of the circulatory system still account for high rates of morbidity and mortality, their rates have dropped considerably since reaching their peak in 1960s.[10]

[10] The discussion is linked back to the data in the table.

Practise the key skill

FIGURE 5.25 Age-standardised death rates for all pregnancy, childbirth and the puerperium period, 1907–2021



Source: Adapted from AIHW, 2023, GRIM books.

Refer to **FIGURE 5.25,** which shows the age-standardised death rates for pregnancy, childbirth and the puerperium period (six weeks after birth).

1. Use the data in the table to outline the trends over time from 1907 to 2021.
2. Outline two initiatives as part of the 'old' public health that may have contributed to these trends.
3. Explain how the biomedical model of health may have contributed to the trends.

5.7.2 Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes

tlvd-11347

KEY SKILLS Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes

Tell me

Ways in which the 'old' public health and the social model of health, including the action areas of the Ottawa Charter for Health Promotion can improve health outcomes, are the focus of this skill. It is important to know what each of these approaches are. This includes knowing the five action areas of the Ottawa Charter and being able to apply these to examples that show improved health outcomes. This may be done separately or an example may be used to show how both models have or can contribute to improvements. To do this you should be able to:

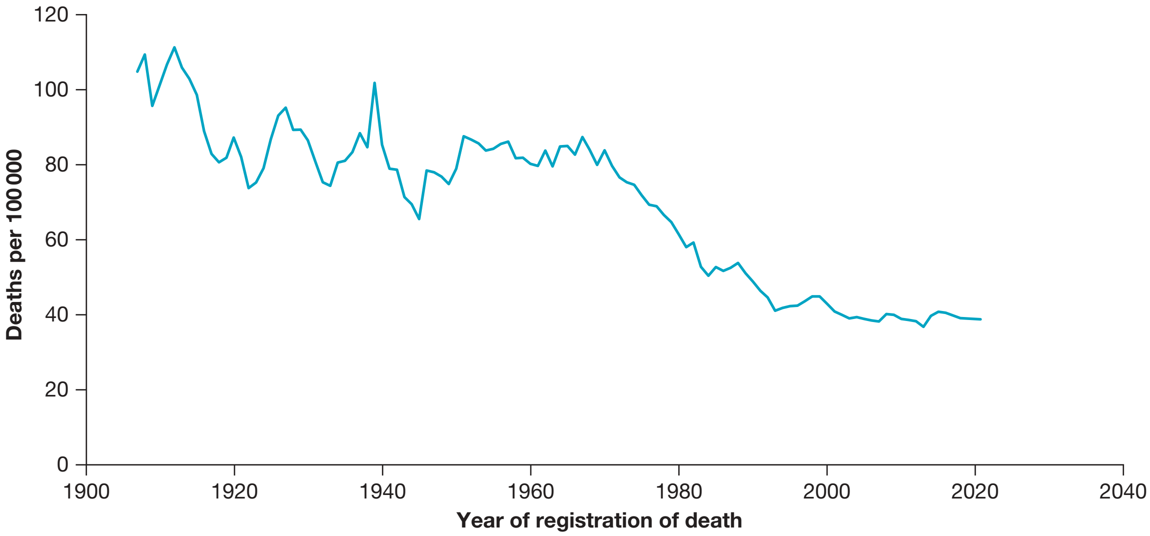
- describe examples of initiatives that represent the 'old' public health
- describe examples that represent the social model of health
- apply each of the five action areas of the Ottawa Charter to an example that will lead to improvements in health outcomes.

Using an example where both the 'old' and social model of health and the Ottawa Charter have been used to bring about improvements in health outcomes is an effective way to explain this.

Show me

Use the information in **FIGURE 5.26** to explain how initiatives undertaken as part of the 'old' public health, the social model of health and the Ottawa Charter have contributed to improved health outcomes in relation to injuries.

FIGURE 5.26 Age-standardised death rates for injury and poisoning, by year, 1907–2021



Source: AIHW, 2021, GRIM Books.

Over the last 100 years, death rates for injury and poisoning have more than halved, with the most rapid decline occurring since the 1970s.[11] Initiatives undertaken as part of the 'old' public health, as well as the the social model of health and the Ottawa Charter, have contributed to these reductions and have therefore improved health outcomes over this time.

Work-related accidents have contributed to a significant proportion of accidental deaths since 1900. Working conditions in the early part of the twentieth century were dangerous, involving exposure to toxic substances or physical injury due to limited occupational health and safety regulations. Children were often employed to work in factories. Initiatives taken as part of the 'old' public health saw improved working conditions being introduced. Regulations were put in place to govern dangerous occupations and laws were introduced that banned the employment of children under 13 and regulated the employment of children aged between 13 and 16. These actions brought about reductions in industry-related child deaths and reduced workplace injuries for adults.[12]

Deaths from motor vehicle crashes were also high, reaching their peak in 1970, and then declined steadily. This was in response to a range of actions taken as part of the social model of health, commencing with the introduction of the compulsory wearing of seatbelts in 1970.[13]

[11] An understanding of the changes in death rates from 1901 to 2021 is shown and linked to improved health outcomes.

[12] Actions taken as part of the 'old' public health are clearly outlined and linked to improved health outcomes.

[13] Data on changes since injuries reached their peak is identified.

The development of the Ottawa Charter provided a framework for actions that included the introduction of healthy public policy, such as laws around drink-driving restrictions. The lowering of speed limits, the creation of better-quality roads and improved car design and safety created supportive physical environments. The funding of mass media campaigns raised awareness of the dangers associated with speeding or driving while under the influence of drugs or alcohol, and the importance of being alert by having adequate sleep and rest breaks. These actions all helped develop personal skills. Community groups and organisations also helped promote road safety messages, which strengthened community action, all of which reflected the action areas of the Ottawa Charter and were responsible for reducing deaths from motor vehicle accidents.[14]

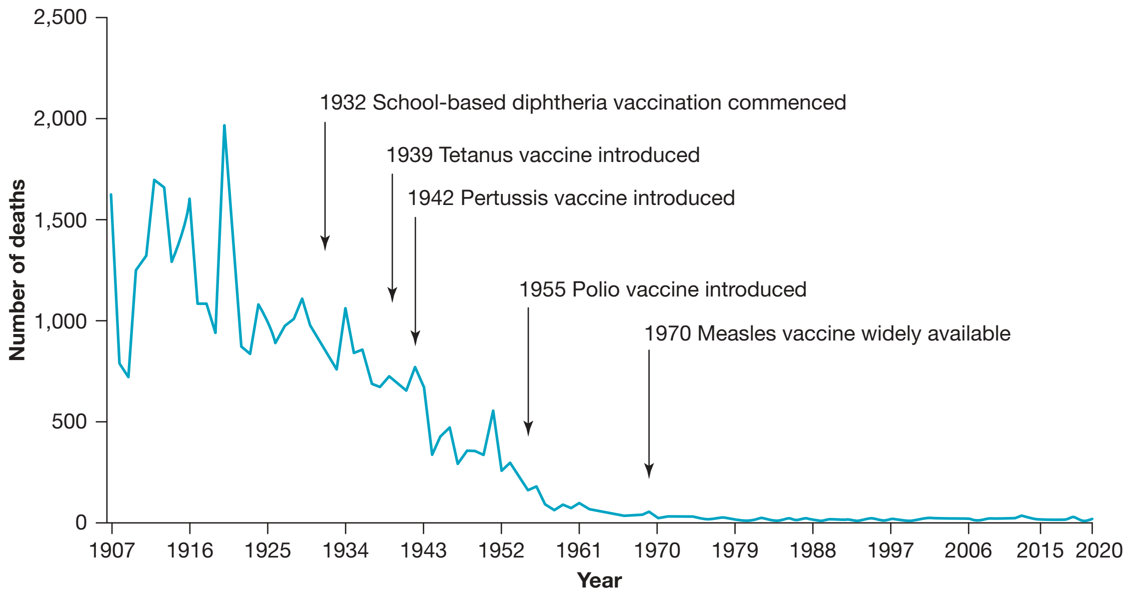
[14] Links made to initiatives undertaken as part of the social model of health and the Ottawa Charter are clear and the relevant action areas are identified.

Therefore, improvements in mortality rates due to injuries have been achieved through a range of approaches to public health.[15]

[15] The introduction of initiatives associated with the 'old' and social model of health are connected back to improvements in death rates associated with injuries.

Practise the key skill

FIGURE 5.27 Deaths from vaccine-preventable diseases, 1907–2020



Source: *Changing patterns of mortality in Australia since 1900*, AIHW, p167, https://www.aihw.gov.au/getmedia/2f534d2b-8bf7-42c7-9192-9a328559765d/aihw-aus-240_Chapter_4.pdf.aspx

Use the information in **FIGURE 5.27** to answer the following:

4. What is meant by the 'old' public health?
5. Outline one example of an initiative associated with the 'old' public health that might have contributed to changes in deaths from vaccine-preventable diseases.
6. Use two action areas of the Ottawa Charter to explain how they may have contributed to further reductions in vaccine-preventable diseases after 1988.

5.7.3 Describe the relationship between the biomedical and social models of health, including the strengths and limitations of each

tlvd-11348

> **KEY SKILLS** Describe the relationship between the biomedical and social models of health, including the strengths and limitations of each

Tell me

To describe the relationships between the biomedical and social models of health, including the strengths and limitations of each, it is important that you understand both of these models. To do this, you should be able to:

- describe each model in terms of what it focuses on and its key features
- give examples of how the biomedical and social models of health work together to improve health status
- explain the strengths or advantages of each model
- explain the limitations or disadvantages of each model.

Show me

Read the following paragraph about bowel cancer:

Australia has one of the highest rates of bowel cancer in the world, yet it is also one of the most preventable cancers. Communities and governments can play a key role in helping people reduce known lifestyle risk factors by sharing information about the importance of eating a nutritious diet, exercising regularly, maintaining a healthy weight, not smoking and avoiding alcohol in order to prevent bowel cancer. Regular bowel screening is another tool to help reduce the risk of dying from bowel cancer. No screening test is 100 per cent accurate so it is important to be screened regularly. If bowel cancer has been diagnosed, further tests such as MRI and CT scans help to show if the cancer has spread to other parts of the body and an appropriate treatment plan can be put in place.

1. Explain both the biomedical and social models of health and provide examples of each from the information in the paragraph above.
2. Discuss the relationship between the biomedical and social models of health evident in the example above, taking into account the strengths and limitations of each.

The biomedical approach to health is often called the quick-fix approach. It focuses on the physical or biological aspects of disease and illness and is concerned with the diagnosis, treatment and cure once a disease is present.[16] Examples include undertaking regular screening tests for bowel cancer and having an MRI and CT scan to determine if bowel cancer has spread to other parts of the body so a treatment plan can be put in place.[17]
The social model of health takes a more holistic and population-based approach to health and focuses on the prevention of disease and illness. It recognises that improvements in health outcomes can only be achieved by addressing the physical, sociocultural and political environments that impact individuals and population groups.[18]
Examples include governments and communities assisting people to reduce lifestyle risk factors such as not eating a nutritious diet, exercising regularly, maintaining a healthy weight, not smoking and not drinking alcohol in order prevent bowel cancer.[19]

[16] The biomedical approach is explained.

[17] Examples from the information that represent the biomedical model are provided.

[18] The social model of health is explained.

[19] Examples from the information that represent the social model of health are provided.

The relationship between the biomedical and social models of health evident in the information is that the biomedical approach to health is important in being able to prevent death from bowel cancer once it has developed by diagnosing the disease and determining whether it has spread to other parts of the body then treating it.[20] However, cancer is not always able to be treated and this approach places a huge burden on the healthcare system by relying on expensive medical technology. People who develop bowel cancer also experience a reduced quality of life.[21] If successful, the biomedical approach can return people with the disease back to enjoying good health and extend life expectancy.[22] However, if bowel cancer could be prevented in the first place by addressing the known risk factors, then people will enjoy longer healthy life expectancy and the costs associated with reliance on the biomedical model will be reduced considerably.[23] Bowel cancer is not always able to be prevented so the biomedical approach must be available to treat people in the event that it does occur.[24]

[20] Identifies that the biomedical approach to health is important.

[21] The limitations of the biomedical approach to health are outlined.

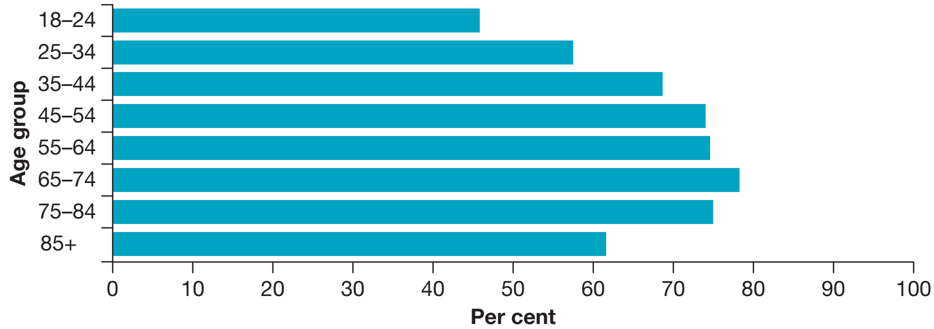
[22] Strengths of the biomedical approach are provided.

[23] The strengths of the social model of health are explained.

[24] The limitations of the social model of health are explained and linked back to therelationship with the biomedical approach to health.

Practise the key skill

FIGURE 5.28 Proportion of adults living with overweight and obesity, by age group, 2017–18



Source: https://www.aihw.gov.au/reports/overweight-obesity/overweight-and-obesity/contents/overweight-and-obesity

7. Using the information in **FIGURE 5.28**, discuss why the strengths and limitations of the biomedical and social models of health make it important for both of these approaches to be used to address the levels of obesity in adults aged 18–85+.

5.8 EXTENDED RESPONSE — Build your exam skills

tlvd-2879

You have been building your skills over the previous topics in relation to approaching and answering extended response questions. You will now have an understanding of how to unpack the different components of a task.

Consider the following question:

In relation to mental health, use the information from all three sources and your own knowledge to justify why a combination of the biomedical model of health and the social model of health, in particular the Ottawa Charter for Health Promotion, is needed to reduce the burden of disease.

Step 1:

For the task above, you will know that you are required to:

- use information in all pieces of the stimulus material provided
- use your own knowledge
- show your understanding of the social model of health, in particular the Ottawa Charter for Health Promotion
- show your understanding of the biomedical approach to health
- justify why both of these approaches are necessary to reduce the burden of disease associated with mental health.

When using information in the stimulus material, high level responses focus on the connections that are made between the different pieces of stimulus material and each of the components of the question, and synthesise this information rather than just restating it.

In this section we will explore how to recognise, understand and synthesise relationships between stimulus material and the task.

A strategy that is useful is to colour code the different aspects of the task and, when reading each of the pieces of stimulus material, colour code the information according to the related component of the task. An example can be seen below using three pieces of stimulus material.

Step 2:

Highlight each of the components of the task in a different colour.

- use information in all pieces of the stimulus material provided
- use your own knowledge
- show your understanding of the social model of health, in particular the Ottawa Charter
- show your understanding of the biomedical approach to health
- justify why both of these approaches are necessary to reduce the burden of disease associated with mental health

Step 3:

Read each part of the stimulus material and highlight in the relevant colour any information that relates to a component of the task. This is shown below.

You will see that **SOURCES 2** and **3** each relate to one component of the task but that **SOURCE 1** includes information relevant to two components of the task. This means you can discuss the connections to the stimulus material when you are addressing each of the components of the task.

It will also allow you to consider the additional information that you can add from your own knowledge by looking for gaps not provided in the stimulus.

Source 1

1 in 5 adults and 1 in 7 young people experienced a mental health disorder in the previous 12 months	4.7 million people (18% of Australians) filled a mental health-related prescription in 2021–22	$11.6 billion was spent on mental health services in 2020–21, around 7.3% of the total government health expenditure

Source: https://www.aihw.gov.au/Mental-health

Source 2

Looking after your mental health

Staying well is about finding a balance that works for you. Things that can help include:

✓ getting good quality sleep

✓ keeping active

✓ eating well

✓ establishing a healthy routine

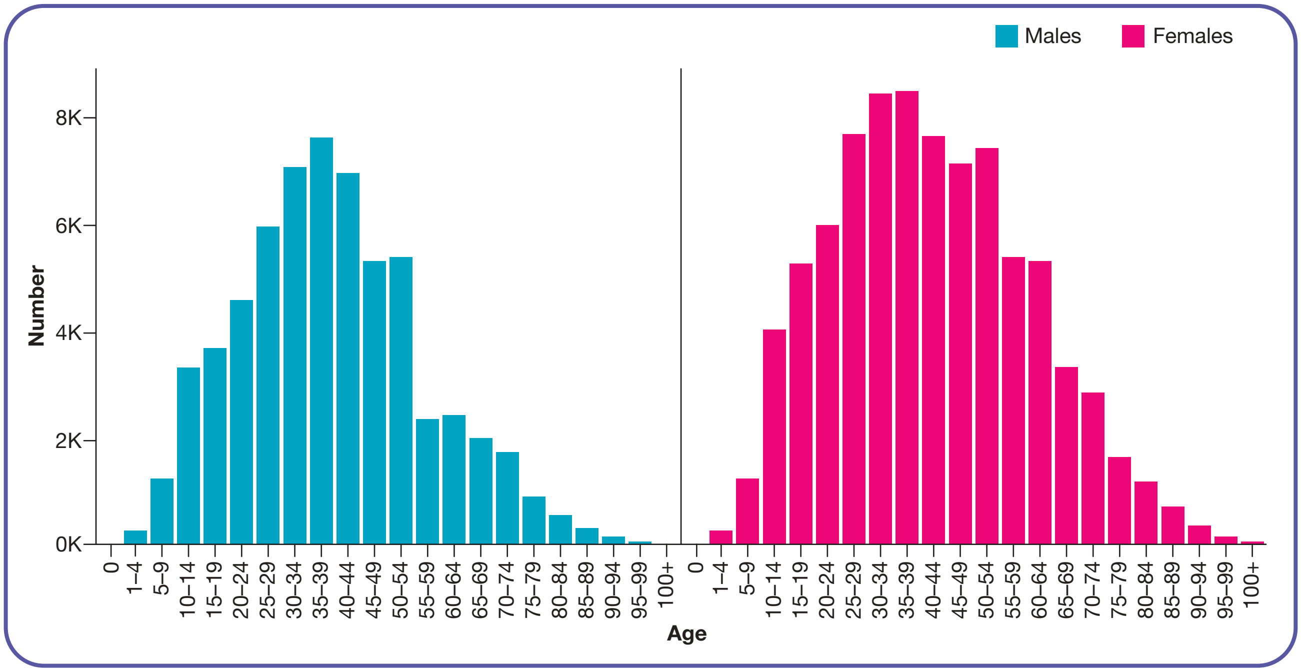
✓ connecting with others

✓ taking action early if you're feeling unsettled.

Source: https://www.beyondblue.org.au/mental-health

Source 3

Number of DALYs by sex and age, depressive disorders, 2022



Source: https://www.aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/contents/interactive-data-on-disease-burden/disease-injury-specific-summary

Sample response

Mental health is a major burden of disease for Australia. According to source 1, 1 in 5 adults and 1 in 7 young people experienced a mental health disorder in the previous 12 months. Depressive disorders are one aspect of mental health and source 3 shows that the burden of disease is higher for females than males and is more common in the 30–34 and 34–39 age groups. This is when people are at the prime of their life and this mental health disorder accounted for over 9000 DALYs in both of these age groups in 2022.[1]

This highlights the importance of taking action to reduce the burden of disease associated with mental disorders. Both the biomedical and social models of health, in particular the Ottawa Charter, are needed if we are to achieve this reduction.[2]

Source 2 provides a list of ways in which people can look after their mental health and prevent mental disorders developing. The Ottawa Charter provides a framework for how these actions may best be implemented.[3] Providing cooking classes in the community or in schools can provide people with the knowledge and skills needed to eat a healthy diet.[4] This helps develop personal skills.[5] In the same way, platforms such as social media can also raise awareness[6] of the importance of getting good quality sleep, keeping active and recognising early signs of mental illness, and how to achieve this.[7]

GPs should also be talking to people with signs of mental disorders about their sleep patterns, levels of exercise and diet when they attend a clinic, in an effort to prevent these diseases rather than just treating the disorders with medication.[8] This helps reorient health services to put a greater focus on prevention rather than cure. Community organisations and families can also play a role in strengthening community action[9] to remove stigma associated with mental health issues and to encourage people to speak out and take action early[10] as indicated in source 2. Families and communities can also help provide supportive environments[11] by establishing opportunities for people to come together and connect socially, which is another way to look after our mental health.[12] These preventative approaches are important because reliance on the biomedical approach can be very expensive.[13]

Source 1 tells us that 4.7 million people filled a mental health prescription in 2021–22 and $11.6 billion was spent on mental health services, which represented 7.3 per cent of government health expenditure. This does not take into consideration the funds that individuals themselves must spend to manage their condition.[14]

[1] Mental health as a major burden of disease is established by making links to the data provided in sources 1 and 3.

[2] Introduces the need for both the social and biomedical models of health to work together

[3] Introduces the Ottawa Charter as a framework for how the social model of health should be implemented

[4] Your own knowledge can be used to provide examples of how the Ottawa Charter can be used to promote health in relation to mental health.

[5] Identifies one action area of the Ottawa Charter

[6] Your own knowledge can be used to provide a further example of how the Ottawa Charter can be used to promote health in relation to mental health.

[7] A further action area of the Ottawa Charter is identified and linked to information provided in source 2.

[8] Own knowledge is used to provide further examples of actions that can be taken based on the information in source 2.

[9] Reorient health services and strengthen community action are linked to the concepts provided in source 2.

[10] Own knowledge is used

[11] Create supportive environments as an action area of the Ottawa Charter is identified.

[12] Own knowledge is used

[13] Uses the cost of the biomedical model as part of the justification for both models being important and links to the information in source 1.

[14] Information in the source material is used to provide the limitations of the biomedical model of health.

Key to annotations

- use information in all pieces of the stimulus material provided
- use your own knowledge
- show your understanding of the social model of health, in particular the Ottawa Charter

- show your understanding of the biomedical approach to health
- justify why both of these approaches are necessary to reduce the burden of disease associated with mental health

However, not all mental health disorders can be prevented, so the biomedical model is important to enable people to access medical care and medication when and if they need it.[15] Medication is often the most appropriate way for people to manage their mental health and enjoy a good quality of life. The correct diagnosis will allow treatment plans to be put in place that will help return people to a positive state of health and wellbeing. Many sufferers of mental disorders also require mental health services and hospital care and these services must be funded and available to people when they need them.[16] The high burden of disease associated with mental health disorders, as well as the economic cost of treating these disorders, provides justification as to why it is important to implement measures that reflect both the biomedical and social models of health.[17]

[15] Justifies the combination of both the biomedical and social models of health by pointing out the limitations of the biomedical model

[16] Provides reasons for why the biomedical model of health is important

[17] Provides a summary that links back to the importance of both models in addressing a condition that contributes to a high burden of disease

Practise this skill

Use this practice extended response question to build your exam skills. Follow the steps shown in the annotated example above.

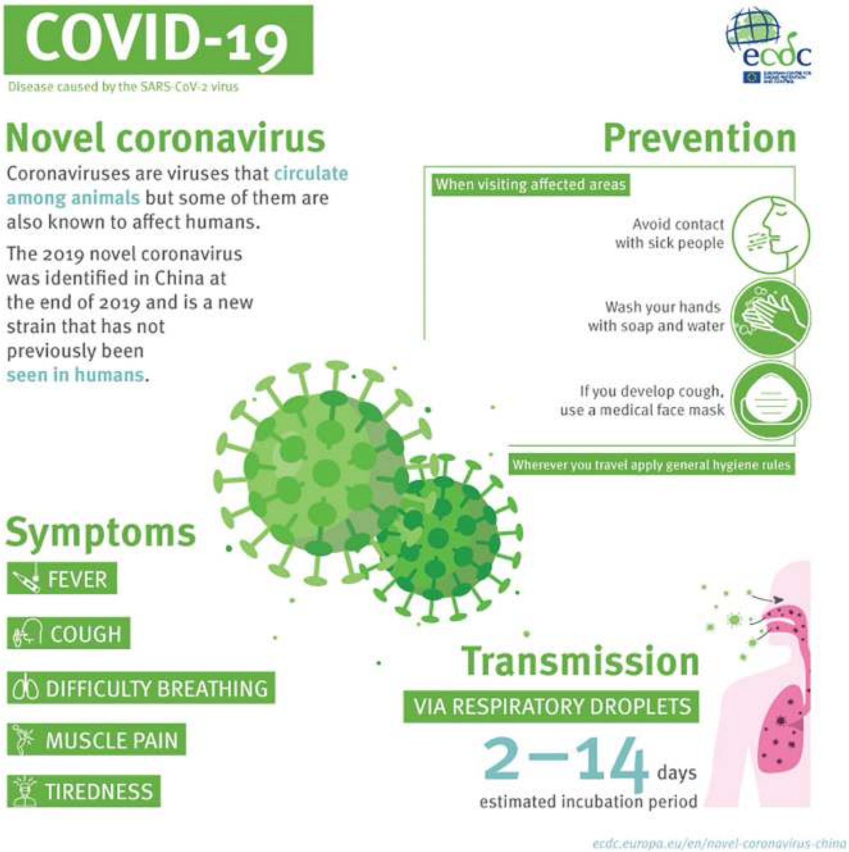
Question

Use the information from all three sources and your own knowledge to discuss how initiatives similar to those associated with the 'old' public health were used in response to COVID-19 and justify why both the biomedical and social models of health are important in addressing this disease.

Source 1

- From January 2020 to September 2023 there were 11 591 525 confirmed cases of COVID-19 in Australia
- 22 887 deaths were reported to WHO.
- As of August 2023, a total of 68 480 571 vaccine doses had been administered. Vaccines provide strong protection against serious illness, hospitalisation and death.
- Anyone can get sick with COVID-19 and become seriously ill or die, but most people will recover without treatment.
- People over age 60 and those with existing medical conditions have a higher risk of getting seriously ill. These conditions include high blood pressure, diabetes, obesity, immunosuppression including HIV, cancer and pregnancy. Unvaccinated people also have a higher risk of severe symptoms.

Source 2



Source 3

There are many reasons why COVID-19 has become a major health crisis. It is still a new virus with many new mutations that require different vaccines to provide protection. It is highly infectious and affects some people very severely.

In 1919, the Spanish flu caused approximately 12 000 deaths in Australia, making it the most common cause of death in Australia that year. However, we are now in a better position to control viral epidemics than 100 years ago. The health of the population has improved, and communication methods mean that international cooperation is much more possible now. Nevertheless, at this stage, successful control of COVID-19 spread still relies on similar public health approaches to those used in 1919, such as quarantine, isolation, good hygiene and physical distancing.

TIPS

Remember to break the question down into its parts

- use information in all pieces of the stimulus material provided
- use your own knowledge
- show your understanding of 'old' public health and select examples of initiatives that have been implemented previously that are also relevant to COVID-19
- show your understanding of the social model of health by selecting examples that relate to COVID-19
- show your understanding of the biomedical approach to health and select relevant examples
- justify why both the social model and biomedical approach to health are important in addressing COVID-19.

5.9 Review

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5.9.1 Topic summary

5.2 Changes in Australia's health status over time

- There have been considerable changes in life expectancy over time, with improvements in child mortality rates being a major contributor to this.
- Between 1961 and 1972, death rates from cardiovascular diseases reached their peak and other lifestyle diseases were becoming more prevalent, and this affected gains in life expectancy.
- Overall death rates have decreased, with a 73 per cent reduction for males and 77 per cent reduction for females between 1907 and 2022.
- Over the last 100 years, the patterns of mortality have changed.
- Diseases can be grouped into five main categories: cardiovascular diseases, cancers or neoplasms, respiratory diseases, infectious and parasitic diseases, and injury and poisoning.
- Infectious and parasitic diseases contributed to 13 per cent of all deaths in the first part of the twentieth century, largely due to the living conditions at the time. Water and food supplies were often contaminated, rubbish littered the streets, sanitation was poor and there were no sewage facilities.
- Cancer death rates increased throughout the twentieth century, reaching a peak in the mid-1980s due to the uptake in cigarette smoking in the earlier part of the century. Declining rates of smoking during the 1970s saw a reduction in deaths from cancer between 2000 and 2018.
- Cardiovascular diseases have been a major cause of death over the last 100 years. Death rates from cardiovascular diseases increased throughout the twentieth century until reaching their peak in the mid-1960s, after which time there has been a steady decline. These diseases are still a major cause of death in Australia.
- Death rates from respiratory diseases fell dramatically over the last 100 years, and by 2000 were less than 10 per cent of 1907 levels.
- Deaths from injury and poisoning include those from motor vehicle and other accidents, suicide, assault, poisoning, drowning, burns and falls, and complications from medical and surgical care.
- Death rates from injury and poisoning have more than halved over the last 100 years, mainly due to reductions in motor vehicle deaths.
- Work-related accidents due to poor working conditions were a major cause of death from injury during the first half of the twentieth century.

5.3 Initiatives relating to the 'old' public health and Australia's health status

- Public health refers to the ways in which governments monitor, regulate and promote health status and prevent illness.
- The 'old' public health was concerned with the effect of the physical environment on health and wellbeing. It focused on measures such as providing safe water to drink, sewage facilities and better sanitation, improved nutrition, better housing conditions and safer work conditions. This led to a decrease in infectious and respiratory diseases.
- With the discovery of vaccines, many infectious diseases, such as polio, diphtheria, measles, tuberculosis, tetanus and smallpox, could be prevented. This contributed to significant reductions in infectious diseases.
- Following an outbreak of the bubonic plague, quarantine laws were introduced to protect Australians from diseases that could be transmitted from other countries.
- Infant welfare centres contributed to improvements in infant mortality.

- As the patterns of disease and illness started to change with the emergence of lifestyle diseases, the first health promotion activities were introduced. Their aim was to educate people to adopt health-promoting behaviours.

5.4 The biomedical approach to health

- The biomedical approach to health focuses on diseases and ways of diagnosing, treating and curing disease.
- It has many strengths, such as improving technology and research, effectively treating common problems, extending life expectancy and improving quality of life.
- It has contributed to improvements in Australia's health status over time and is an important component of the healthcare system.
- The biomedical approach to health also has a number of disadvantages or limitations, such as its high costs, encouraging a 'quick-fix approach' rather than looking at causes, being unable to treat all conditions although they may have been preventable and, finally, a lack of affordability for all individuals.

5.5 Development of the social model of health and the Ottawa Charter for Health Promotion

- The social model of health emerged in the 1980s when it became clear that educating people about health-promoting behaviours did not always lead to behaviour change. It recognised that there are many factors affecting health outcomes that lie outside the control of individuals.
- The social model of health focuses on the physical, sociocultural and political environments that impact on health outcomes.
- The Ottawa Charter for Health Promotion provides a framework for the application of the social model of health and includes five action areas:
  - build healthy public policy
  - create supportive environments
  - strengthen community action
  - develop personal skills
  - reorient health services.

5.6 The relationship between the biomedical and social models of health

- There are many strengths and limitations to both the social and biomedical models of health but both approaches are important in bringing about improvements in health outcomes.

on Resources

Digital document Summary (doc-41461)

5.9.2 Key terms

biomedical approach to health focuses on the physical or biological aspects of disease and illness; a medical model practised by doctors and health professionals and is associated with the diagnosis, treatment and cure of disease

CT scans computed tomography scan, which is a specialised X-ray taken from many different angles to build a 3-dimensional picture of the body

health promotion the process of enabling people to increase control over and improve their health

life expectancy the number of years of life, on average, remaining an individual at a particular age if death rates do not change. The most commonly used measure is life expectancy at birth (AIHW, 2018).

'old' public health government actions that focused on changing the physical environment to prevent the spread of disease, such as providing safe water, sanitation and sewage disposal, improved nutrition, improved housing conditions and better work conditions

Ottawa Charter for Health Promotion an approach to health developed by the World Health Organization that aims to reduce inequalities in health. It reflects the social model of health and provides five action areas that can be used as a basis for improving health outcomes.

palliative care an approach designed to improve the quality of life of patients with a life-threatening illness with little or no prospect of a cure. This is achieved through the prevention and relief of suffering and the treatment of pain.

PET scans involves having an injection of a small amount of radioactive material, which enables a scanner to build up a picture of the body

public health the ways in which governments monitor, regulate and promote health status and prevent disease

sanitation the process of eliminating contact between humans and hazardous wastes, including human and animal faeces and urine, solid wastes, domestic wastewater (sewage and grey water), industrial wastes and agricultural wastes

social model of health an approach that recognises improvements in health and wellbeing can only be achieved by directing effort towards addressing the physical, sociocultural and political environments of health that have an impact on individuals and population groups

sphygmomanometer an instrument used for measuring blood pressure. It typically has an inflatable rubber cuff that is applied to the arm. The blood pressure is taken by gradually increasing and decreasing the pressure in the cuff

stethoscope a medical instrument for listening to the internal sounds of a body, often the heart, lungs or intestines

5.9 Exercises

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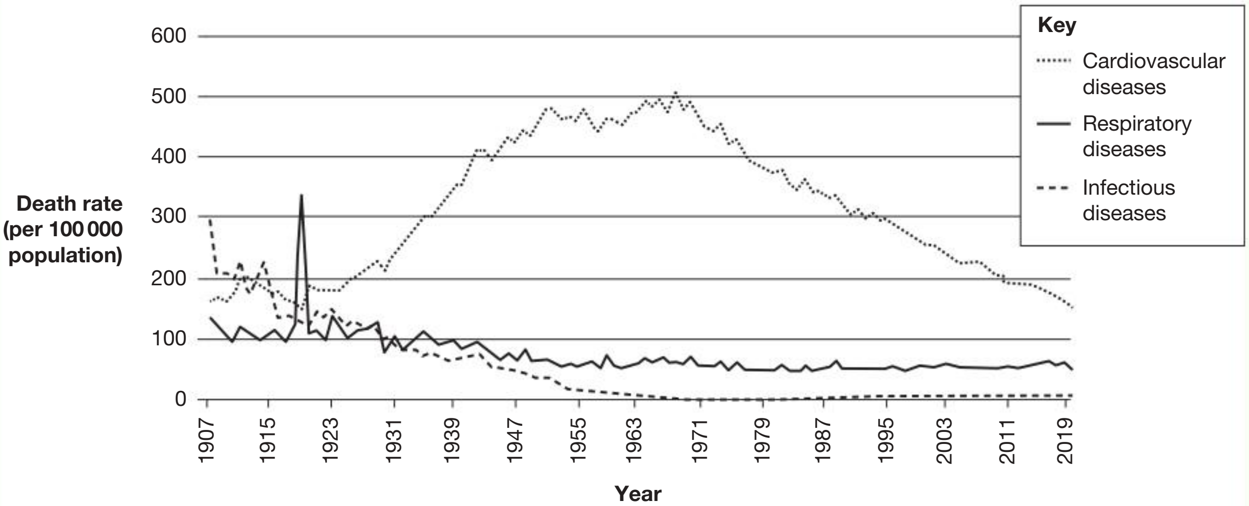
5.9 Exam questions

Question 1 (8 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.10*; © VCAA

Death rates by broad cause (per 100 000 population) 1907–2019



Source: adapted from Australian Institute of Health and Welfare (AIHW), web report, Table S5.2 'Deaths by broad cause of death, number and rates (deaths per 100,000 population) 1907–2020', AIHW, 2022, <aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/data>

a. Using data, **identify** one trend evident in the graph above. **2 marks**

b. Using **one** example of 'old' public health, **outline** its role in the improvement in the death rates of one broad cause between 1907 and 2019, as shown in the graph above. **2 marks**

c. **Describe** one strength and one limitation of the biomedical approach to achieving one of the improvements shown in the graph above. **4 marks**

Question 2 (6 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.11*; © VCAA

The report 'Mortality over the twentieth century' identifies trends in mortality in Australia over the last century.

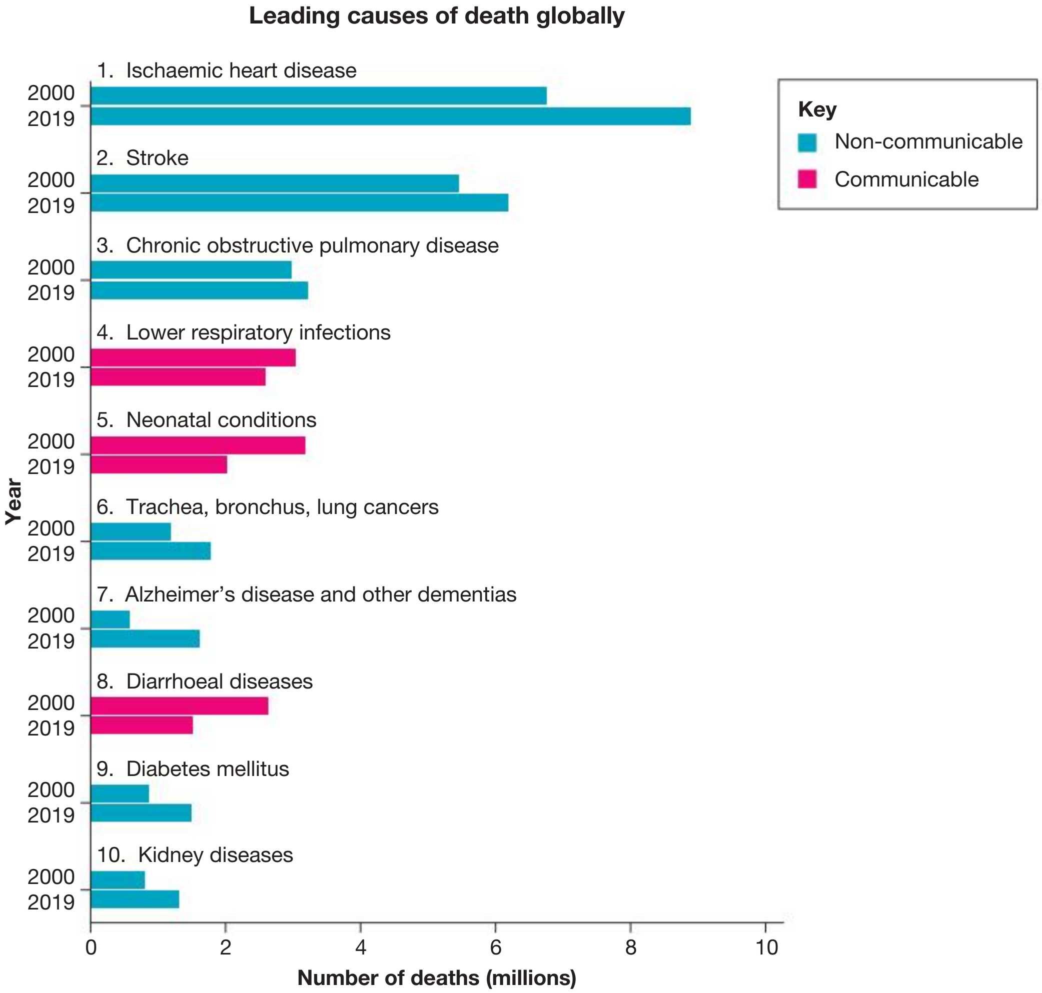
Some of the successes identified in the report include the following:
- deaths from tuberculosis have been eliminated
- cancer deaths, which remained at even rates during most of the twentieth century, have recently shown signs of decline

Source: Adapted from Australian Institute of Health and Welfare (AIHW), 'A 100 year review of health in Australia', media release, 5 April 2006, www.aihw.gov.au/news-media/media-releases/2006/apr/a-100-year-review-of-health-in-australia

With reference to one success provided in the information above, **analyse** the relationship between the biomedical and social models of health in bringing about improvements in health status.

Question 3 (8 marks)

Source: Adapted from *VCE 2021, Health and Human Development Exam, Q.5.a–c;* © VCAA



Source: World Health Organization, 'The top 10 causes of death', fact sheet, 9 December 2020, <www.who.int/news-room/fact-sheet/detail/the-top-10-causes-of-death>; WHO Global Health Estimates

a. **Describe** 'old' public health. **2 marks**

b. Select one of the leading causes of death from the graph above and **describe** how actions undertaken as part of 'old' public health could be used to reduce global deaths. **2 marks**

c. Select another leading cause of death from the graph above and **explain** how the biomedical and social models of health could be used to reduce global deaths from this leading cause of death. **4 marks**

Question 4 (2 marks)

TABLE 5.9 shows the top 10 causes of death for males in 1907 and 2018.

TABLE 5.9 Top 10 causes of death for males, 1907 and 2018

Condition	% of total deaths, 1907	Condition	% of total deaths, 2018
Heart disease	8.3	Coronary heart disease	12.5
Tuberculosis	8.2	Lung cancer	6.1
Diarrhoea	7.1	Dementia including Alzheimer's disease	6.1
Senility	6.6	Cerebrovascular disease	5.1
Congenital issues	6.1	Chronic obstructive pulmonary disease	4.6
Bronchitis	4.8	Prostate cancer	4.0
Pneumonia	4.3	Colorectal cancer	3.5
Nephritis	4.1	Diabetes	3.1
Cerebrovascular disease	3.8	Suicide	2.8
Unspecified and ill defined	3.1	Cancers of unknown or ill defined site	2.0

Source: AIHW 2005, *Mortality over the twentieth century in Australia: trends and patterns in major causes of death*, p. 44, and GRIM books S3.1. https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/2019

Identify one similarity and one difference in the causes of death for males in 1907 compared to 2018.

Question 5 (4 marks)

Explain how the initiativies undertaken as part of the 'old' public health might have had an impact on the top 10 causes of death for males between 1907 and 2018.

on Resources

Digital document Key terms glossary (doc-41460)

Interactivities Crossword (int-9236)
Definitions (int-9237)

Exam question booklet Topic 5 Exam question booklet (eqb-0249)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 5 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- **5.3** Life. Be in it. worksheet (doc-32200) ☐
- **5.6** Smoking worksheet (doc-32201) ☐
- **5.9** Summary (doc-41461) ☐
- Key terms glossary (doc-41460) ☐

Interactivities

- **5.2** Age-standardised death rates in Australia, by sex, 1907–2022 (int-9266) ☐
- Age-standardised death rates in Australia by broad cause of death, 1907–2021 (int-9267) ☐
- **5.6** Age-standardised death rates for lung cancer, by sex and year, 1945–2021 (int-9268) ☐
- **5.9** Crossword (int-9236) ☐
- Definitions (int-9237) ☐

Teacher-led videos

- **5.3** Concepts of the 'old' public health and the social model of health (tlvd-11346) ☐
- **5.5** Ottawa Charter (tlvd-0262) ☐
- **5.7** Key skill: Analyse data that show improvements in health over time and draw conclusions about reasons for improvements (tlvd-11349) ☐
- Key skill: Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to health outcomes (tlvd-11347) ☐
- Key skill: Describe the relationship between the biomedical and social models of health, including the strengths and limitations of each (tlvd-11348) ☐
- **5.8** Extended response: Components of a task (tlvd-2879) ☐

Weblinks

- **5.3** Life. Be in it. ☐
- **5.6** Personal consequences ads ☐
- Breakthrough in lung cancer treatment ☐

Exam question booklet

- **5.9** Topic 5 Exam question booklet (eqb-0249) ☐

To access these online resources, log on to **www.jacplus.com.au**

6 Targets of health promotion in Australia

LEARNING SEQUENCE

6.1 Overview

	Key knowledge	Key skills	Subtopic
◯	The role of health promotion in improving population health	Analyse a range of data, case studies and examples of health promotion programs in relation to the use of action areas of the Ottawa Charter for Health Promotion and how they can lead to improved health outcomes	**6.2**
◯	Programs to improve Aboriginal and Torres Strait Islander Peoples' health, including how they promote social justice	Analyse initiatives introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in Australia, and how they reflect the action areas of the Ottawa Charter for Health Promotion and social justice Evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice	**6.3**
◯	Initiatives to promote healthy eating in Australia, including the Australian Dietary Guidelines, the Australian Guide to Healthy Eating and the Aboriginal and Torres Strait Islander Guide to Healthy Eating	Evaluate the impact of initiatives to promote healthy eating in Australia and their ability to improve health outcomes	**6.4**
◯	Challenges in bringing about nutritional change, including sociocultural, environmental and commercial factors	Draw conclusions as to why nutritional improvements are difficult to achieve in Australia	**6.5**

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

energy balance

health promotion

legislation

population health

Exam terminology

Analyse	Examine the components of; look for links, patterns, relationships and anomalies
Draw conclusions	Make reasoned decisions or judgements
Evaluate	Make a judgement; weigh up the pros and cons

on Resources

Digital document Key terms glossary (doc-41591)

Exam question booklet Topic 6 Exam question booklet (eqb-0250)

6.2 The role of health promotion in improving population health

Key knowledge	Key skill
The role of health promotion in improving population health	Analyse a range of data, case studies and examples of health promotion programs in relation to the use of action areas of the Ottawa Charter for Health Promotion and how they can lead to improved health outcomes

You need to know:
- how health promotion can improve population health
- examples of health promotion programs in relation to the use of the Ottawa Charter action areas.

You need to be able to:
- describe examples of health promotion including how they reflect action areas of the Ottawa Charter and how they can promote population health
- analyse data, case studies and examples of health promotion to show how they reflect action areas of the Ottawa Charter
- explain how action areas of the Ottawa Charter could be used in different scenarios to improve health outcomes.

As discussed in topic 5, health status has improved over time in Australia and improvements continue to be made. The improvements seen so far are the result of a range of biomedical developments and interventions associated with 'old' public health and the social model of health, including health promotion.

The role of health promotion is to create conditions that encourage healthier lives and prevent ill health, as opposed to the biomedical model that works to treat conditions once they arise.

This topic will explore a number of health promotion interventions that have been developed to address a range of particularly significant health issues in Australia. These include initiatives addressing smoking and vaping, alcohol, road safety, skin cancer, overweight and obesity, Aboriginal and Torres Strait Islander Peoples' health, and healthy eating. These issues are targeted by health promotion for a number of reasons, including:
- They contribute significantly to the burden of disease in Australia.
- They incur substantial economic costs through health care, absenteeism, loss of productivity and social security payments.
- They are associated with considerable social impacts, such as avoidable deaths and inequalities between population groups.
- They all have a modifiable component and, if addressed, significant improvements can be made.

EXAM TIP

This study design dot point makes reference to 'the role of health promotion in improving population health'. Population health can relate to health and wellbeing or health status, but it should be noted that responses need to go further than the health and wellbeing or health status of an individual. Population health needs to refer to the health and wellbeing or health status of a group or groups of people (for example, the mental health and wellbeing of youth, incidence of cancer among males, or people of low socioeconomic status, etc.).

Governments have invested billions of dollars in health promotion in Australia over time because the cost of preventing ill health is significantly lower than the cost of treating diseases and injuries. Given that not all diseases and injuries can be prevented, it is important to invest in both the biomedical model of health and health promotion.

The Ottawa Charter for Health Promotion is used to guide the development of health promotion interventions and, as a result, the action areas of the Ottawa Charter will be used to identify key aspects of each strategy. The action areas are:

- Build healthy public policy
- Create supportive environments
- Strengthen community action
- Develop personal skills
- Reorient health services.

There are many factors that contribute to the health issues explored in this topic and, as a result, multiple action areas of the Ottawa Charter must be targeted to achieve the most significant improvements possible.

The impacts on health status of many of the issues covered in this topic were explored in detail in topic 3. Although some impacts on health status will be revisited in this topic, you can refer back to topic 3 for more information.

EXAM TIP

Health issues are often the product of a range of influences and, as a result, there is no single solution to bringing about improvements in health outcomes. Although very few health promotion initiatives focus on each of the five action areas of the Ottawa Charter for Health Promotion, the greatest gains are achieved when all action areas are addressed. You should be familiar with a range of health promotion initiatives so that examples of interventions relating to each action area can be discussed.

6.2.1 Health promotion focus — Smoking and vaping: Quit campaigns

Quit campaigns are run in each state and territory, sometimes as a joint venture between the state or territory government and the cancer council for the respective state or territory, although other organisations may be involved. This section focuses on the actions of Quit Victoria.

Quit Victoria (Quit) is a program run by the Cancer Council Victoria, which is funded by the Victorian Government and VicHealth, and is an example of *strengthening community action*. Quit Victoria aims to decrease the use of both traditional cigarettes and e-cigarettes by assisting individuals to quit and preventing the uptake of these behaviours. To achieve their aims, Quit employs a range of actions.

Quit *develops personal skills* by providing information regarding tobacco smoking and vaping and the benefits associated with not smoking or vaping. This is achieved through public education using mass media advertising campaigns, public relations and downloadable information on the Quit website.

FIGURE 6.1 Quit Victoria aims to assist individuals to quit smoking.

Funded by state and territory governments and implemented by Quit-like organisations around Australia, Quitline is a telephone service that people can use to receive advice and behaviour-change support to quit smoking and/or vaping. Quitline is a clinical service, staffed by highly trained specialists. It:

- *creates a supportive environment* by providing support throughout the quitting process
- *develops personal skills* by providing advice and practical strategies for quitting.

Aboriginal Quitline is a telephone helpline service that provides advice and behaviour-change support for Aboriginal and Torres Strait Islander people who would like to quit smoking and/or vaping. Quit Victoria's Aboriginal Quitline *strengthens community action* by using Aboriginal and Torres Strait Islander Quit specialists with additional training to assist people with smoking or vaping cessation in a culturally appropriate way.

FIGURE 6.2 Quitline provides telephone counselling for those wanting to quit smoking.

Quitline specialists provide callers with a plan for quitting that is tailored to their individual needs, as well as information on different quitting methods and products, and examples. Advisers can also link callers up with local support groups if requested.

There is currently an Aboriginal Quitline service for New South Wales, Victoria and Queensland, but all Quitline services in Australia are funded to provide culturally sensitive services to Aboriginal and Torres Strait Islander Peoples.

Online support is also available in Victoria through QuitCoach and QuitTxt on the Quit website. Both QuiteCoach and QuitTxt are provided free-of-charge to Victorians, while Quitline is available for the cost of a telephone call (or free if referred by a health professional). They are therefore available to all Australians regardless of socioeconomic status or geographical location. In addition to Quitline, QuitCoach and QuitTxt, the Quit Victoria website provides a range of materials to assist smokers and vapers in recognising reasons to quit, preparing to quit, staying smoke- and vape-free and managing setbacks. These promote knowledge by providing easy-to-follow steps that work to *develop personal skills*.

Quit *strengthens community action* by assisting health professionals, community groups and various population groups to create environments that support quitting. It does this by:

- providing specialist training for health professionals to implement proven 'brief interventions' and referrals to Quitline
- working with community and population groups to create public education materials, health information and treatment pathways for groups that still have high smoking and vaping rates, including Aboriginal and Torres Strait Islander Peoples, those experiencing mental disorders, and those with alcohol and other drug disorders.

Quit undertakes research and provides advice to the state government to *develop healthy public policies*. Examples of policies include laws relating to smoking and vaping in public places, advertising, the ban on disposable vapes and the display of cigarettes in retail outlets. Quit also provides advice to the federal government to inform the development of health policies such as tobacco packaging, tobacco taxes and e-cigarette restrictions.

Quit provides a free online learning training program for health professionals that assists in *reorienting health services*. Quit Victoria's Smoking Cessation Essentials course and Smoking Cessation Brief Intervention videos provide health professionals with knowledge and skills to:

- highlight the important role of health professionals and the effectiveness of smoking and vaping cessation interventions
- inform of the effects of smoking and vaping and the benefits to patients/clients in quitting
- provide an understanding of smoking and vaping behaviour
- help health professionals carry out brief smoking and vaping cessation interventions and assist them to help smokers and vapers quit in individual settings
- provide information about Quit Victoria's support services for smokers and vapers and how Quit can support the health professionals in assisting their patients/clients.

TABLE 6.1 Examples of potential impacts of Quit campaigns on health outcomes

Impacts on health status	Impacts on health and wellbeing
A decrease in the prevalence of smoking-related conditions such as cancer, cardiovascular disease and respiratory diseases	Reduced rates of smoking, resulting in higher levels of fitness in the population, promoting physical health and wellbeing
A reduction in premature death from smoking-related diseases and therefore increased life expectancy	Greater immune system function, resulting in lower levels of infectious diseases, meaning people can continue to work towards their purpose in life, such as attending work or school, promoting spiritual health and wellbeing
Lower morbidity rates from back pain	Lower levels of diseases, which can reduce the levels of stress and anxiety in the community because fewer people will develop life-threatening diseases, promoting mental health and wellbeing
Reduced YLD from asthma, especially among younger people	Lower levels of disease, which increase the capacity of people to stay socially connected, increasing levels of social health and wellbeing
Reduced incidence of low-birth weight babies, contributing to lower infant and under-5 mortality rates	If people do not develop conditions such as cancer and cardiovascular disease, they are able to think clearly, which assists in accurately recognising and responding to emotions, promoting emotional health and wellbeing

6.2.2 Health promotion focus — Alcohol misuse: the Good Sports program

The Good Sports program is run by the Alcohol and Drug Foundation (ADF), an independent and not-for-profit organisation, funded by state and federal governments.

The Good Sports program provides sports clubs with free tools, resources and practical support to *build healthy public policies* that reduce the negative impacts of alcohol misuse. It also helps clubs prepare for potential drug-related issues by assisting in the development and implementation of illegal drugs policies in the form of information and expert advice. This includes developing checklists for dealing with drug use within the club.

FIGURE 6.3 The Good Sports program provides practical support for reducing alcohol and drug misuse.

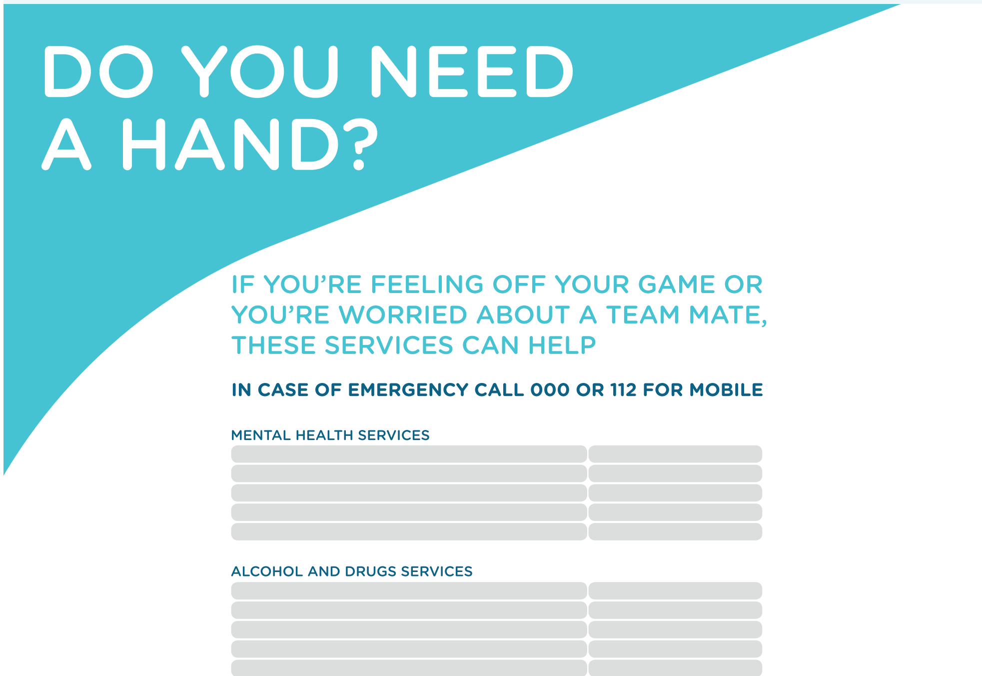
Moving away from an alcohol-centred culture *creates a supportive environment* by promoting healthier, safer and more family-friendly environments for sporting clubs. This is achieved by reducing alcohol-related aggression and violence, drink driving and chronic diseases such as some cancers and liver diseases.

By promoting positive behaviours around alcohol and fostering a safe, supportive atmosphere, the program *develops personal skills* by providing young club members with lifelong decision-making skills that reduce potential harms from alcohol, such as road trauma caused by drink driving.

The program *strengthens community action* by involving both parents and clubs to reduce junior players' exposure to alcohol, tobacco and illicit drugs, creating positive playing environments and equipping older players to act as positive role models and mentors.

The Good Sports program promotes healthy and inclusive conversations around mental health, leading to strong and positive support networks and assistance for members who seek help to combat mental illness (see **FIGURE 6.4**). This *reorients health services* by increasing access to health professionals before mental health issues escalate.

FIGURE 6.4 The Good Sports program encourages people to seek help when needed by providing resources, such as the 'Do you need a hand?' poster, for display at sporting clubs.



Source: https://goodsports.com.au/resources/do-you-need-hand-poster/

TABLE 6.2 Examples of potential impacts of the Good Sports program on health outcomes

Impacts on health status	Impacts on health and wellbeing
By reducing the risk of members driving under the influence of alcohol, mortality rates due to road trauma may decrease.	Members and volunteers are able to participate knowing it's a safe environment to socialise, promoting social health and wellbeing.
Reducing the consumption of alcohol may decrease the incidence of alcohol-related conditions such as cirrhosis of the liver.	Parents are likely to experience better mental health and wellbeing because they know their children are free to enjoy sport in a family-friendly environment, and can be assured the club will role-model healthy behaviours. This can reduce levels of stress and anxiety.
Social connectedness is a protective factor for mental health issues, so the program may decrease YLD associated with depression and anxiety.	Increasing connections to sporting clubs can provide members with a sense of connection to their world, promoting spiritual health and wellbeing.
Reducing alcohol consumption may mean fewer women drink while pregnant, decreasing the incidence of FASD.	Increasing participation in regular physical activity can assist in maintaining a healthy body weight, promoting physical health and wellbeing.
Reducing exposure to tobacco smoke can reduce morbidity due to asthma by decreasing the risk of asthma attacks.	The strong support networks created by the Good Sports program can assist individuals in working through challenges in their lives, promoting resilience and emotional health and wellbeing.

6.2.3 Health promotion focus — Road safety: Victorian Road Safety Strategy 2021–2030

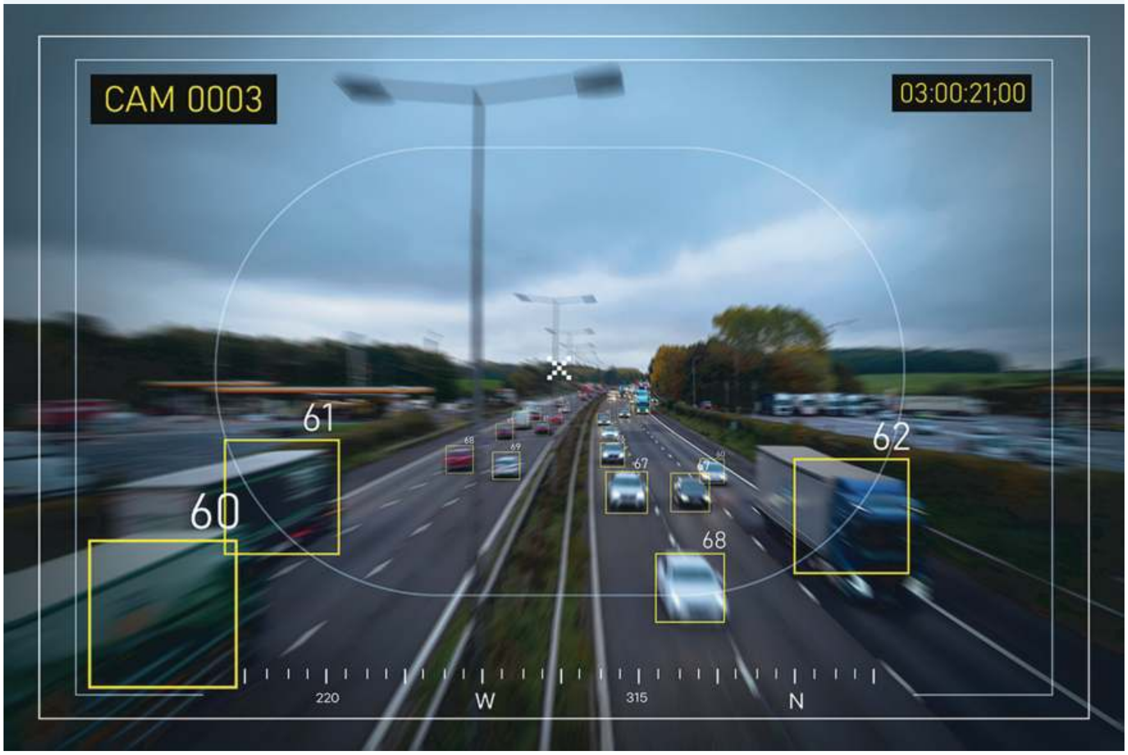
The Victorian Road Safety Strategy 2021–2030 is a *healthy public policy* developed by Road Safety Victoria in collaboration with Victoria's road safety partners: the Transport Accident Commission, Victoria Police, the Department of Justice and Community Safety, and the Department of Health and Human Services.

The strategy aims to halve the road toll by 2030 and to eliminate road accident deaths by 2050, by addressing the range of factors that contribute to road-related injuries, such as infrastructure, road laws, human behaviour and vehicle safety.

The strategy *strengthens community action* by acknowledging that road safety is complex, and that it takes a collective response by government agencies, industry partners and the Victorian community to deliver safer roads.

Under the strategy, the Victorian government is investing $35 million to *create a supportive environment* by delivering a fleet of new generation AI-enabled camera systems, utilising high-resolution cameras with image processing and machine learning software that can detect illegal mobile phone use, the absence of seatbelts and other offences.

FIGURE 6.5 AI-enabled cameras assist in creating a supportive environment by identifying those breaking safety rules.



Healthy public policies in relation to new laws and penalties will be developed to remove risk-takers from the roads swiftly, thereby *creating a supportive environment* for other road users. Under the strategy, agencies will work to *develop personal skills* by supporting drivers to better understand the safest vehicle options in their price range, thereby maximising the benefits of the most advanced in-vehicle lifesaving and crash prevention technology.

The strategy will work to *create a supportive environment* by continuing the roll-out of life-saving infrastructure, such as rumble strips and wire rope barriers throughout regional Victoria.

Developing personal skills through education initiatives is a big part of the Victorian Road Safety Strategy 2021–2030 and is illustrated by the Road to Zero: Road Safety Experience at Melbourne Museum, which works to provide education to secondary school students.

TABLE 6.3 Examples of potential impacts of the Victorian Road Safety Strategy on health outcomes

Impacts on health status	Impacts on health and wellbeing
Safer roads mean fewer car crashes, reducing the incidence of injuries.	Less road trauma means people are less likely to be injured, allowing their body systems to function more effectively, promoting physical health and wellbeing.
Less road trauma means fewer deaths, contributing to a higher life expectancy.	Fewer deaths on the road contributes to lower levels of grief in the community, promoting emotional health and wellbeing.
Reducing the number of permanent disabilities caused by road trauma acts to reduce YLD.	If people are not injured as a result of road accidents, they are able to continue spending time with friends, increasing social health and wellbeing.

6.2.4 Health promotion focus — Skin cancer: SunSmart

SunSmart is an initiative of Cancer Council Victoria. It was launched in 1988 and is funded by Cancer Council Victoria and the Victorian Health Promotion Foundation (VicHealth). In 2004, SunSmart was appointed the World Health Organization's Collaborating Centre for UV Radiation. It is a world leader in skin cancer prevention.

UV index a scale from 1–11+ that provides an indicator of how intense UV radiation will be. Sun protection methods are recommended for any UV index score of 3 and over

One of the first campaigns developed to promote sun protection was Cancer Council Victoria's 1980 'Slip, Slop, Slap' campaign featuring Sid the Seagull (see **FIGURE 6.6**).

Today, SunSmart *develops personal skills* through mass advertising campaigns. These include paid and unpaid media strategies (television, radio, print, digital and public relations activities) that help people know when they need sun protection. Examples of media campaigns include:

- 'Slip, Slop, Slap, Seek, Slide' — during sun protection times (when the **UV index** reaches 3 or higher), SunSmart recommends using a combination of sun protection measures: *Slip* on covering clothing; *Slop* on SPF30 or higher, broad-spectrum, water-resistant sunscreen; *Slap* on a broad-brimmed hat; *Seek* shade; and *Slide* on sunglasses
- 'UV. It all adds up' — this campaign raised awareness about the cumulative effect that UV exposure can have over long periods of time
- 'There's nothing healthy about a tan' — this campaign highlights the fact that even one damaged melanocyte can lead to skin cancer, therefore tanning to any degree is dangerous
- 'How to remove a skin cancer' — graphic footage was shown of skin cancer removal to act as a deterrent to spending too much time in the sun
- 'When you cover things, they last longer. Same goes for you.' — targeting males, this campaign shows that protecting 'things' from the sun can make them last longer, including cars, decks and barbecues. It then reminds men that the same applies to their skin, at any age.

FIGURE 6.6 Sid the Seagull featured in one of Cancer Council's most successful sun protection advertising campaigns.

SunSmart works to *create supportive environments* by improving environmental protection strategies, such as providing information on options for built and natural shade, and promoting the SunSmart UV app, which includes sun protection times based on UV levels for the day.

SunSmart *strengthens community action* by assisting organisations such as early childcare centres, schools and workplaces to implement sun safety measures to protect their members.

SunSmart has developed a range of *healthy public policies* that can be adapted to individual childcare centres, kindergartens, schools and workplaces. The SunSmart Primary School and Secondary School programs encourage schools to implement a SunSmart policy that meets Cancer Council Victoria's criteria. These include using a combination of sun protection measures during sun protection times. Sun protection measures include clothing, hats, sunscreen, shade and sunglasses. SunSmart also encourages SunSmart education within the school's curriculum, which *develops personal skills*.

SunSmart assists in *reorienting health services* by providing support for community health workers, general practitioners and local governments in promoting awareness of UV exposure and early detection of skin cancer. This support includes advice on strategy development, making research available to health professionals, and making advertising and educational materials available for use by health professionals.

TABLE 6.4 Examples of potential impacts of SunSmart on health outcomes

Impacts on health status	Impacts on health and wellbeing
Reducing UV exposure acts to reduce the incidence of skin cancer.	Lower levels of UV exposure means fewer people will develop skin cancer, meaning more people are living without disease, promoting physical health and wellbeing.
Reducing rates of melanoma can reduce the number of premature deaths that this condition causes, increasing both HALE and life expectancy.	Skin cancer surgery can be disfiguring because large amounts of tissue may be removed. Reducing this can mean fewer people experience low self-esteem as a result of their changed appearance.
Reducing skin cancer rates means that fewer people will have to undergo surgery, reducing YLD.	Reducing rates of skin cancer means fewer people will die from this disease, reducing levels of grief within the community and promoting emotional health and wellbeing.

6.2.5 Health promotion focus — Overweight and obesity: LiveLighter

LiveLighter is a public health education campaign developed by the West Australian Department of Health in conjunction with the Heart Foundation WA and Cancer Council WA. In Victoria, the program is implemented by the Victorian Department of Health and Cancer Council Victoria. LiveLighter works to help people to eat well, be physically active and avoid excess weight gain.

The program *develops personal skills* by providing fact sheets and a range of healthy recipes to download for free from its website.

LiveLighter also works to *create supportive environments* that make the healthy option the easy option. This is done by advocating for less promotion of junk food, better access to healthy food for all, improved food labelling and infrastructure, and policies to empower people to be more active. The program *strengthens community action* by working with retailers, universities, community organisations and all levels of government to make this happen.

LiveLighter *reorients health services* by providing professional development opportunities for health professionals, including general practitioners, that include topics such as 'Weight management training for health professionals' and 'Talking to patients about health and weight'. This can assist in reducing the risk of patients developing obesity-related conditions such as cardiovascular disease and type 2 diabetes.

LiveLighter develops *healthy public policies* that workplaces can use to promote healthy eating and physical activity. Policy templates are available to download for free from the LiveLighter website (see **FIGURE 6.7**). The traffic light system acknowledges that food items have different nutrients that fall in to different colour categories. However, it provides a rough guide, aiming to encourage people to eat foods with at least two nutrients in the green category and none in the red.

FIGURE 6.7 LiveLighter promote the development of healthy eating policies such as the traffic light system that classifies foods as green, amber and red.

TABLE 6.5 Examples of potential impacts of LiveLighter on health outcomes

Impacts on health status	Impacts on health and wellbeing
Reducing rates of obesity can contribute to lower incidence of related conditions such as arthritis, depression and type 2 diabetes.	Reducing rates of obesity can mean that people have more energy, promoting physical health and wellbeing.
Reducing levels of obesity in the community can mean that fewer people die prematurely from heart attack and stroke, decreasing mortality rates.	Overweight and obesity can cause people to feel self-conscious, so reducing these conditions can contribute to higher levels of self-esteem among the population.
If fewer deaths occur as a result of obesity-related conditions, the population will experience an increase in life expectancy.	When people have a healthy body weight, they are more likely to participate in social activities such as going to the beach with friends, promoting social health and wellbeing.

The following table summarises examples of health promotion in relation to each of the five action areas of the Ottawa Charter.

TABLE 6.6 Action areas of the Ottawa Charter reflected in health promotion

	Examples of health promotion				
	Quit	**Good Sports**	**Victorian Road Safety Strategy**	**SunSmart**	**LiveLighter**
Build healthy public policy	Quit undertakes research and provides advice to governments about smoking policies.	Good Sports assists clubs in developing policies to regulate alcohol intake.	The Victorian Road Safety Strategy is a healthy policy that is working to reduce road trauma.	SunSmart provides organisations with sun protection policies that can be adapted to their individual needs.	LiveLighter provides policy options for workplaces that promote healthy eating and regular physical activity.
Create supportive environments	Trained staff provide support to people wanting to quit through Quitline.	Good Sports assists in reducing alcohol intake, making clubs safer and more welcoming.	AI-enabled cameras have the potential to discourage dangerous driving, such as using mobile phones, which can create a safer environment for other road users.	SunSmart provides advice for shade options for organisations such as primary schools.	LiveLighter advocates for less exposure to junk food, making healthier options easier options.
Strengthen community action	Aboriginal Quitline uses Aboriginal people to help Aboriginal and Torres Strait Islander people quit smoking.	Good Sports encourages involvement from clubs, members and parents of younger members to promote its messages.	The Victorian Road Safety Strategy encourages input from governments, industry partners and the Victorian community to promote safer roads.	SunSmart works with organisations such as childcare centres, schools and workplaces to assist them in implementing sun protection measures.	LiveLighter works with retailers, universities, community organisations and all levels of government to promote better access to healthy foods and infrastructure.
Develop personal skills	Quit provides information regarding tobacco smoking and vaping and the benefits associated with not smoking or vaping.	Good Sports assists in role modelling healthy behaviours by not misusing alcohol. This can develop the personal skills of younger members.	The Road to Zero education initiative works to provide secondary school students with road safety knowledge.	SunSmart conducts mass advertising campaigns that raise awareness surrounding UV exposure and its potential dangers.	LiveLighter develops personal skills by creating free recipes for consumers to use to prepare healthy meals.

(continued)

TABLE 6.6 Action areas of the Ottawa Charter reflected in health promotion *(continued)*

	Examples of health promotion				
	Quit	**Good Sports**	**Victorian Road Safety Strategy**	**SunSmart**	**LiveLighter**
Reorient health services	Quit provides a free online training program for health professionals to assist them in helping their patients to quit.	Good Sports encourages assistance for members who may need a referral to a health professional. This promotes early intervention, which can prevent further ill health.		SunSmart provides support for health professionals in promoting awareness of UV exposure and early detection of skin cancers.	LiveLighter provides professional development for GPs to assist them in talking to their patients about health and weight.

6.2 Exercises

6.2 Quick quiz on | **6.2 Exercise**

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Test your knowledge

1. What is meant by health promotion?
2. a. Outline the role of health promotion in improving population health (hint: how does this approach attempt to improve health outcomes?).
   b. Briefly explain how the role of health promotion differs from the role of the biomedical model in relation to improving population health.
3. Briefly explain two reasons why certain issues are targeted by health promotion.
4. Outline two ways that health promotion reflects each of the five Ottawa Charter action areas.

Apply your knowledge

5. Referring to an issue of your choice, discuss how health promotion can promote health status in Australia.
6. Referring to an issue of your choice, discuss how health promotion can promote health and wellbeing in Australia.
7. Using two examples, explain the role of health promotion in reducing morbidity in relation to smoking and vaping in Australia.
8. Using two examples, explain the role of health promotion in reducing YLL in relation to alcohol consumption in Australia.
9. Using two examples, explain the role of health promotion in promoting mental health and wellbeing in Australia.
10. Using two examples, explain the role of health promotion in promoting social health and wellbeing in Australia.
11. ‘Health promotion is the most effective way to improve health outcomes in Australia.’ To what extent do you agree with this statement?

6.2 Exam questions

Question 1 (6 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.10.b*; © VCAA

headspace campaign ['Take a Step'] empowers Aboriginal and Torres Strait Islander young people to manage mental health

headspace Bunbury is proud to join with communities across Australia in a landmark campaign that empowers Aboriginal and Torres Strait Islander young people to take charge of their … wellbeing.

… the 'Take a Step' [campaign] … encourages Aboriginal and Torres Strait Islander young people to recognise the signs that something's not right – and provides small, practical steps towards feeling better.

'Take a Step understands the need to think about Aboriginal and Torres Strait Islander wellbeing holistically, considering the ways our culture, identity, place and spirituality can make us feel strong.'

… 'Take a Step' television and radio advertisements [are] broadcast nationally and in select cinemas. A suite of print and online resources [community-based chat feature, videos and culturally appropriate fact sheets] for young people, and for family and friends with a young person in their lives, are also available …

'Take a Step' is an initiative of headspace and funded by the Department of Health and Aged Care and Minister for Indigenous Australians.

Source: headspace, 'Take a Step headspace Campaign', 25 August 2021, <https://headspace.org.au/headspace-centres/bunbury/take-a-step-headspace-campaign/>; © Headspace National Youth Mental Health Foundation Ltd

Identify and **describe** two action areas of the Ottawa Charter for Health Promotion that are reflected in the Take a Step campaign and **explain** how they are evident.

Question 2 (6 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.4*; © VCAA

'The harmful use of alcohol is one of the leading risk factors for population health worldwide …'

Source: World Health Organization, Global Status Report on Alcohol and Health 2018, Geneva, 2018, p. xii, licence: CC BY-NC-SA 3.0 IGO

Discuss two action areas of the Ottawa Charter for Health Promotion that could be used to address increased rates of alcohol consumption.

Question 3 (6 marks)

Source: *VCE 2018, Health and Human Development Exam, Q.11.a;* © VCAA

The AMA [Australian Medical Association] wants the Government to use tax policy to force up the prices of sugar-sweetened drinks to change behaviour …

For the AMA, taxing them is far from the single solution to the obesity or diabetes epidemics …

Source: Emily Clark, 'The AMA wants sugar-sweetened drinks taxed, but will it happen?', ABC News, 7 January 2018, www.abc.net.au

Using your knowledge of effective health promotion, including the Ottawa Charter for Health Promotion, **explain** why taxing soft drinks is not the only solution to addressing the obesity epidemic.

Question 4 (3 marks)

Identify a health promotion program and **describe** how its implementation reflects two action areas of the Ottawa Charter for Health Promotion.

Question 5 (6 marks)

Referring to action areas of the Ottawa Charter, **discuss** the potential of health promotion to address obesity in Australia.

More exam questions are available in your learnON title.

6.3 Programs to improve Aboriginal and Torres Strait Islander Peoples' health

Key knowledge	Key skills
Programs to improve Aboriginal and Torres Strait Islander Peoples' health, including how they promote social justice	• Analyse initiatives introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in Australia, and how they reflect the action areas of the Ottawa Charter for Health Promotion and social justice • Evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• examples of programs introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing • what is meant by social justice • specific aspects of social justice.	• describe a range of examples of programs introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing • explain how these programs reflect action areas of the Ottawa Charter and social justice • use criteria to evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice.

When exploring programs that promote Aboriginal and Torres Strait Islander Peoples' health, it is important to be able to discuss how the interventions reflect social justice, because a focus on social justice ensures the underlying causes of disadvantage are addressed. In order to do this, specific aspects of social justice must be understood.

6.3.1 What is social justice?

Social justice relates to fairness within society and is based on the following principles:

- human rights — Human rights relate to the freedoms and conditions that every person is entitled to, regardless of factors such as race, religion, gender identity, sexual orientation, age and sex. Governments must work to ensure that all people have their human rights protected, respected and promoted.
- access — All people must have adequate access to the resources and opportunities they need to thrive, including food, safe water, shelter, education, employment, income and health care, and to participate in the decisions that affect their lives, such as if and when they get married or have children, or the sorts of jobs they do.
- participation — Everyone in society has the opportunity to participate in their community and have their voice represented.
- equity — Disadvantaged individuals and groups need to have their specific challenges addressed, so they can achieve the same level of health and wellbeing as others in the population. In this sense, equity relates to providing more support for those who need it.

6.3.2 Programs to improve Aboriginal and Torres Strait Islander Peoples' health

As explored in topic 4, there are a number of biological, sociocultural and environmental factors that contribute to variations in health outcomes between population groups in Australia.

Aboriginal and Torres Strait Islander Australians often experience factors that contribute to variations in health outcomes and therefore have the potential to experience significant health improvements. Examples of health inequalities experienced by Aboriginal and Torres Strait Islander Peoples include:

- life expectancy about 8.5 years less than other Australians
- higher mortality rates in each age group
- twice as likely to have a severe profound disability
- twice the rate of low birth weight babies and infant mortality than the rest of the population
- half as likely to rate health status as excellent or very good
- burden of disease rates 2.3 times higher than the non-Indigenous population
- injury death rates two times higher than that experienced by non-Indigenous people
- higher rates of chronic conditions including cancer, respiratory disease (including asthma) and cardiovascular disease
- high or very high levels of psychological distress experienced at three times the rate of the non-Indigenous population
- diabetes/high glucose rates around 3.5 times higher than the rest of the population
- chronic kidney disease rates nearly four times higher than the rest of the population
- higher rates of STIs.

As a result of these variations, numerous programs targeting factors that contribute to inequality for Aboriginal and Torres Strait Islander Peoples have been implemented. Exploring some of these initiatives allows successful interventions to be identified and built upon in the future to bring greater gains in health outcomes for Aboriginal and Torres Strait Islander Peoples.

Closing the Gap

In March 2008, the Council of Australian Governments (COAG), which includes Australian, state, territory and local government representatives, agreed 'to work together to achieve equality in health status and life expectancy between Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians by the year 2030'. In 2020, after consultation with Aboriginal and Torres Strait Islander representatives, the agreement was updated to include Aboriginal and Torres Strait Islander groups in addition to governments. This works to *strengthen community action* by having multiple stakeholders involved in the planning and implementation of the agreement. The original targets were also reviewed and updated to broaden the focus to achieving equality in all aspects of life and to accelerate progress towards meaningful change. The revised date for achieving these targets is 2031. This commitment is known as 'Closing the Gap' and represents a *healthy public policy*.

FIGURE 6.8 Increasing participation in education or training is a target of Closing the Gap.

To evaluate change in relation to the Closing the Gap initiative, the new agreement identifies 16 targets to monitor improvements in Aboriginal and Torres Strait Islander Peoples' health and wellbeing. The targets reflect social justice by aiming to improve health outcomes, educational attainment, employment and housing; reduce incarceration, out-of-home care, violence and suicide; and promote legal rights relating to land and water and the number of Aboriginal and Torres Strait Islander languages spoken. The specific targets reflect various aspects of social justice and include:

- by 2031, close the gap in life expectancy within a generation
- by 2031, increase the proportion of Aboriginal and Torres Strait Islander babies with a healthy birth weight to 91 per cent
- by 2031, increase the proportion of Aboriginal and Torres Strait Islander youth (aged 15–24 years) who are in employment, education or training to 67 per cent

- by 2031, increase the proportion of Aboriginal and Torres Strait Islander people living in appropriately sized (not overcrowded) housing to 88 per cent
- a significant and sustained reduction in violence and abuse against Aboriginal and Torres Strait Islander women and children towards zero
- a significant and sustained reduction in the suicide of Aboriginal and Torres Strait Islander people towards zero.

Under the Closing the Gap strategy, numerous interventions have been put in place. It is not possible to explore all of these interventions in this subtopic, but a series of case studies have been selected to highlight the work happening under the Closing the Gap initiative.

Deadly Choices initiative

In Aboriginal slang, the term 'deadly' is used to describe something that is great. Beginning in Queensland in 2010 and spreading throughout Australia, the Deadly Choices initiative works to encourage and empower Aboriginal and Torres Strait Islander people to make healthy choices for themselves and their families — to stop smoking, eat good food and exercise daily. To achieve these goals, the Deadly Choices initiative works to *develop personal skills* by providing a range of education programs, including tobacco cessation programs and cooking programs.

Another key component of the Deadly Choices initiative is to encourage people to access their local Community Controlled Health Service and complete an annual health check. This works to *reorient health services* by allowing health workers to identify those at risk of health concerns and address them prior to the onset of disease or injury.

FIGURE 6.9 Aboriginal and Torres Strait Islander cultures have a long and rich history that must be considered when providing health care to ensure that the care provided is appropriate.

Deadly Choices works to *strengthen community action* by empowering Aboriginal and Torres Strait Islander communities to provide health services managed by fellow community members. Culturally appropriate health care has been shown to increase the rate at which Aboriginal and Torres Strait Islander people access health care. Appropriate health care works to improve health and wellbeing outcomes, especially for vulnerable groups such as pregnant women and young children.

The Deadly Choices program promotes social justice as a result of:

- providing access to education and health care. This is done by empowering Aboriginal and Torres Strait Islander Peoples, which further promotes social justice.
- promoting equity because Aboriginal and Torres Strait Islander Peoples experience worse health outcomes, including lower life expectancy, than other Australians.

The 2Spirits program

The '2Spirits' program embraces a 'whole of community approach' to improve the sexual health and wellbeing of Aboriginal and Torres Strait Islander gay men, **sistergirls** and **brotherboys** through education, prevention, health promotion and community development activities.

Examples of some of the services 2Spirits provides include:

- printed resources and campaigns
- peer education workshops

sistergirls Aboriginal and Torres Strait Islander transgender women (assigned male at birth) who have a distinct cultural identity and often take on female roles within the community, including looking after children and family (2015, Sisters & Brothers NT)

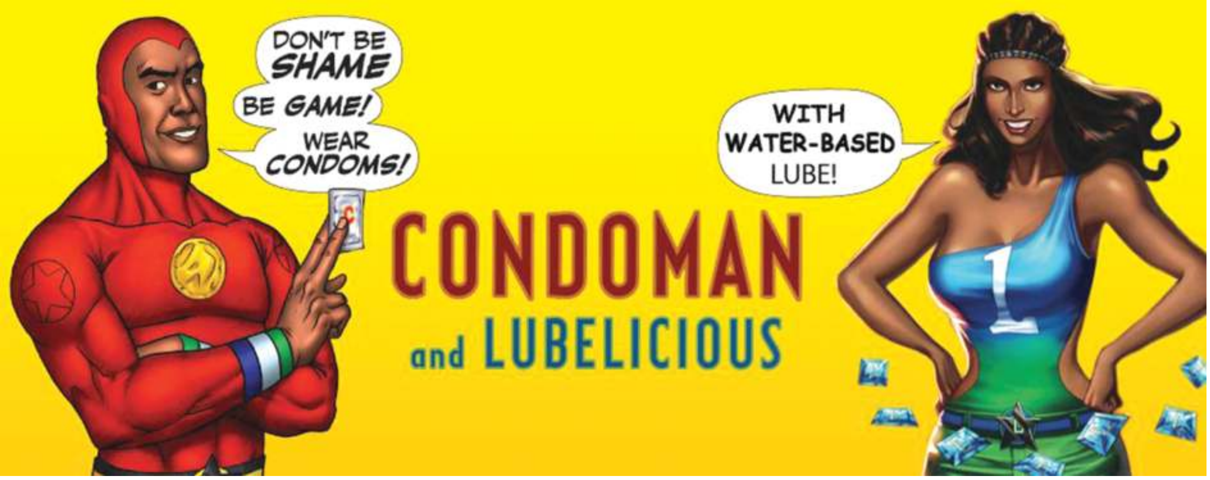
brotherboys Aboriginal and Torres Strait Islander transgender men (assigned female at birth) who have a distinct cultural identity and often take on male roles within the community.

- professional development programs
- retreats for gay men, sistergirls and people living with HIV
- social support groups.

2Spirits assists in *reorienting health services* by delivering an Inclusive Services Training Package for health professionals to improve their ability to appropriately support Aboriginal and Torres Strait Islander LGBTQI sistergirl and brotherboy people.

In the late 1980s, the cartoon characters 'Condoman' and 'Lubelicious' were created to *develop personal skills* of Aboriginal and Torres Strait Islander people in relation to sexual health in a culturally appropriate way. The characters were relaunched by 2Spirits in 2009 (see **FIGURE 6.10**) and include resources such as comic books, short video clips, posters, key rings, condom packs and a Facebook page.

FIGURE 6.10 Condoman and Lubelicious were developed to promote safe sex among Aboriginal and Torres Stright Islander Peoples.



Source: https://condoman.com.au/history

2Spirits works to *strengthen community action* by conducting community forums across the state to develop rapport and partnerships with community stakeholders and services. The aim is to work in collaboration to promote community awareness of health and wellbeing, sexuality, gender identities, inclusion and acceptance.

The peer education program *creates a supportive environment* by providing a culturally appropriate and safe network for people of all ages to promote access to health and wellbeing education, resources and support.

2Spirits assists in *developing healthy public policies* by providing consultancy to non-government organisations (NGOs), and government and non-government agencies to include cultural identities, gender identities and sexuality of Aboriginal and Torres Strait Islander LGBTQI sistergirl and brotherboy people as core elements of frameworks and policies.

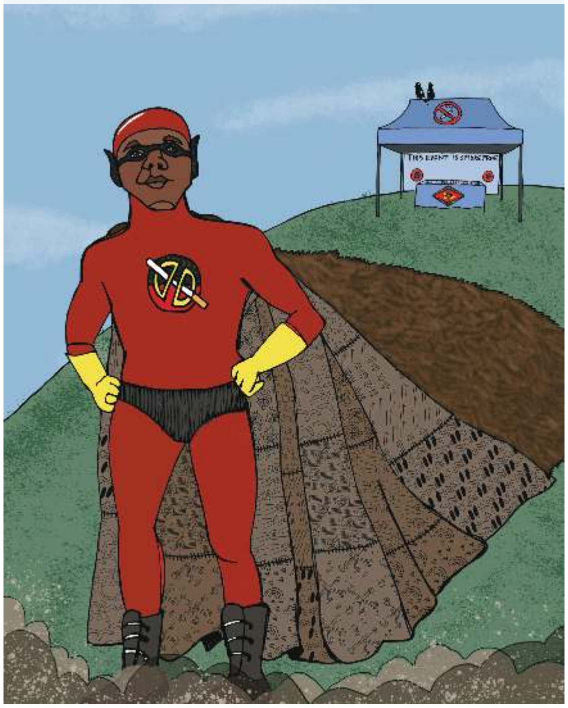
2Spirits reflects social justice by focusing on a disadvantaged group within the Aboriginal and Torres Strait Islander community. It is also working to promote human rights to ensure that all people feel accepted and able to fully participate in their community.

Tackling Indigenous Smoking (TIS) initiative

The Tackling Indigenous Smoking (TIS) program is a federal government initiative that works to improve life expectancy among Aboriginal and Torres Strait Islander Peoples by reducing tobacco use. Local organisations run activities designed to reduce smoking rates. Resources and tools are available to support these activities, specifically:

- The TIS program *reorients health services* by implementing the three-day Quitskills training program, providing knowledge and skills for frontline community and health workers to assist them in supporting Aboriginal and Torres Strait Islander people in quitting smoking.
- It provides regional tobacco grants for local organisations to implement tobacco cessation activities and Aboriginal Quitline enhancement grants, which aim to improve the capacity of Quitline services to provide accessible and culturally appropriate services to Aboriginal and Torres Strait Islander Peoples. These grants assist in *creating a supportive environment.*
- The TIS program assists in *developing healthy public policy* by advising the Australian government on policies that can assist in closing the gap by reducing smoking among Aboriginal and Torres Strait Islander Peoples. Developing and implementing smoke-free policies for other organisations is another key activity that the TIS program supports.

FIGURE 6.11 Deadly Dan, the Smoke-Free Man has been used to educate young Aboriginal and Torres Strait Islander people about the dangers of smoking.



Source: https://www.vahs.org.au/wp-content/uploads/2018/06/Deadly-Dan-at-the-League-full-book.pdf

- The TIS, in conjunction with the Victorian Aboriginal Health Service (VAHS), worked to *develop personal skills* by developing a fully illustrated children's book addressing tobacco use and promoting healthy behaviours through a well-known health promotion character in the community: Deadly Dan, the Smoke-Free Man. Deadly Dan is a nationally recognised character who was originally designed and distributed by the Centre for Excellence in Indigenous Tobacco Control (CEITC). This book is now accompanied by a suite of Deadly Dan resources, including a colouring book, stickers, t-shirts with cloaks, a possum-skin cloak with quit journey stories, a Deadly Dan costume, a 7-minute film version of the story, and an education suite for early years and primary school teachers. These resources all emphasise Deadly Dan's catchy slogan: 'You Smoke, You Choke!'

The TIS promotes social justice by addressing a significant issue within the Aboriginal and Torres Strait Islander community. Rates of smoking are significantly higher in this group, contributing to inequality in health status, including higher rates of preventable deaths and lower life expectancy. It does this by empowering people and giving them access to resources they need to thrive, including education and health care.

Aboriginal Quitline

Aboriginal Quitline is a telephone counselling service that *creates a supportive environment* by providing confidential support for Aboriginal and Torres Strait Islander people who want to quit smoking. The service is available to clients in Victoria, New South Wales and Queensland.

Aboriginal Quitline staff are professionals with specialist training to help people quit smoking in a culturally appropriate way. Counsellors provide callers with a plan for quitting that is tailored to their individual needs, as well as information on different quitting methods and products, which *develops personal skills*. Counsellors can also provide callers with links to local support groups if requested, which assists in *creating a supportive environment.*

The following table summarises examples of programs introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in relation to each of the five action areas of the Ottawa Charter.

Aboriginal Quitline reflects social justice by addressing an issue that contributes significantly to the lower health status experienced by Aboriginal and Torres Strait Islander Peoples, therefore promoting equity. It does this by providing access to resources that people need to thrive, including culturally appropriate education and health care.

TABLE 6.7 Action areas of the Ottawa Charter reflected in health promotion

	Examples of health promotion	
Build healthy public policy	Closing the Gap is a policy designed to promote health outcomes for Aboriginal and Torres Strait Islander Peoples.	2Spirits provides consultancy to non-government organisations (NGOs), and government and non-government agencies to include cultural identities, gender identities and sexuality of Aboriginal and Torres Strait Islander LGBTQI sistergirl and brotherboy people as core elements of frameworks and policies.
Create supportive environments	The Deadly Choices program provides culturally appropriate health care using people from the local community.	Aboriginal Quitline is a telephone counselling service that provides confidential support for Aboriginal and Torres Strait Islander people who want to quit smoking.
Strengthen commuinity action	Close the Gap involves multiple stakeholders in its planning and implementation.	Deadly Choices empowers Aboriginal and Torres Strait Islander communities to provide health services managed by fellow community members.
Develop personal skills	The 2Spirits program presents community forums focusing on HIV/AIDS, sexual health and wellbeing, injecting drug use, discrimination and sexuality issues. These forums increase knowledge and understanding within Aboriginal and Torres Strait Islander communities.	'Condoman' and 'Lubelicious' were created to develop personal skills of Aboriginal and Torres Strait Islander Peoples in relation to sexual health in a culturally appropriate way.
Reorient health services	The Deadly Choices initiative encourages people to access their local Community Controlled Health Service and complete an annual health check, meaning that those who are at risk of disease can be identified and interventions put in place.	2Spirits delivers an Inclusive Services Training Package for health professionals to improve their ability to appropriately support Aboriginal and Torres Strait Islander LGBTQI sistergirl and brotherboy people.

6.3.3 Evaluating initiatives in relation to their capacity to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing

It is important to evaluate initiatives to ensure they are as effective as possible in promoting Aboriginal and Torres Strait Islander Peoples' health outcomes. Funding is generally limited and ensuring that the most effective interventions are implemented contributes to the greatest gains being achieved.

EXAM TIP

When evaluating programs for Aboriginal and Torres Strait Islander Peoples, you are required to make judgements on the actual or potential effectiveness of the program in promoting health outcomes. As a part of this process, it is important to include a discussion as to how features of the program assist in making it effective, or how a limitation of the program may decrease its effectiveness. For example, including education can assist in making a program effective, but how? It is because education can be retained after the program ends, leading to sustainable improvements. Education can also be passed on to other members of the community, meaning that health promotion messages spread.

There is no set criteria that must be used when evaluating initiatives and programs. Often, specific characteristics of the program may lead to it being effective, even though the feature may not be mentioned in any criteria or list of features of effective programs. For example:

- Making programs and initiatives free for participants increases access to those of lower socioeconomic groups, increasing the effectiveness of the program.
- Having initiatives raise awareness through television advertisements can increase the number of people exposed to the initiative without having to leave their home, increasing access and therefore effectiveness.

Neither of these features are included in the list of potential criteria below, but both can be explained in terms of their ability to increase the effectiveness of a program.

In order to evaluate programs to improve Aboriginal and Torres Strait Islander Peoples' health, reasons why the initiative is judged to be effective or ineffective should be included and can be based on a number of considerations. Considerations for evaluating programs for Aboriginal and Torres Strait Islander Peoples include:

- actual improvements in health outcomes that have been made as a result of the initiative — Effective initiatives conduct research to determine the level of success achieved. This information can provide evidence for the actual successes of the initiative and the improvements to health outcomes that have been achieved.
- the number of people who have accessed or been involved in the initiative — Many programs keep records on the number of people taking part. An increase in participants over time and/or participants taking part over an extended period can indicate that the target audience is engaged with the initiative, assisting in achieving its goals.
- feedback provided by participants — Those taking part in the program often provide information about their personal experiences, which can indicate the level of success in promoting Aboriginal and Torres Strait Islander health outcomes.
- action areas of the Ottawa Charter that are evident in the initiative, including:
  - *develop personal skills* through the provision of education — Education is a resource that people can use to promote their health and wellbeing long after the program finishes.
  - *strengthen community action* by the involvement of various stakeholders and other concerned groups in the planning and implementation of the initiative — When various stakeholders are involved in the planning or implementation of the program, each can bring their strengths and expertise, contributing to the success of the program.
- whether the initiative is culturally appropriate for Aboriginal and Torres Strait Islander Peoples, including the consultation, use and training of Aboriginal and Torres Strait Islander personnel in planning and delivering the program — culture is a strong influence in the lives of many Aboriginal and Torres Strait Islander people. Ensuring interventions are culturally appropriate can assist in increasing participation in the program and improved health and wellbeing outcomes.

- whether the initiative has taken the specific needs of the target group into account, including the specific needs relating to health outcomes for Aboriginal and Torres Strait Islander Peoples — the most significant gains in health outcomes occur when the areas requiring the most attention are the focus.
- funding that has been provided to implement the initiative — most interventions require some sort of financial support to ensure they are planned and implemented appropriately. The provision of adequate funding therefore assists the intervention in achieving its goals.
- whether the initiative addresses a significant health issue for Aboriginal and Torres Strait Islander Peoples and why it is important to address this issue. For example, food intake is a key contributor to negative health outcomes for many Aboriginal and Torres Strait Islander people. Focusing on this factor can therefore contribute to significant improvements in Aboriginal and Torres Strait Islander Peoples' health outcomes.

FIGURE 6.12 Considerations in evaluating programs for Aboriginal and Strait Islander Peoples

EXAM TIP

In many cases, using one of these considerations will not be enough to justify a judgement. As a result, a range of reasons should be used to add depth to the response.

6.3 Activities

1. Access the **Closing the Gap** weblink and worksheet in the Resources tab and complete the worksheet.
2. Access the **2Spirits** weblink and worksheet in the Resources tab and then complete the worksheet
3. Access the **Condoman** and **Lubelicious** weblinks in the Resources tab and then complete the worksheet.
4. Access the **Deadly Sista Girlz** weblink and worksheet in the Resources tab and then complete the worksheet.
5. Access the **Deadly Dan, the Smoke-Free Man** weblink in the Resources tab and complete the worksheet.

on Resources

Digital documents
Closing the Gap worksheet (doc-32212)
2Spirits worksheet (doc-32003)
Condoman and Lubelicious (doc-41615)
Deadly Sista Girlz (doc-41616)
Deadly Dan, the Smoke-Free Man (doc-41617)

Weblinks
Closing the Gap
2Spirits
Condoman
Lubelicious
Deadly Sista Girlz
Deadly Dan, the Smoke-Free Man

6.3 Exercises

6.3 Quick quiz on | **6.3 Exercise**

Learning pathways

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Test your knowledge

1. a. What is meant by 'social justice'?
   b. Outline the four principles of social justice.
2. Explain why social justice is an important consideration in developing programs to promote health outcomes for Aboriginal and Torres Strait Islander Peoples.
3. Briefly explain why Aboriginal and Torres Strait Islander Peoples are the target of health promotion activities.
4. Explain how exploring interventions already put in place can promote Aboriginal and Torres Strait Islander Peoples' health outcomes in the future.
5. Briefly explain the Closing the Gap initiative.
6. Briefly describe two health promotion interventions working to promote the health and wellbeing of Aboriginal and Torres Strait Islander Peoples.
7. Briefly discuss three considerations when evaluating the capacity of programs to improve Aboriginal and Torres Strait Islander health outcomes.

Apply your knowledge

8. Identify three targets of the Closing the Gap initiative and discuss how progress in each could be made by interventions discussed in this subtopic.
9. Briefly discuss how the action areas of the Ottawa Charter are evident in initiatives to improve Aboriginal and Torres Strait Islander Peoples' health and explain how each might promote health and wellbeing and health status.

10. Explain how programs covered in this subtopic reflect social justice. Use the four principles of social justice in your response.
11. Use the considerations discussed in this subtopic to evaluate the following initiatives in relation to their capacity to improve Aboriginal and Torres Strait Islander Peoples' health outcomes:
    a. Deadly Choices initiative
    b. 2Spirits program
    c. Tackling Indigenous Smoking (TIS) initiative.

6.3 Exam questions

Question 1 (4 marks)

Source: *VCE 2020, Health and Human Development Exam, Q.8.a*; © VCAA

Aboriginal and Torres Strait Islander Sexual Health [ASH program]

The WA [Western Australian] AIDS Council works to provide holistic and culturally appropriate services for and with Aboriginal and Torres Strait Islander communities in the metropolitan area and rural and remote areas of Western Australia.

The principles of the program we provide are:
- Holistic Health – Physical well-being, social, emotional and cultural well-being [for] the whole of community.
- Self determination – Aboriginal and Torres Strait Islander people involved in all aspects of health care delivery – planning and development, implementation and evaluation.
- Right for Aboriginal and Torres Strait Islander people to choose different models of health care with health programs tailored to fit the needs of the broader Aboriginal and Torres Strait Islander community groups.
- Health care services are culturally appropriate and are accessible.

We provide tailored HIV/AIDS education and prevention knowledge and training in Aboriginal and Torres Strait Islander community organisations and non-Aboriginal organisations.

We encourage and pursue joint initiatives with Aboriginal agencies and non-Aboriginal agencies with the aim of increasing capacity of ongoing appropriate interagency responses and commitment.

Source: Western Australian AIDS Council, https://waaids.com/item/12-ash-project.html

Explain how the ASH program can lead to improved health and wellbeing outcomes for Aboriginal and Torres Strait Islander people.

Question 2 (3 marks)

Source: Adapted from *VCE 2020, Health and Human Development Exam, Q.8.b*; © VCAA

Identify one action area of the Ottawa Charter and explain how it is reflected in the ASH program.

Question 3 (2 marks)

Source: Adapted from *VCE 2019, Health and Human Development Exam, Q.2.a*; © VCAA

Bush Classrooms project

In Western Australia a bush clinic for Aboriginal men has been implemented with the aim of breaking down barriers to accessing hospitals and healthcare. It has brought together health experts from hospitals and mostly Noongar men into the bush to talk about mental and physical health.

Shame and a lack of confidence in the quality of treatment they receive can keep many Aboriginal men living in Western Australia's great southern region well away from modern health services.

A group of 25 men attended the Bush Classrooms project on culturally significant sites around Albany once a week for seven weeks. The program provided a comfortable, safe setting in which information could be shared with Aboriginal people.

The program combined hunting, fishing, dancing and music, with education and counselling opportunities for participants. The Bush Classrooms project is a collaboration between local support services, including Great Southern Aboriginal Health Services, the Albany Youth Support Association, Wanslea Family Services and Palmerston.

Source: adapted from Aaron Fernandes, 'Bush clinic for Indigenous men aims to break down barriers to hospital', ABC Great Southern, 14 April 2018, <www.abc.net.au/>; reproduced by permission of the Australian Broadcasting Corporation – Library Sales; Aaron Fernandes © 2018 ABC

Identify one action area of the Ottawa Charter and explain how it is reflected in the Bush Classrooms project.

Question 4 (4 marks)

Source: *VCE 2018, Health and Human Development Exam, Q.6.a;* © VCAA

'Koori community kitchen' is a small cooking program targeting urban Aboriginal people in Victoria.

The program aims to empower the community and promote a healthier wellbeing. The 'Koori community kitchen' acts as a meeting place for members of the Koori community and provides an opportunity to support these community members with their health and wellbeing issues.

The kitchen is open to any Koori community member to meet and have a chat with other community members in a culturally friendly environment. The program runs every Thursday … and is coordinated by Peninsula Health.

Source: Australian Indigenous HealthInfoNet, Programs & projects, 'Koori community kitchen', https://healthinfonet.ecu.edu.au

Describe how the Koori community kitchen program could improve social and emotional health and wellbeing.

Question 5 (6 marks)

Source: *VCE 2018, Health and Human Development Exam, Q.6.b;* © VCAA

'Koori community kitchen' is a small cooking program targeting urban Aboriginal people in Victoria.

The program aims to empower the community and promote a healthier wellbeing. The 'Koori community kitchen' acts as a meeting place for members of the Koori community and provides an opportunity to support these community members with their health and wellbeing issues.

The kitchen is open to any Koori community member to meet and have a chat with other community members in a culturally friendly environment. The program runs every Thursday … and is coordinated by Peninsula Health.

Source: Australian Indigenous HealthInfoNet, Programs & projects, 'Koori community kitchen', https://healthinfonet.ecu.edu.au

Identify and **describe** two action areas of the Ottawa Charter for Health Promotion that are reflected in the Koori community kitchen program and **explain** how they are evident.

More exam questions are available in your learnON title.

6.4 Promoting healthy eating in Australia

Key knowledge	Key skill
Initiatives to promote healthy eating in Australia, including the Australian Dietary Guidelines, Australian Guide to Healthy Eating and the Aboriginal and Torres Strait Islander Guide to Healthy Eating	Evaluate the impact of initiatives to promote healthy eating in Australia and their ability to improve health outcomes

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what the Australian Dietary Guidelines, the Australian Guide to Healthy Eating and the Aboriginal and Torres Strait Islander Guide to Healthy Eating are and how they work.	• make a judgement about the actual and potential impact of initiatives to promote healthy eating in Australia and give an account of their ability to improve health outcomes • discuss strengths and limitations of initiatives to promote healthy eating.

Healthy eating is associated with lower rates of disease and improved health outcomes. Inadequate food intake has emerged as a key factor contributing considerably to the burden of disease in Australia, particularly related to obesity, cardiovascular disease, some cancers and type 2 diabetes. The prevalence of these conditions is high and is predicted to increase if food behaviours are not modified among many Australians.

The social and economic impacts associated with diet-related diseases are significant and take a great toll on the community and individuals. The federal government plays a number of roles in promoting healthy eating in the community with the aim of reducing the impact of these conditions, as shown in **FIGURE 6.13**.

FIGURE 6.13 Federal government initiatives to promote healthy eating

When exploring these initiatives, it is important to remember that you will be required to evaluate the initiatives and discuss their ability to promote health outcomes.

EXAM TIP

As when evaluating programs for Aboriginal and Torres Strait Islander Peoples, there are no set criteria that must be used when evaluating initiatives designed to promote healthy eating. Provided the evaluation draws on specific features of the initiative and includes a discussion of how the feature contributes to or detracts from its effectiveness, marks can be awarded.

Considerations that can be included when evaluating health eating initiatives include:

- ease of understanding — Visual guides can be useful for those with lower levels of literacy. Resources available in a range of languages can also reach linguistically diverse populations.
- access — Being able to access resources free of charge removes financial barriers for individuals and groups. Accessing resources online can remove geographical barriers.
- inclusiveness — This relates to all groups within Australia being able to benefit from the initiative. For example, the Australian population consists of a diverse range of cultures and these need to be taken into account to ensure maximum reach.
- relevance — Initiatives should work towards a significant need of the community. They should also work towards their stated objectives.
- effectiveness — This is the degree to which the program achieves or is expected to achieve its objectives across all population groups
- sustainability — This relates to the impacts of the program being able to continue into the future.

6.4.1 The Australian Dietary Guidelines

The Australian Dietary Guidelines were developed by the National Health and Medical Research Council (NHMRC), a federal government body.

The Australian Dietary Guidelines are currently undergoing further review, with the updated guidelines due to be finalised in 2026.

The Australian population has experienced an increase in diet-related conditions and diseases, and the guidelines are designed to address the causes of the increase. Eating too many energy-dense processed foods and not enough fruit and vegetables are two examples of trends that are addressed by the guidelines.

The guidelines are intended to be used by health professionals, educators, industry bodies and other parties interested in promoting healthy eating. They are aimed at all people in the general healthy population, including those with common diet-related risk factors such as being overweight, but not for those with serious medical conditions, such as type 2 diabetes, who require specialised dietary advice.

The guidelines are available in English and accessible formats (for those with low vision) and can be downloaded for free from the Australian government's 'Eat for Health' website.

The dietary guidelines have been developed to provide advice relating to the types and amounts of foods, food groups and dietary patterns that will help Australians to:

- develop healthy dietary patterns that will promote health and wellbeing in the community
- reduce the risk of developing a range of diet-related conditions such as hypertension (high blood pressure) and impaired glucose regulation
- reduce the risk of developing chronic conditions such as type 2 diabetes, cardiovascular disease and some cancers.

Advice is also provided about individual differences among the population that contribute to different needs and choices regarding food intake, including for:

- those at different life span stages, such as childhood and late adulthood
- pregnant and lactating women
- vegetarians and vegans
- people from different backgrounds, such as Australians of Asian origin
- Aboriginal and Torres Strait Islander Peoples
- people living outside Australia's major cities
- people living in socioeconomic disadvantage
- individuals aiming to lose weight
- individuals aiming to maintain their weight.

The five guidelines are summarised in **TABLE 6.8**.

TABLE 6.8 The Australian Dietary Guidelines

GUIDELINE 1	**To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs.** • Children and adolescents should eat sufficient nutritious foods to grow and develop normally. They should be physically active every day and their growth should be checked regularly. • Older people should eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight.
GUIDELINE 2	**Enjoy a wide variety of nutritious foods from the following five groups every day and drink plenty of water.** • plenty of vegetables, including different types and colours, and legumes/beans • fruit • grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley • lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans • milk, yoghurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under the age of two)

GUIDELINE 3	**Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.**
	• Limit intake of foods high in saturated fat such as many biscuits, cakes, pastries, pies, processed meats, commercial burgers, pizza, fried foods, potato chips, crisps and other savoury snacks.
	  • Replace high-fat foods that contain predominantly saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods that contain predominantly polyunsaturated and monounsaturated fats such as oils, spreads, nut butters/pastes and avocado.
	  • Low-fat diets are not suitable for children under the age of two .
	• Limit intake of foods and drinks containing added salt.
	  • Read labels to choose lower sodium options among similar foods.
	  • Do not add salt to foods in cooking or at the table.
	• Limit intake of foods and drinks containing added sugars such as confectionery, sugar-sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.
	• If you choose to drink alcohol, limit intake. For women who are pregnant, planning a pregnancy or breastfeeding, not drinking alcohol is the safest option.

GUIDELINE 4	**Encourage, support and promote breastfeeding.**
GUIDELINE 5	**Care for your food; prepare and store it safely.**

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

Guideline 1

Guideline 1 relates to **energy balance** and encourages individuals to only consume the amount of energy they require for their specific energy needs. A positive energy imbalance occurs when people consume too much energy for their needs, increasing the risk of obesity and associated conditions such as cardiovascular disease, type 2 diabetes and some cancers. Energy comes from foods rich in carbohydrates, fats and protein, and these should be moderated to ensure energy intake is balanced.

energy balance when the amount of energy consumed is the same as the amount of energy required. Energy balance contributes to neither weight gain or weight loss.

Guideline 2

Guideline 2 provides advice relating to the consumption of the five food groups and water. Consuming a range of foods from the five food groups is associated with lower levels of mortality and morbidity compared to diets in which a range of foods is not consumed. The benefits to health and wellbeing from consuming the five food groups and water are outlined below.

Food group	Description
Vegetables and legumes/beans 	These foods are low in fat and relatively low in energy (kilojoules) while also providing carbohydrates, the body's preferred fuel for energy production. Vegetables, legumes and beans are also high in fibre, which maintains the health of the digestive system and reduces the risk of colorectal cancer. Fibre also provides feelings of fullness, which can reduce the risk of overeating and weight gain. Rich in antioxidants, vegetables work to reduce the impact of free radicals and thus the risk of cardiovascular disease and cancer. As a result of this range of functions, adequate consumption of vegetables is related to a reduced risk of obesity, some cancers, cardiovascular disease and type 2 diabetes.

(continued)

(continued)

Food group	Description
Fruit 	Like vegetables, fruits are low in fat and provide carbohydrates for energy while also being a major source of fibre and antioxidants. As a result, adequate fruit intake is associated with lower rates of some cancers, obesity, cardiovascular disease and type 2 diabetes, and improved functioning of body systems such as the immune system.
Grain (cereal) foods 	Wholegrain and/or high-fibre cereal foods, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley, are good sources of carbohydrates and fibre while being low in fat. Grain foods contribute to a decreased risk of obesity, colorectal and other cancers, cardiovascular disease and type 2 diabetes.
Lean meats and alternatives 	Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans are major sources of protein, as well as vitamins, minerals and essential fatty acids. Protein is required to maintain healthy cells, tissues and systems for optimal functioning of many body processes such as immune and cardiovascular function. Fish, nuts and seeds can contain monounsaturated and polyunsaturated fats, which can decrease the risk of cardiovascular disease by lowering levels of low-density lipoprotein (explored in section 3.6.1).
Dairy products and alternatives (reduced fat) 	Milk, yoghurt, cheese and/or their alternatives are high in many nutrients including protein and calcium, which supports bone health and reduces the risk of osteoporosis. Regular consumption of milk and alternatives has also been shown to decrease the risk of cardiovascular disease, some cancers and type 2 diabetes, although the cause of this is not fully understood.
Water 	Water is required for many bodily processes including digestion, waste removal and chemical reactions, and does not contribute any energy to the body (as most other drinks do). As a result, adequate water intake is associated with well-functioning body systems and reduced risk of weight gain and associated conditions such as cardiovascular disease, some cancers and type 2 diabetes. Because water doesn't contain any sugar, it can also decrease the risk of dental caries (explored in section 3.6.3).

The Australian Dietary Guidelines also include advice on the recommended number of serves that should be consumed from each food group on a daily basis, according to age, sex and pregnancy and breastfeeding status (see **TABLE 6.9**).

EXAM TIP

It is important to note that you are not expected to know the serving numbers or sizes for each food group. However, you can use the fact that they are provided as part of the Australian Dietary Guidelines when discussing how the guidelines can promote healthy eating.

TABLE 6.9 Recommended number of serves per day from each food group

	Recommended number of serves per day					
	Age (years)	**Vegetables and legumes/ beans**	**Fruit**	**Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties**	**Lean meats, poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans**	**Milk, yoghurt, cheese and/or alternatives, mostly reduced fat**
Boys	2–3	2½	1	4	1	1½
	4–8	4½	1½	4	1½	2
	9–11	5	2	5	2½	2½
	12–13	5½	2	6	2½	3½
	14–18	5½	2	7	2½	3½
Men	19–50	6	2	6	3	2½
	51–70	5½	2	6	2½	2½
	70+	5	2	4½	2½	3½
Girls	2–3	2½	1	4	1	1½
	4–8	4½	1½	4	1½	1½
	9–11	5	2	4	2½	3
	12–13	5	2	5	2½	3½
	14–18	5	2	7	2½	3½
	Pregnant (up to 18 years)	5	2	8	3½	3½
	Breastfeeding (up to 18 years)	5½	2	9	2½	4
Women	19–50	5	2	6	2½	2½
	51–70	5	2	4	2	4
	70+	5	2	3	2	4
	Pregnant (19–50 years)	5	2	8½	3½	2½
	Breastfeeding (19–50 years)	7½	2	9	2½	2½

Source: NHMRC 2013, Eat for Health — *Australian Dietary Guidelines*.
Note: Additional amounts of the five food groups or unsaturated spreads and oils or discretionary food choices are needed only by people who are taller or more active to meet additional energy requirements.

To help people consume the required number of serves from each of the five food groups, examples of foods making up one serve are also provided in the guidelines (see **TABLES 6.10** to **6.14** and **6.16**). People can use this information to analyse their food intake more accurately and make informed changes to their food intake.

TABLE 6.10 Sample serving sizes for vegetables and legumes/beans

Food group	Serving sizes
Vegetables and legumes/beans	75 g (½ cup) cooked green or Brassica or cruciferous vegetables
	75 g (½ cup) cooked orange vegetables
	75 g (½ cup) cooked dried or canned beans, chickpeas or lentils, no added salt
	75 g (1 cup) raw green leafy vegetables
	75 g starchy vegetables (e.g. ½ medium potato, or equivalent of sweet potato, taro, sweet corn or cassava)
	75 g other vegetables (e.g. 1 medium tomato)

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

FIGURE 6.14 Foods that represent one serve of vegetables and legumes/beans

TABLE 6.11 Sample serving sizes for fruit

Food group	Serving sizes
Fruit	150 g (1 piece) of medium-sized fruit (e.g. apple, banana, orange, pear)
	150 g (2 pieces) of small fruit (e.g. apricots, kiwifruit, plums)
	150 g (1 cup) diced, cooked or canned fruit[1]
	125 mL (½ cup) 100% fruit juice[2]
	30 g dried fruit[2] (e.g. 4 dried apricot halves, 1½ tablespoons of sultanas)

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

[1] Preferably with no added sugar
[2] Only to be used occasionally as a substitute for other foods in the group

FIGURE 6.15 Foods that represent one serve of fruit

TABLE 6.12 Sample serving sizes for grains (cereal) foods

Food group	Serving sizes
Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties	1 slice of bread or ½ a medium roll or flat bread (40 g)
	½ cup cooked rice, pasta, noodles, barley, buckwheat, semolina, polenta, bulgur or quinoa (75–120 g)
	½ cup cooked porridge (120 g), ⅔ cup wheat cereal flakes (30 g) or ¼ cup muesli (30 g)
	3 crispbreads (35 g)
	1 crumpet (60 g) or 1 small English muffin or scone (35 g)
	¼ cup flour (30 g)

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

FIGURE 6.16 Foods that represent one serve of grain (cereal) foods

TABLE 6.13 Sample serving sizes for lean meats, poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans

Food group	Serving sizes
Lean meats, poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans	65 g cooked lean red meats (e.g. beef, lamb, pork, venison or kangaroo) or ½ cup of lean mince, 2 small chops, 2 slices of roast meat (about 90–100 g raw weight)
	80 g cooked poultry (about 100 g raw weight) (e.g. chicken, turkey)
	100 g cooked fish fillet (about 115 g raw weight) or 1 small can of fish, no added salt, not in brine
	2 large eggs (120 g)
	1 cup (150 g) cooked dried beans, lentils, chickpeas, split peas or canned beans
	170 g tofu
	30 g nuts or seeds or nut/seed paste, no added salt[1]

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

[1] Only to be used occasionally as a substitute for other foods in the group

FIGURE 6.17 Foods that represent one serve of lean meat, poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans

TABLE 6.14 Sample serving sizes for milk, yoghurt, cheese and/or alternatives

Food group	Serving sizes
Milk, yoghurt, cheese and/or alternatives, mostly reduced fat	1 cup (250 mL) milk — fresh, UHT long life or reconstituted powdered
	½ cup (120 mL) evaporated unsweetened milk
	¾ cup (200 g) yoghurt
	40 g (2 slices or 4 × 3 × 2 cm piece) hard cheese (e.g. cheddar)
	½ cup (120 g) ricotta cheese
	1 cup (250 mL) soy, rice or other cereal drink with at least 100 mg of added calcium per 100 mL

Source: Adapted from NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

FIGURE 6.18 Foods that represent one serve of milk, yoghurt, cheese and/or alternatives

The Australian Dietary Guidelines also provide advice on how many serves of unsaturated fats should be consumed on a daily basis to promote health and wellbeing (see **TABLE 6.15**).

FIGURE 6.19 Examples of foods containing unsaturated fats

TABLE 6.15 Recommended number of serves of unsaturated spreads and oils per day

	Age (years)	Number of serves
Boys	2–3	½
	4–8	1
	9–11	1
	12–13	1½
	14–18	2
Men	19–50	4
	51–70	4
	70+	2
Girls	2–3	½
	4–8	1
	9–11	1
	12–13	1½
	14–18	2
	Pregnant (up to 18 years)	2
	Breastfeeding (up to 18 years)	2
Women	19–50	2
	51–70	2
	70+	2
	Pregnant (19–50 years)	2
	Breastfeeding (19–50 years)	2

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

Examples of food items that count as one serve of unsaturated fats are shown in **TABLE 6.16**.

TABLE 6.16 Sample serving sizes for unsaturated fats

Food group	Serving sizes
Unsaturated fats	10 g polyunsaturated spread
	10 g monounsaturated spread
	7 g polyunsaturated oil (e.g. olive or canola oil)
	10 g tree nuts or peanuts or nut pastes/butters

Source: National Health and Medical Research Council.

Guideline 3

Guideline 3 focuses on limiting the intake of foods that are either energy dense or increase the risk of conditions such as cardiovascular disease. These foods are referred to as discretionary foods.

Discretionary foods are food and drinks that are not necessary to provide the nutrients the body needs but may add variety and can sometimes be included in an individual's diet in small amounts. Foods in this category include cakes and biscuits; confectionery and chocolate; pastries and pies; ice confections; butter, cream and spreads that contain predominantly saturated fats; potato chips, crisps and other fatty or salty snack foods; sugar-sweetened soft drinks and cordials; sports and energy drinks; and alcoholic drinks (see **FIGURE 6.20**). Intake of these foods should be limited because many are high in saturated fats, sugars and/or alcohol, and are therefore described as energy dense (see **TABLE 6.17**). Many are also high in salt, which increases the risk of cardiovascular disease and osteoporosis.

FIGURE 6.20 Discretionary foods include those with high levels of saturated fat, added salt, added sugar and/or alcohol.

Source: NHMRC 2013, *Eat for Health — Australian Dietary Guidelines.*

TABLE 6.17 Sample serving sizes for discretionary foods

Food group	Serving sizes
Discretionary foods	2 slices (50–60 g) processed meats, salami or Mettwurst
	½ snack-size packet (30 g) salty crackers or crisps
	1 (40 g) doughnut
	½ bar (25 g) chocolate
	1 tbsp (20 g) butter
	1 can (375 mL) soft drink (sugar-sweetened)
	¼ (60 g) commercial meat pie or pastie (individual size)
	12 (60 g) fried hot chips

Source: National Health and Medical Research Council.

Guideline 4

Guideline 4 promotes breastfeeding for infants. According to the World Health Organization, 'breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants'. This is largely because breast milk contains all of the nutritional requirements to support the growth and development of infants to around six months of age. Those who are breastfed for the first six months of life have a lower risk of infection, asthma and sudden infant death syndrome. Later in life, those who were breastfed as infants experience a decreased risk of obesity, hypertension and some chronic diseases.

Guideline 5

Guideline 5 relates to caring for food, and preparing and storing it safely. The aim of this guideline is to reduce the risk of food-borne diseases in the community. It is estimated that there are over five million cases of food poisoning in Australia every year, and this reduces the level of health and wellbeing experienced.

Evaluating the Australian Dietary Guidelines

There are a number of identifiable features of the Australian Dietary Guidelines that can be used when evaluating this initiative. These features can be classified as strengths and limitations. Some examples are provided in **TABLE 6.18**.

TABLE 6.18 Strengths and limitations of the Australian Dietary Guidelines

Strengths	Limitations
The guidelines are available for free download from the Eat Well website, meaning that cost doesn't act as a barrier to accessing this resource.	The five guidelines are written and may be hard for people with low literacy levels to understand and follow.
The guidelines provide advice for individuals with different needs, such as people in different lifespan stages and people from different cultural backgrounds, so more people can benefit from them.	The guidelines are only available in English, making them difficult for those from non-English-speaking backgrounds to follow.
The guidelines are available in an accessible format, making them more accessible for those with low vison.	The guidelines are based on the requirements of the average person. This can mean that the serving sizes are not appropriate for all people.
The number of serves and what constitutes a serve are included in the Australian Dietary Guidelines resource. This can assist males and females of different ages in consuming the recommended amounts of each food group.	
If people 'enjoy a wide variety of nutritious foods from the five food groups every day and drink plenty of water', energy dense food intake will decrease. This can assist in addressing obesity, one of the most challenging health issues in Australia.	

6.4.2 The Australian Guide to Healthy Eating

The Australian Guide to Healthy Eating is a food selection tool incorporated into the Australian Dietary Guidelines. It is intended to be used by consumers to assist them in planning, selecting and consuming adequate proportions of foods from the five food groups. The Australian Guide to Healthy Eating is a visual tool that reflects the recommended dietary advice detailed in Australian Dietary Guidelines 2 and 3.

The Australian Guide to Healthy Eating shows a circle divided into five wedges, each representing one of the five food groups, representing Guideline 2. The size of each wedge reflects the proportion of each food group that should be consumed on a daily basis.

FIGURE 6.21 The Australian Guide to Healthy Eating is a food selection model designed to visually represent Guidelines 2 and 3.

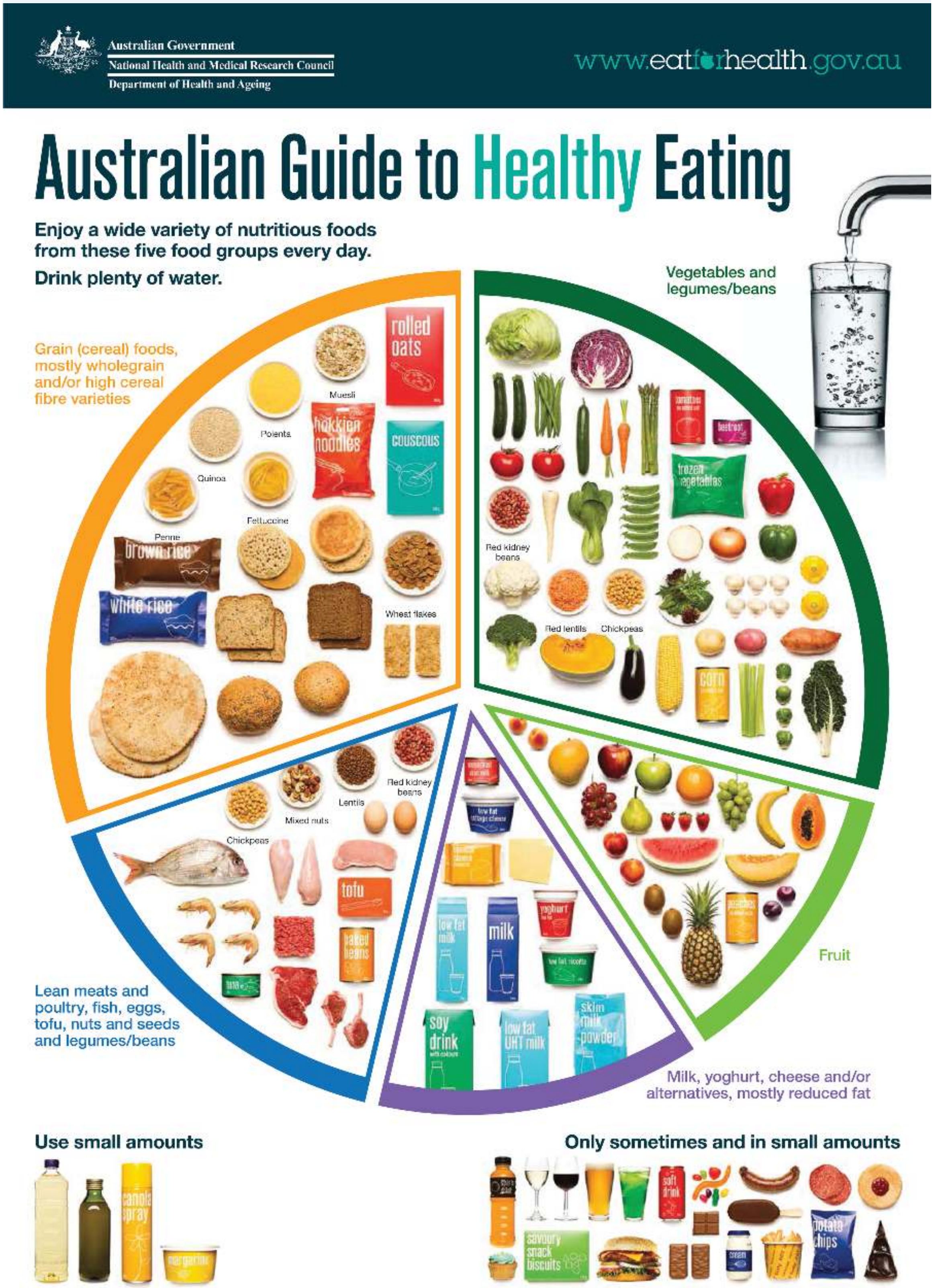


TABLE 6.19 The Australian Guide to Healthy Eating

Grain foods such as bread, cereal, rice and pasta should account for around 30–35 per cent of total daily food intake. These foods are high in carbohydrates, which provide fuel for energy production, and high in fibre, which assists with weight management and maintenance of digestive health.
Vegetables and legumes/beans make up the second biggest section and should account for around 30 per cent of daily food intake. These foods include fresh, frozen and tinned vegetables, legumes such as lentils and chickpeas, and beans such as kidney beans. These foods are rich sources of carbohydrates, fibre, protein and antioxidants, which assist in promoting optimal health and wellbeing.
Meats and meat alternatives should account for around 15 per cent of total food intake. These foods provide much of the protein required for maintenance of cells and tissues and the provision of energy.
Although **fruit** contains many vitamins and minerals required for optimal health and wellbeing, it can also contain high levels of carbohydrates, which can contribute to weight gain if not used for energy. As a result, fruit should make up around 10–12 per cent of total food intake.
Milk and other dairy products or alternatives (mostly reduced-fat varieties) should also account for around 10–12 per cent of total food intake. These foods are rich in calcium and are required for optimal bone health.

The Australian Guide to Healthy Eating recommends that people consume plenty of water, represented by an image of a glass being filled from a tap. Water is required for many body processes but does not contribute any energy and so can assist in maintaining a healthy body weight.

The healthier fats, including foods such as margarine and canola spray, are shown in the bottom left corner of the Australian Guide to Healthy Eating. These foods contain monounsaturated fats and/or polyunsaturated fats and can assist in reducing the risk of cardiovascular disease.

The foods shown in the bottom right corner of the Australian Guide to Healthy Eating are those that should be consumed only sometimes and in small amounts, representing Guideline 3. They are not necessary to provide the nutrients the body needs, but may add variety. Many of these foods are high in saturated fats, sugars and/or alcohol and are therefore described as energy dense; these can contribute to weight gain and associated conditions. Many are also high in salt, which increases the risk of cardiovascular disease and osteoporosis. Examples of discretionary foods include pies and other pastries, cakes, processed meats, soft and sports drinks, cordial, alcohol, potato chips, chocolate and biscuits.

The Australian Guide to Healthy Eating is a useful model that provides basic nutrition advice; however, it does not provide information on serving sizes, and composite foods (those containing food from a number of different groups, such as pizza or a casserole) are not included, and this can make the model difficult to follow.

6.4.3 The Aboriginal and Torres Strait Islander Guide to Healthy Eating

The Aboriginal and Torres Strait Islander Guide to Healthy Eating (see **FIGURE 6.22**) has been adapted from the Australian Guide to Healthy Eating. It reflects the main aspects of the Australian Guide to Healthy Eating in that it:

- shows the five food groups in the proportions in which they should be consumed
- promotes water consumption
- suggests to limit discretionary foods
- recommends to include small amounts of healthier fats.

The main difference between the two models is that the Aboriginal and Torres Strait Islander Guide to Healthy Eating includes references to traditional foods such as kangaroo, goanna and crab meat, bush fruits and vegetables, and damper.

Evaluating the Australian and Aboriginal and Torres Strait Islander Guides to Healthy Eating

Like the Australian Dietary Guidelines, the Australian and Aboriginal and Torres Strait Islander Guides to Healthy Eating have a number of strengths and limitations that can be used to evaluate the impact of initiatives to promote healthy eating in Australia. A range of these are shown in **TABLE 6.20.**

FIGURE 6.22 Aboriginal and Torres Strait Islander Guide to Healthy Eating

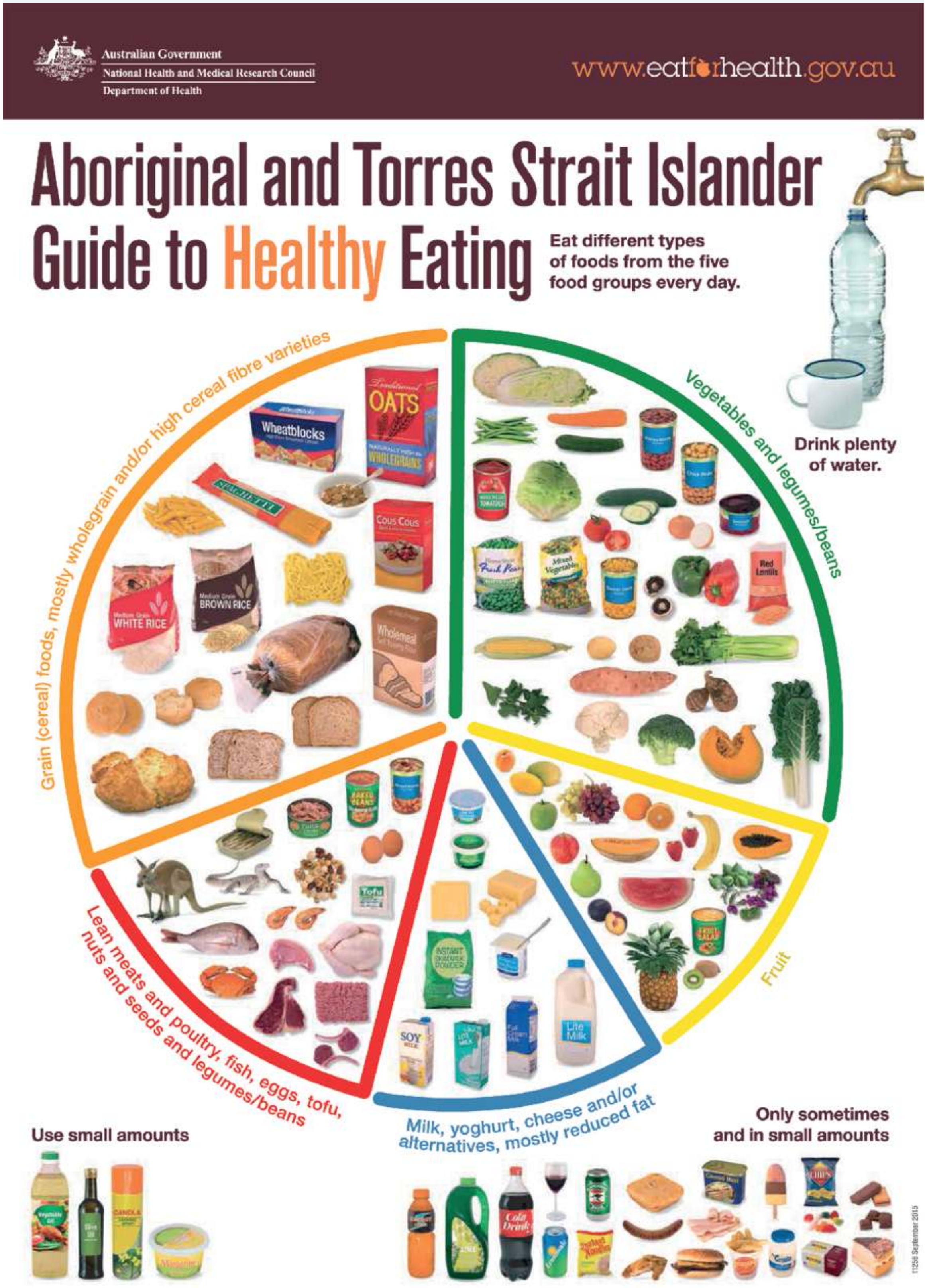


TABLE 6.20 Strengths and limitations of food selection models

Strengths	Limitations
The Australian Guide to Healthy Eating is translated into more than 10 languages, which increases the ability of those from linguistically diverse groups to utilise it.	The guides show the proportions in which the five food groups should be consumed but do not provide information on serving sizes or numbers, which may mean that people consume too much or not enough food overall.
The guides apply to people of all ages, which means parents can use them to guide the food intake of themselves and their children without having to refer to separate models.	The guides do not make provisions for composite foods such as pizza or a casserole, which can make them difficult to follow.
The guides provide a visual presentation of Australian Guidelines 2 and 3. This can make it easier for people to understand and therefore follow.	The guides do not provide specific advice for people with dietary conditions or needs, which reduces the number of people who can benefit from them.
Because the guides are based on Australian Guidelines 2 and 3, they are based on the latest scientific research, which can assist in their effectiveness in addressing significant health outcomes in Australia, including obesity.	
A range of foods are included from different cultures, which can assist different groups in improving their food intake.	

6.4 Activity

Access the **Servings calculator** and **Nutrients calculator** weblinks and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Servings and nutrients calculator worksheet (doc-32213)

Weblinks Servings calculator
Nutrients calculator

6.4 Exercises

6.4 Quick quiz on | **6.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 7	4, 5, 10	6, 8, 9, 11

Test your knowledge

1. Briefly describe the Australian Dietary Guidelines.
2. Briefly explain why the guidelines were developed.

3. Complete the following table using the information about Guideline 2.

Food group	Key nutrients present in the food group	How the food group can promote health and wellbeing and/or health status

4. a. Identify the nutrients and substances found in discretionary foods.
   b. Explain why the intake of these nutrients and substances should be limited.
5. Briefly describe the Australian Guide to Healthy Eating.
6. Compare and contrast the Australian Guide to Healthy Eating and the Aboriginal and Torres Islander Guide to Healthy Eating.

Apply your knowledge

7. Choose three of the Australian Dietary Guidelines and write a short response explaining why each guideline is important. Share your results with a partner.
8. Evaluate the potential of the Australian Dietary Guidelines in promoting healthy eating and health status among children in Australia.
9. Compare and contrast the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.
10. Explain two ways that the Australian Dietary Guidelines could assist in addressing cardiovascular disease.
11. 'The Australian Guide to Healthy Eating is capable of addressing diet-related diseases in Australia.' To what extent do you agree with this statement?

6.4 Exam questions

Question 1 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.6.b;* © VCAA

Provide two reasons **why** the Australian Dietary Guidelines were introduced.

Question 2 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.6.c;* © VCAA

Explain how the Australian Guide to Healthy Eating reflects the Australian Dietary Guidelines.

Question 3 (3 marks)

Source: Adapted from *VCE 2018, Health and Human Development Exam, Q.5.b;* © VCAA

According to the 2012–2013 Australian Aboriginal and Torres Strait Islander health survey:

- obesity rates for Aboriginal and Torres Strait Islander males and females were significantly higher than the comparable rates for non-Indigenous people in almost every age group
- Aboriginal and Torres Strait Islander rates for heart disease were significantly higher than the comparable rates for non-Indigenous people in all age groups from 15–54 years
- Aboriginal and Torres Strait Islander rates for diabetes/high sugar levels were between three and five times as high as the comparable rates for non-Indigenous people in all age groups from 25 years and over.

Data: Australian Bureau of Statistics (ABS) website, 'Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012–13', cat. no. 4727.0.55.001, www.abs.gov.au 06.04.21

Referring to information from the health survey above, **explain** how the Australian Dietary Guidelines could assist in improving Aboriginal and Torres Strait Islander Peoples' health status.

Question 4 (4 marks)

Source: Adapted from *VCE 2020, Health and Human Development Exam, Q.3.c*; © VCAA

Overweight, obesity and dietary risks are major contributing factors in the deaths of males and females in Australia.

Describe two ways in which the Australian Dietary Guidelines could be used to bring about dietary change and decrease death rates.

Question 5 (4 marks)

Discuss the strengths and weaknesses of the Australian Dietary Guidelines in promoting the health eating of children in Australia.

6.5 The challenges in bringing about nutritional change

Key knowledge	Key skill
Challenges in bringing about nutritional change, including sociocultural, environmental and commercial factors	Draw conclusions as to why nutritional improvements are difficult to achieve in Australia

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

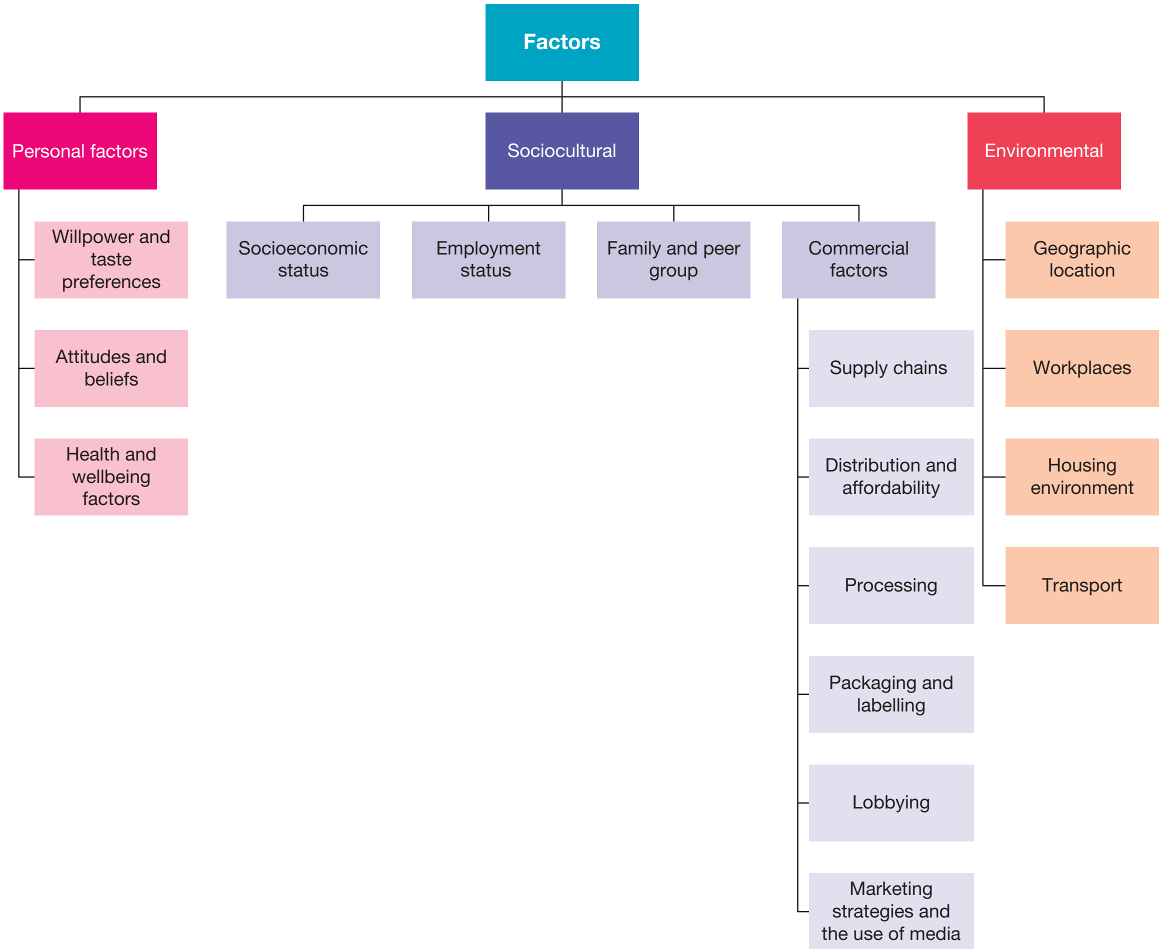
You need to know:	You need to be able to:
• reasons why nutritional improvements are difficult to achieve in Australia using a range of sociocultural, environmental and commercial factors.	• make judgements about why nutritional change is difficult, including the impact of sociocultural, environmental and commercial factors.

commercial factors conditions, actions and policies of corporate organisations that impact health and wellbeing, either positively or negatively

Food intake in Australia has changed significantly in recent decades with a significant shift away from nutrient-dense, whole foods to energy-dense, processed foods. This change has contributed to the increasing rates of obesity and associated diet-related diseases in Australia over time.

Although there are a range of health promotion activities designed to address food intake in Australia, nutritional change can be difficult to achieve. The foods people consume are a result of a complex set of personal, sociocultural (including **commercial**) and environmental factors that provide a range of challenges in bringing about nutritional change (see **FIGURE 6.23**).

FIGURE 6.23 Factors that provide a range of challenges in bringing about nutritional change



6.5.1 Personal factors

Personal factors relate to characteristics of individuals that influence food intake and include willpower and taste preferences, attitudes and beliefs, and health and wellbeing factors.

Willpower and taste preferences

Most people prefer certain foods to others. This may be the result of factors such as taste preferences and past experiences. Foods high in fat, salt and sugar are known as flavour enhancers because they stimulate the taste buds and the brain's reward system by releasing dopamine, one of the body's feel-good chemicals. This cycle can create cravings for foods containing these substances, making dietary change challenging for some.

Taste preferences are often established over a long period of time and can therefore be difficult to change.

FIGURE 6.24 Making lasting changes to food intake can take considerable willpower.

Attitudes and beliefs

An individual's attitudes and beliefs about food can be complicated and include some of the following:

- perceptions that healthy foods are bland or tasteless
- ignoring potential negative effects of unhealthy foods
- philosophical beliefs such as vegetarianism or organic preferences
- restricting certain foods, which leads to under-consumption of certain nutrients.

Health and wellbeing factors

The health and wellbeing experienced by individuals can also influence the foods they consume. In the National Health Survey (2022), 7 per cent of the Australian population reported a food allergy. The most common type of food reported to cause intolerance was cow's milk, followed by gluten. Omitting these foods may contribute to difficulty in following health promotion initiatives, such as the Australian Dietary Guidelines and the Australian Guide to Healthy Eating, especially if the individual lacks the knowledge of substitutes that provide the nutrients they may be lacking.

As explored earlier, certain foods trigger the release of dopamine, a brain chemical that can enhance mood. Some people experiencing emotional and mental distress may subconsciously use this mechanism in an attempt to make themselves feel better. If they have a bad day or feel down, they may use food as a coping mechanism. Until this relationship with food is addressed, such behaviour can impact on the ability of individuals to make changes to their dietary patterns.

EXAM TIP

Although personal factors are not specified in the study design, they are some of the most influential challenges when it comes to bringing about nutritional change. Because personal factors are often influenced by sociocultural (including commercial) and environmental factors, these will often be the specific focus of the question. However, if the question doesn't specify which category the factor has to relate to, you can use any factor, including personal factors.

6.5.2 Sociocultural factors

Sociocultural factors relate to aspects of a person's society and culture that influence food intake. These include socioeconomic status, employment status, family and peer group, and commercial factors.

Socioeconomic status

Education, income and occupation all influence the foods people consume.

According to the Australian Institute of Health and Welfare (AIHW) (2012, the most recent), lack of nutritional knowledge and cooking skills often predisposes people to consume unhealthy meals. Lack of education can also lead to consumers believing that they are consuming healthy foods because they do not have the skills to accurately assess their current food intake.

Difficulty in reading food labels and lack of understanding of portion sizes are also common in Australia, providing further challenges to nutritional change.

Lower levels of education, nutritional knowledge and cooking skills can mean that even people who want to change their dietary choices may lack the resources to do so. As a result, they may continue consuming foods that are familiar to them, and this can decrease their capacity to improve their food intake.

FIGURE 6.25 Developing cooking skills can increase healthy menu options and therefore improve food intake.

Income has a direct relationship with the affordability of food, which in turn influences the foods people are able to eat, presenting a challenge in bringing about nutritional change.

Certain occupations, such as truck drivers and those working in trades, may rely on the foods that are offered from outlets near their place of employment. Accessing fast food may be more convenient for these people, but it can reduce their ability to consume a healthy diet.

Employment status

Meals are often planned with consideration of the time available and the convenience of the foods to be consumed. For many families in which both parents are employed, more time is spent working and less time is spent preparing food. As a result, convenience foods are often consumed in the home because there is a lack of time to purchase fresh ingredients and prepare a meal from scratch. For employed people, meals consumed outside the home are also more likely to be influenced by the foods they can access in the time they have.

FIGURE 6.26 For employed people, meals consumed outside the home are more likely to be influenced by the foods they can access in the time they have.

Family and peer group

Food is an important part of human existence and the earliest food experiences most people have are shaped by family. The cultural and religious background of the family may include ties to traditional foods that have been consumed through generations.

Family influences also play a significant role in shaping the personal preferences that people have in relation to food. Childhood in particular is seen as a stage when many personal preferences in relation to food are established. Familiarity with specific foods can make it difficult to change to other, non-familiar food items.

FIGURE 6.27 Social networks influence food intake for many.

Food is often consumed in social settings, either in private homes or at commercial food outlets. The people with whom an individual consumes food can influence the foods they consume. This is particularly relevant to children and young people, who gain more independence as they develop. They may choose foods that their friends eat and this can reduce their ability to choose healthier foods, regardless of their nutritional knowledge.

Commercial factors

Although commercial factors are an example of a sociocultural factor, a specific understanding of them is important to understand the particularly influential role they play in determining food intake.

Commercial factors relate to the impact that the **private sector** has on health and wellbeing. Impacts can be positive through activities such as the production and distribution of essential medicines, but can also be negative, such as the increased availability and marketing of energy-dense foods.

private sector the part of the economy that is not run by the government. It includes companies and enterprises that operate to make a profit.

Commercial factors that have a significant impact on food intake and therefore can present challenges in bringing about nutritional change include:

- supply chains — Supply chains relate to the process that all foods go through from where they are produced and consumed, and are sometimes described as 'paddock to plate' or 'farm to fork'. Supply chains influence every aspect of the food system, including the distribution and pricing of food; processing, including the addition of additives such as preservatives, salt, fat and sugar; and the packaging and labelling of food items.
- distribution and affordability — The prices that consumers pay for food are generally set by retailers such as supermarkets and restaurants. These prices are influenced by a range of factors including the wholesale price that retailers had to pay for food items, transport, storage and staffing costs. These factors can make some foods more or less affordable than others. For example, transport costs are greater for foods that are flown or shipped in from overseas or transported by road or rail to remote parts of the country. According to the AIHW (2012), the cost of basic nutritious foods is about 30 per cent higher in rural and remote areas than in urban and metropolitan areas. Unfortunately, at the same time, the availability of quality fresh fruit and vegetables and better food choices decreases in these areas.
- processing — Although laws control aspects of the food processing industry in Australia, manufacturers are able to include additives to products for purposes such as enhancing flavour, promoting shelf life or improving appearance. Consumers may not be aware of the amount of additives added to foods, which can impact their ability to bring about nutritional change.
- packaging and labelling — Packaging is often used as a marketing tool by food manufacturers, for example, by using cartoon characters on the packaging of foods marketed at children. If people are drawn to specific items because they appeal to them visually, it can reduce their ability to change their nutritional intake. Food labelling is covered by laws in Australia, but claims made on products may still mislead consumers. For example, a product may be 'fat free', but may contain high amounts of sugar. These sorts of statements can provide another challenge in bringing about nutritional change.
- lobbying — Many food companies are huge corporations that operate both in Australia and overseas. These companies often lobby governments in relation to issues such as trade agreements, the marketing of fast foods and the introduction of health promotion interventions such as a sugar tax on energy-dense foods. This influences the foods that are available to people and how marketing is carried out, creating further challenges to bringing about nutritional change.
- marketing strategies and use of the media — The food industry actively markets its goods to consumers in a variety of ways, including advertisements in newspapers and magazines, and on television, radio and the internet; supermarket and point-of-sale promotions; sponsorships; websites; the use of celebrities, including celebrity chefs; product placement on cooking programs; emails and text messages. The information provided through marketing and media can create conflicting messages for individuals, potentially affecting their ability to choose healthy foods.

FIGURE 6.28 Packaging and labelling can mislead consumers, making nutritional change a challenge.

CASE STUDY

Cost-of-living pressures hitting remote Indigenous Australians hard as freight price surges

By regional health reporter Steven Schubert

…

Feeding a swarm of hungry kids is a daily experience for Aunty Dulcie, who has lived her whole life in Balgo, a remote Indigenous community and former Catholic mission in Western Australia's Kimberley region.

She usually cooks her supper on a campfire, in part because she likes being outside with her family gathered around the fire, speaking in her native Kukatja language.

But she is also outside because she has an enormous number of people staying with her in her rundown, three-bedroom house, including her mother who is in her 90s.

She counts nine who live with her regularly, but that number often swells if there's a funeral or cultural business on in Balgo.

"I got my grandkids around and my sons and daughters around," she says.

"We all eat the same meal, what I cook for my mother, and they are happy for that."

Aunty Dulcie receives a disability pension, which she says is $400 per fortnight, and makes some money selling paintings she produces in the community's art centre, Warlayirti Artists.

As the rest of Australia struggles in the cost-of-living crisis, the pressure is mounting in this remote corner of the country.

"Cost a lot of money to keep buying food for each day ... the cost of things is getting more and more," Aunty Dulcie says.

Not every family in Balgo is able to feed their family, Aunty Dulcie notes.

"They have to struggle, a struggle to get food for their families and our families," she says.

"When my kids are hungry, they know where to come. They see me sitting next to the fire cooking — I want my kids to be happy."

Freight costs driving up prices

Balgo has one shop, the Wirrimanu Community Store, owned and operated by a local Indigenous corporation.

It is the heart of the community.

On a Saturday morning dozens of people linger around the front, chatting with friends and family.

It stocks most things one might need in a remote community: car batteries, fishing gear, shoes, fridges, toilet paper, diesel (for $3.37 a litre) and a wide selection of food (at alarming prices).

Most of the shop's stock comes from Darwin, a trip of almost 1,500 kilometres on some of Australia's most inhospitable roads, according to manager Peter Klein.

"Freight costs, on average is about 30 per cent, then there's always a fuel levy on top of that, that's currently at 25 per cent," he says.

The fuel levy fluctuates with the price of diesel, which is affected in part by what is happening geopolitically around the world.

Mr Klein has seen the levy as high as 35 per cent.

The shop is a small independent business, which has some disadvantages.

It often buys fresh fruit and vegetables from Broome, a bit more than 900km away by road.

But because of obscure quarantine rules, the produce gets trucked to Balgo via Adelaide and Alice Springs, adding thousands of kilometres to its journey, all of which the shop must pay for.

…

The shop gets one truck in per fortnight with goods and has to order and pay for everything three weeks before they can get it.

Coca-Cola, tobacco top sales

Like many remote Indigenous communities, there are many people with chronic health issues in Balgo.

Diabetes is rife, and there are dozens of people from Balgo who are forced to live in larger centres like Alice Springs or Kununurra to receive regular dialysis.

Mr Klein's shop sells meat, fresh fruit and vegetables for what it costs to buy and freight it to Balgo, which Mr Klein says means a loss for the business after taking into account other costs like staff wages and electricity.

But even making a loss, the shop still needs to charge $28 for a large pumpkin.

Mr Klein says price is not the only deciding factor in what people buy from his shop.

"We sell almost eight times as much confectionery than what we do fruit and veg," he says.

"Our number one selling product is Coca-Cola. We sell more of that than anything.

"A third of our sales are in tobacco. It's crazy."

Asking around the community, there is little interest in restricting sales of unhealthy products.

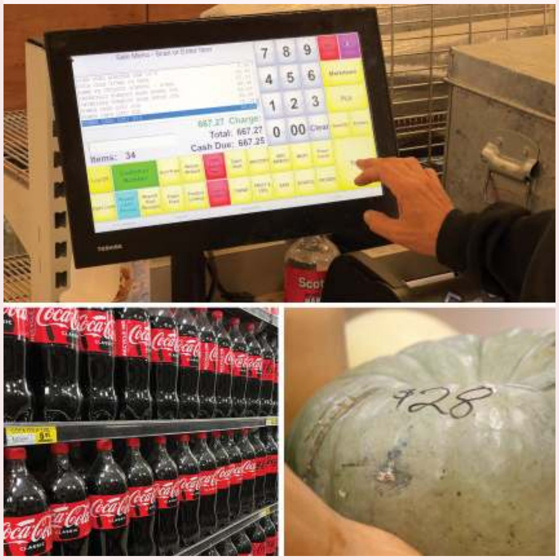


FIGURE 6.29 Clockwise from top: The Wirrimanu shop till; a pumpkin on sale for $28; Coca-Cola on sale. (*ABC News: Steven Schubert*)

…

The corporation that owns the shop has a board of local Indigenous directors.

It is run by kartiya, or non-Indigenous CEO, David Whitelaw, who says there would be little appetite in the community to limit what the shop can sell.

"It's a supply-and-demand business, so we need to meet those needs of our community," he says.

"We provide a lot of information around nutrition and we're very supportive in terms of our pricing to make sure that our healthy produce is at a very competitive price.

"But it's an essential need of the community to provide for all of the conveniences that you would see in any other township or city in Australia."

Source: 'Cost-of-living pressures hitting remote Indigenous Australians hard as freight price surges', Steven Schubert, ABC News, 18 June 2023, https://www.abc.net.au/news/2023-06-18/cost-of-living-indigenous-balgo-inflation/102382156

CASE STUDY REVIEW

1. Using information from the case study and your own knowledge, create a list of factors that influence food intake in places like Balgo.
2. Discuss the potential of the Aboriginal and Torres Strait Islander Guide to Healthy Eating in bringing about nutritional change in Balgo.
3. Explain how consumption of Coca-Cola and tobacco might contribute to health status in Balgo.
4. Discuss how health promotion could be used to promote health outcomes in Balgo.

According to the World Health Organization (WHO) (2022), children are particularly susceptible to the marketing of unhealthy foods, which can affect their nutrition knowledge, food preferences, product requests and consumption patterns. The foods promoted to children by food marketing also represent an unhealthy dietary profile, with a heavy emphasis on energy-dense, high-fat, high-salt and high-sugar foods. Australian children's exposure to television food advertising is among the highest in the world and high-fat/high-sugar food advertisements on Australian television are more frequent during children's compared with adults' viewing hours, and during popular children's programs. The advent and growth of digital marketing have raised new concerns in relation to the exposure of children to the marketing of unhealthy foods.

The messages provided through food marketing can cause confusion for many, especially children, if they are unable to distinguish between advertising and the presentation of factual information. Children can be a significant influence on items purchased while shopping (sometimes referred to as 'pester power'). This can impact the ability of all family members to consume a healthy diet.

FIGURE 6.30 Advertising foods on television can be particularly influential for children.

Food marketing and the media influence food trends in Australia. Reality cooking shows, for example, have contributed to an increased interest in food, particularly among young people. While these trends can promote healthy eating, the dominance of fast-food outlets in marketing often counteracts any positive effects.

6.5.3 Environmental factors

Environmental factors relate to the elements of the physical environment that influence food intake. These include geographic location, workplaces, housing and transport.

Geographic location

Where people live influences the foods available to them. For people who live outside major cities, food options may be more limited, impacting the ability to bring about nutritional change. For example, those in remote areas may be more inclined to rely on non-perishable food items, which are often not as healthy as fresh food options.

Suburbs where socioeconomic disadvantage is greater are often the suburbs with the highest number of fast-food outlets. Fast-food is generally higher in fat, salt and sugar than other options. Living in close proximity to such venues may increase the likelihood of people consuming these foods and influence the ability of people in these suburbs to change their nutritional intake.

Workplaces

Some workplaces provide opportunities for employees to access food during breaks from workplace canteens. Hospitality staff are often provided a meal during extended shifts. The foods available in these settings can influence the ability of people to consume a healthy diet.

Workplaces that do not have access to cooking facilities (such as many workplaces for tradespeople and those involved in transport) decrease the types of foods that employees can prepare for themselves, which can make nutritional change difficult.

Housing environment

Meals are often consumed in the home and the facilities available in the housing environment influence the options available. For example, refrigerators, freezers, ovens, stoves, air fryers, microwaves and mixers are common kitchen appliances that carry out different functions in the kitchen. Lack of access to these facilities impacts the manner in which people store and prepare their food, which can limit the options available to them.

Transport

Many people require some form of transport to access food outlets in their neighbourhoods, such as roads and related infrastructure, cycling paths and public transport networks. Lack of access to transport can mean that people must rely on foods close to their homes or that can be delivered, reducing their ability to make nutritional change.

CASE STUDY

Why a fat tax is not enough to tackle the obesity problem

We often hear calls for a junk food tax or 'fat tax' when there's discussion of Australia's growing obesity problem. The idea behind such a tax is that it would enable governments to subsidise healthy foods so that they're more affordable, and make unhealthy foods comparatively expensive so people buy less of them.

But would they really? Is cost really the most powerful determinant of what food products people buy?

Let's consider the likely effects of a junk food tax. Researchers claim that a 20 per cent tax on a can of soft drink would be a sufficient deterrent to purchasing it.

It's easy to visualise this: someone approaches the refrigerator in a convenience store wanting to buy a drink and ready to make a decision based on taste and cost. If a soft drink is more expensive than low-fat milk or water, it becomes less attractive and we could see a change in buying behaviour — and the attendant reduction in the consumption of obesity promoting products.

FIGURE 6.31 Most meal options are not arrayed together for a simple price comparison.

But the junk food tax idea falls over in other situations where food choices are made — when factors other than price come into play. Family dinner options, for instance, are rarely arrayed together in one location for a simple price comparison.

In lower income areas, where obesity is disproportionately more common, main roads are lined with takeaway food outlets and the only greengrocer may not have a car park (let alone a drive-through service). Part of the attraction of takeaway food is that it provides instant satisfaction while demanding little in the way of (cooking) skills or (nutritional) knowledge.

Dinner options that require food preparation may be out of the question for people living in housing with inadequate cooking and food storage facilities. So, although I can prepare a vegetable and lentil curry with brown rice, followed by apple crumble with real egg custard, for a total of $3.39 per person, in disadvantaged communities this might not compare favourably with the 'Five-dollar Meal Deals' offered by various takeaway chains, even if the meals were taxed until they became 'Ten-dollar Meal Deals.'

And regardless of the price, it may be hard to sell my healthy $3.39 meal to someone accustomed to takeaway's addictively sweet and salty and fatty flavours, low in vegetables and high in melt-in-the-mouth starches.

When people claim that healthy food is expensive, they are sometimes simply observing that processed foods labelled 'diet' are priced higher, or that high-energy junk foods supply more (unneeded) calories per dollar than vegetables do. Both claims are true, but trivial.

But sometimes they are actually pointing out, correctly, that the real cost of my meal is more than $3.39 — that, unlike the takeaway alternative, this home-cooked dinner cost nearly an hour of my time. An hour that I might not be inclined to spare if I were tired and footsore from a hard low-income job and trying to feed fractious children as soon as possible.

And that my home-cooked meal required a number of different skills and resources I might take for granted, such as cooking ability and a functional kitchen. And that it would cost more than $50 if I had to fund the startup cost of all the ingredients — the kilogram of flour and the bottle of oil, and so on — instead of just using (and costing) smaller amounts of items I already had.

My $3.39 meal is very nutritious. Unlike the takeaway meal, it provides the full spectrum of essential vitamins and minerals, as well as beneficial fibre and health-protective plant substances, at around 2800 kJ per serve. Five-dollar meal deals, on the other hand, typically overfeed, with one meal providing 4300 kJ or more (over half of a day's requirement), as well as less protein and more fat than my version.

FIGURE 6.32 Unlike fast-food outlets, a greengrocer may not have a car park or a drive-through service.

Better food labelling might help consumers realise this. But labelling also works best when your options are equally convenient and equally available, sitting side by side for comparison on the supermarket shelf or a food outlet's menu. When this is not the case, labelling loses much of its power to influence food choices. Just as price manipulation strategies, such as a 'fat tax', do.

Efforts to combat obesity need to look beyond simple pricing strategies, to the underlying knowledge and skills that influence food choices. Just as physical activity is now compulsory at school, basic cooking (real basics, not just biscuits and pizza) should be an integral part of the personal development and life skills curriculum for all kids.

And rather than merely requiring a sink and food preparation area as they do now, building codes need to be updated so that adequate cooking facilities are mandatory in all dwellings. Communal kitchens are another suggestion worth considering.

An emphasis on improving skills means that rather than just punishing poor food choices, we equip people to make better ones — every day at home, not just in the convenience store.

Source: 'Why a fat tax is not enough to tackle the obesity problem', Suzie Ferrie, *The Conversation online*, 2 July 2016, http://theconversation.com/why-a-fat-tax-is-not-enough-to-tackle-the-obesity-problem-6443

CASE STUDY REVIEW

1. Outline the factors that contribute to poorer food intake in low socioeconomic areas identified in the article.
2. Outline the changes required to promote healthy eating among low socioeconomic groups identified in the article.
3. Using a range of challenges as the basis of your response, explain why a fat tax alone might not be able to address obesity in Australia.
4. Using two action areas of the Ottawa Charter for Health Promotion as the basis of your response, explain other interventions that might assist in reducing rates of obesity among low socioeconomic groups.

6.5 Exercises

6.5 Quick quiz on | **6.5 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4, 7	5, 6, 9, 10, 11	8, 12, 13

Test your knowledge

1. Identify two personal factors and explain how each can present challenges in bringing about nutritional change.
2. Besides commercial factors, identify two sociocultural factors and explain how each can present challenges in bringing about nutritional change.
3. Identify two commercial factors and explain how each can present challenges in bringing about nutritional change.
4. Identify two environmental factors and explain how each can present challenges in bringing about nutritional change.
5. Discuss why salt, fat and sugar can be particularly influential on food preferences.
6. Identify two population groups and explain why they are more likely to experience food insecurity.
7. Outline why children are often the target of food advertising.

Apply your knowledge

8. Using three factors that influence food intake as the basis of your response, explain why simply telling people about healthier foods does not necessarily bring about nutritional change.
9. Explain why people in low socioeconomic groups may find it particularly difficult to make nutritional changes.
10. Identify a food pattern that is typical for your family and discuss how it promotes healthy eating.
11. Describe how being time-poor might impact on the ability to meet the Australian Dietary Guidelines.
12. Identify three challenges you face that might impact on your ability to make nutritional change. Suggest ways you might be able overcome these challenges
13. Outline the challenges each of the following people might face in making nutritional changes:
    a. Oliver is a five-year-old boy who lives with his mother and father. His father does all the cooking for the family. His parents are vegetarian, so Oliver does not consume meat at home.
    b. Vi is 79 and lives alone. She is of Vietnamese background and was taught to cook traditional Vietnamese meals by her grandmother when she was a child. Vi doesn't drive and instead walks to the local supermarket to purchase food.
    c. Michael is 43 and lives in a remote area of South Australia. He is a truck driver and spends a lot of time on the road.

6.5 Exam questions

Question 1 (4 marks)

According to the Australian Health Survey, 'less than 4 per cent of the population consumed enough vegetables each day'.

Identify two challenges of nutritional change and **discuss** how they may have contributed to less than 4 per cent of the population consuming enough vegetables and legumes each day.

Question 2 (3 marks)

Explain what is meant by environmental factors and provide two examples.

Question 3 (4 marks)

Joe is a truck driver who drives freight from Adelaide to Darwin. When not working, he resides in a rural area outside Adelaide where he lives by himself. Joe was raised by his Italian parents who prepared the food in their home when he was growing up.

Discuss potential challenges in bringing about nutritional change for Joe.

Question 4 (3 marks)

Briefly **describe** what is meant by commercial factors and **explain** how two examples of commercial factors can make nutritional change more difficult.

Question 5 (2 marks)

Outline two challenges that may be particularly relevant to those from low socioeconomic groups in bringing about nutritional change.

More exam questions are available in your learnON title.

6.6 KEY SKILLS

6.6.1 Analyse a range of data, case studies and examples of health promotion programs in relation to the use of action areas of the Ottawa Charter for Health Promotion and how they can lead to improved health outcomes

tlvd-11379

KEY SKILL Analyse a range of data, case studies and examples of health promotion programs in relation to the use of action areas of the Ottawa Charter for Health Promotion and how they can lead to improved health outcomes

Tell me

The first step in being able to complete this key skill is to have a thorough knowledge of the action areas of the Ottawa Charter for Health Promotion. This goes beyond knowing the name of each, although that is also important. Ensure you have an understanding of what each action area relates to. Sometimes aspects of a project will incorporate more than one action area, but generally not all action areas will be addressed in one program.

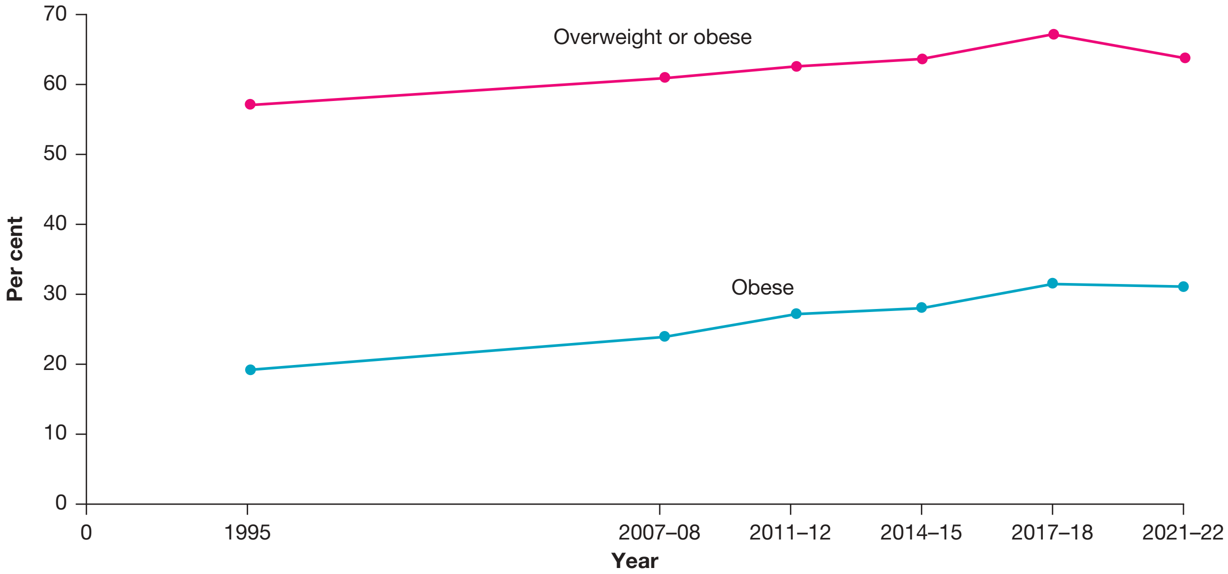
In applying the action areas, you may be required to identify action areas relevant to data, a case study or an example of a health promotion program. You may also have to explain *how* the action area of the Ottawa Charter is reflected in the stimulus material provided. Make sure you make specific links between the action area and the data, case study or example of health promotion.

In other cases, you may need to use the action areas of the Ottawa Charter to explain how improvements in health outcomes can be achieved. It is important to be specific here. For example, if discussing how developing personal skills can promote health status in Australia, simply stating that 'the Quit program provides education that can reduce the incidence of lung cancer' does not explain *how* the action area may be used to improve health status. A better answer would be that 'telephone counselling is provided free of charge to people wanting to quit smoking. Trained Quit counsellors can provide education, including tips and tricks to deal with cravings. This can assist people in giving up smoking, which can reduce their risk of developing cancer, which in turn can decrease the incidence of lung cancer in the population'.

The action areas of the Ottawa Charter should be applicable to major health concerns in Australia, such as:
- smoking and vaping
- alcohol misuse
- overweight and obesity, and dietary risks
- road safety
- the biological, sociocultural and environmental factors that contribute to variations in health between population groups.

Show me

FIGURE 6.33 Trends in overweight and obesity in Australia over time for those aged 18 and over



Source: AIHW 2022, ABS 2018.

Notes: 1. Age-standardised to the 2001 Australian population. 2. Overweight and obesity classification based on measured height and weight in all surveys.

In the following example, the data relating to obesity are analysed and three action areas of the Ottawa Charter are applied in relation to how they could be used to reverse the trend in obesity.

Rates of obesity have increased in Australia for those aged 18 and over from around 20 per cent of the population in 1995, to around 27 per cent in 2011–12, to around 30 per cent in 2022.[1]

[1] The data are analysed.

The action areas of the Ottawa Charter could assist in promoting health outcomes and reversing this trend by:

- Build healthy public policy[2] — a junk food tax could be introduced by the federal or state/territory governments to increase the price[3] and reduce the intake of these items, which could assist in reducing energy consumption and the rate of obesity. [4] This can assist in promoting self-esteem because people may feel better about their appearance. [5]
- Develop personal skills — traffic light labelling systems could be introduced in food outlets such as school canteens to assist in providing advice to consumers as to which foods should be eaten regularly, in moderation and occasionally. This can reduce the amount of energy-dense food being consumed, which can assist in reversing the trend relating to obesity.[6] Reducing rates of obesity can result in fewer people developing cardiovascular disease, which can assist in reducing mortality rates from heart attack and stroke. [7]
- Reorient health services — health professionals such as doctors could be encouraged to prescribe exercise for those who are obese or at risk of becoming obese.[8] Reducing rates of obesity can provide people with more energy to complete daily tasks, promoting physical health and wellbeing. [9]

[2] An action area of the Ottawa Charter is correctly identified.
[3] A practical application of the action area is outlined.
[4] A specific link to obesity is made.
[5] A link to a health outcome is made, in this case, to mental health and wellbeing.
[6] A second action area is identified and applied to the scenario of reversing the trend in rates of obesity.

[7] A link is made to a health outcome, in this case, to mortality rates.

[8] A third action area is identified and applied to the scenario of reversing the trend in rates of obesity.
[9] A link is made to a health outcome, in this case, to physical health and wellbeing.

Practise the key skill

Read the following case study and answer the questions that follow.

Good Sports

As part of its strategy to promote health and wellbeing, VicHealth provides funding to the Good Sports program (goodsports.com.au) — an initiative of the Australian Drug Foundation.

The program helps sporting clubs manage alcohol responsibly and reduce alcohol-related issues such as binge drinking and drink driving.

By fulfilling Good Sports accreditation criteria, clubs benefit from a range of support services and earn the right to display the Good Sports logo. The logo confirms that the club promotes responsible attitudes towards alcohol and provides a safe, healthy and family-friendly environment for players, members and supporters.

GOOD SPORTS

The three-level accreditation process is based around alcohol management standards for clubs that serve and consume alcohol. One of the key benefits of registering in the program is the support clubs receive to promote a family-friendly, safe and healthy culture.

At Level 1, clubs focus on liquor licensing laws, bar management, Responsible Service of Alcohol (RSA) training and creating smoke-free environments. Once they have progressed to Level 3, they have an alcohol management policy, healthy food and drink options (with low and non-alcoholic drinks), a safe transport policy and less reliance on alcohol sales and sponsorships for revenue. In addition, all bar servers are RSA-qualified. Good Sports also offers an accreditation for clubs where alcohol is not served or consumed.

Good Sports has been adopted by a diverse range of community clubs spanning more than 80 codes of sport. Almost 10 000 clubs are involved across all Australian states and territories.

There is evidence that community-based sports clubs contribute to alcohol problems by accepting and promoting excessive drinking and providing inappropriate role models for young people.

According to independent research, Good Sports has been proven to reduce risky drinking in clubs participating in the program.

Tyntynder Football Netball Club

Tyntynder Football Netball Club had fallen into the same trap as a lot of clubs in relying too heavily on alcohol for revenue, and so creating a ‘boozy’ atmosphere.

The committee decided to turn to Good Sports to help them become more family and community-focused, valuing off-field success as highly as on-field performances.

Through the program, the club trained members in RSA, created a healthier canteen and implemented the ‘Tyntynder Taxi’ to ensure everyone gets home safely.

Previously relying heavily on bar sales to function, the club now enjoys more revenue from memberships and family-friendly social events.

The club is also extremely proactive when it comes to social issues and regularly promotes new causes, training and education for members.

In recognition of its efforts, the club has previously won the Victorian Good Sports Club of the Year and AFL Victoria Club of Excellence.

1. Identify three action areas of the Ottawa Charter for Health Promotion and explain how they are reflected in the Good Sports program.
2. Select an action area not used in question 1 and explain how it could promote health outcomes in relation to alcohol consumption.

6.6.2 Analyse initiatives introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in Australia, and how they reflect the action areas of the Ottawa Charter for Health Promotion and social justice

tlvd-11380

KEY SKILL Analyse initiatives introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in Australia, and how they reflect the action areas of the Ottawa Charter for Health Promotion and social justice

Tell me

This key skill requires the analysis of initiatives introduced to improve health outcomes for Aboriginal and Torres Strait Islander Peoples. Analysis may include one or more of the following:

- explaining reasons for the program
- describing how elements of the program reflect action areas of the Ottawa Charter for Health Promotion
- discussing the potential of the initiative to contribute to improved health outcomes
- outlining strengths and limitations of the initiative
- explaining how elements of the program reflect social justice.

Show me

In the following example, the Tackling Indigenous Smoking (TIS) program is analysed in relation to reasons for the program and how it reflects action areas of the Ottawa Charter and social justice.

Aboriginal and Torres Strait Islander Peoples are more likely to be socially excluded than other Australians, which contributes to high rates of smoking.[10] Smoking is a preventable risk factor for many conditions such as cancer, respiratory diseases and cardiovascular disease, all of which can lead to premature death.[11] The Tackling Indigenous Smoking (TIS) program creates a supportive environment by providing culturally appropriate support though the Aboriginal Quitline, which can assist Aboriginal and Torres Strait Islander people in giving up smoking.[12] Deadly Dan, the Smoke-Free Man assists in developing personal skills by providing culturally appropriate education to young Aboriginal and Torres Strait Islander people by using a character that can assist in preventing them from taking up smoking in the first place.[13] This reflects social justice because it is providing education, which is a human right. It is also addressing equity because Aboriginal and Torres Straight Islander Peoples experience greater disadvantage through social exclusion than other Australians and therefore require greater support to achieve equality.[14]

[10] A reason for the program is stated.

[11] A second reason for the program is included.

[12] A link to an action area of the Ottawa Charter is established with a specific link to the program.

[13] A link to a second action area of the Ottawa Charter is established with a specific link to the program.

[14] A discussion of how the program reflects social justice is included, with specific links to principles of social justice.

Practise the key skill

3. Answer the following questions in relation to both the Deadly Choices initiative and the 2Spirits program.
   a. Explain how the program works to create a supportive environment.
   b. Describe how elements of the program reflect action areas of the Ottawa Charter for Health Promotion.
   c. Discuss the potential of the initiative to contribute to improved health outcomes.

6.6.3 Evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice

tlvd-11381

KEY SKILL Evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice

Tell me

For this key skill, judgements must be made about the capacity of initiatives to improve health outcomes for Aboriginal and Torres Strait Islander Peoples, and links from the initiatives to aspects of social justice must be established.

In order to make judgements, an understanding of the issues facing Aboriginal and Torres Strait Islander Peoples is essential. Once the issues are known, relevant initiatives can be judged relating to their actual or perceived effectiveness in bringing about improvements in Aboriginal and Torres Strait Islander Peoples' health outcomes. Reasons why a program is judged to be effective or ineffective should be included and can be based on:

- actual improvements in health and wellbeing that have been made as a result of the initiative
- the number of people who have accessed or been involved in the initiative
- feedback provided by participants
- action areas of the Ottawa Charter for Health Promotion that are evident in the initiative, including:
  - the provision of education
  - the involvement of various stakeholders and other concerned groups in the planning and implementation of the initiative
- whether the program is culturally appropriate for Aboriginal and Torres Strait Islander Peoples, including the consultation, use and training of Aboriginal and Torres Strait Islander personnel in planning and delivering the program
- whether the program has taken the specific needs of the target group into account, including the specific needs relating to the health and wellbeing of Aboriginal and Torres Strait Islander Peoples
- funding that has been provided to implement the program
- whether the program addresses a significant health issue for Aboriginal and Torres Strait Islander Peoples and why it is important to address this issue.

When discussing how initiatives can promote social justice, links must be made between elements of the program and principles of social justice. For example, many programs provide education, which is an example of a human right. Others encourage social interaction, which improves participation within the community. Most programs targeting Aboriginal and Torres Strait Islander Peoples will also reflect the concept of equity because Aboriginal and Torres Strait Islander Peoples experience worse health outcomes in relation to most indicators compared to other Australians.

Show me

In the following example, the Aboriginal Driving Stories program is described, evaluated and linked to social justice.

Deaths and injuries from road trauma are significantly higher for Aboriginal and Torres Strait Islander Peoples compared to other Australians.

This project involved the development of a road safety booklet, which included short stories for children up to the age of 12. The booklet covered a number of road safety issues including:

- the wearing of seatbelts
- driving without a licence
- overloading in cars
- drink driving and drink walking

- driving
- speeding.

It aimed to increase awareness and educate young people about road safety, information that they could then pass on to the Elders in the community in an attempt to change the cultural attitudes towards road safety.

The resource was developed in close consultation with the community to give it more credibility and cultural significance.

This program addresses a significant need among Aboriginal and Torres Strait Islander Peoples, who experience significantly higher rates of road trauma compared to other Australians.[15] The program worked to develop personal skills among young Aboriginal and Torres Strait Islander people that can then be passed on to Elders. These skills can be passed from generation to generation in the future and decrease the risk of injuries among Aboriginal and Torres Strait Islander Peoples, which can reduce rates of premature death and improve life expectancy.[16] Aboriginal and Torres Strait Islander people were included in the development of the program. This enhances its cultural appropriateness, and this may increase the participation rate among Aboriginal and Torres Strait Islander Peoples and the chance of promoting their health outcomes.[17] The program promotes social justice because it provides education, which is a human right. It also works to promote participation because Aboriginal and Torres Strait Islander people were involved in the development of the program, which is another aspect of social justice.[18]

[15] This program is linked to a significant need among the Aboriginal and Torres Strait Islander population, which is specified in the stimulus material.
[16] The fact that education was included in the program is identified and then linked to improved health outcomes.

[17] The involvement of Aboriginal and Torres Strait Islander people in the development of the program is specified and linked to cultural appropriateness and increased participation among the target audience.
[18] Two links to social justice principles are provided.

Practise the key skill

Read the following case study and answer the questions that follow.

Specky Dreaming Footy Frenzy program

The *Specky Dreaming Footy Frenzy program* aims to improve fitness, coordination, balance and timing for children of all ages. The program aims to give all children, boys and girls, the enthusiasm, and skills to have an ongoing active and healthy lifestyle. The program promotes the idea that all children should be encouraged to have a go at sports so all children are encouraged.

The program is delivered in Aboriginal communities throughout Australia and can be adapted to reflect the needs of the community.

Through participation in the program, children learn:
- to identify and develop their natural talents
- skills to pursue and achieve personal goals and improve self-esteem
- how to make decisions and take actions based on personal values and principles that reflect empathy and integrity
- about healthy eating and living
- the importance of attending school
- how to use appropriate language that is sensitive to the audience and culture.

Specky Dreaming delivers the program in a culturally safe manner and is sensitive to community needs.

Source: Australian Indigenous HealthInfoNet.

4. Evaluate the Specky Dreaming program in terms of its capacity to improve health outcomes for Aboriginal and Torres Strait Islander Peoples.
5. Identify two action areas of the Ottawa Charter for Health Promotion and explain how each is reflected in the Specky Dreaming program.
6. Discuss how the Specky Dreaming program may promote social justice among participants.

6.6.4 Evaluate the impact of initiatives to promote healthy eating in Australia and their ability to improve health outcomes

tlvd-11383

KEY SKILL Evaluate the impact of initiatives to promote healthy eating in Australia and their ability to improve health outcomes

Tell me

This skill requires the evaluation of the Australian Dietary Guidelines, the Australian Guide to Healthy Eating and the Aboriginal and Torres Strait Islander Guide to Healthy Eating.

The evaluation could relate to the initiative in general, stimulus material or a specific context.

When stimulus material or a specific context is included, it must be considered in the evaluation. For example, a question asking to evaluate the Australian Dietary Guidelines in relation to assisting children to consume healthy foods would require a different response than a question asking how the guidelines could assist those living in aged care to consume healthy foods.

A detailed understanding of the strengths and limitations of healthy eating initiatives can assist in developing specific evaluations, regardless of the focus of the question.

Similarly to evaluating Aboriginal and Torres Strait Islander initiatives, there are no set criteria that must be used when evaluating healthy eating initiatives. Provided the evaluation draws on specific features of the initiative and includes a discussion of how the feature contributes to (or detracts from) its effectiveness, marks can be awarded.

Considerations that can be included when evaluating health eating initiatives include:

- ease of understanding — Visual guides can be useful for those with lower levels of literacy. Resources available in a range of languages can also reach linguistically diverse populations.
- access – Being able to access resources free of charge removes financial barriers for individuals and groups. Accessing resources online can remove geographical barriers.
- inclusiveness – This relates to all groups within Australia being able to benefit from the initiative. For example, the Australian population consists of a diverse range of cultures and these need to be taken into account to ensure maximum reach.
- relevance – Initiatives should work towards a significant need of the community. They should also work towards its stated objectives.
- effectiveness – This is the degree to which the program achieves or is expected to achieve its objectives across all population groups.
- sustainability – This relates to the impacts of the program being able to continue into the future.
- challenges in bringing about nutritional change – The effectiveness of any healthy eating initiative will be affected by a range of personal, sociocultural (including commercial) and environment factors.

This skill also requires meaningful links to be made between healthy eating initiatives and impacts on health outcomes. Throughout the Health and Human Development study design, 'health outcomes' relate to any health status indicator and/or any of the five dimensions of health and wellbeing. Knowledge of dietary risks from topic 3 can be incorporated when making links to health outcomes.

Show me

The following example evaluates the ability of the Australian Guide to Healthy Eating in promoting healthy eating and health outcomes for Aisha, a new Australian who migrated recently from Jordan (a country in the Middle East) and is not yet proficient in English.

The Australian Guide to Healthy Eating provides a visual representation of Australian Dietary Guidelines 2 and 3.[19] Because Aisha is not yet proficient in English, this may assist her in choosing healthier food options,[20] which can provide her with the nutrients to sustain adequate levels of energy, promoting her physical health and wellbeing.[21] The Australian Guide to Healthy Eating includes foods from a range of different cultures, which may be familiar to Aisha, increasing her ability to follow this model.[22] The Australian Guide to Healthy Eating shows the proportions in which the five food groups should be consumed, but does not include the amounts of foods to be consumed. This may mean that Aisha consumes too much or too little food,[23] which can create an energy imbalance and contribute to either weight loss or weight gain, impacting physical health and wellbeing.[24] The Australian Guide to Healthy Eating does not include a provision for composite foods such as casseroles and sandwiches, which can make it difficult to classify certain meals.[25] This may mean that Aisha does not consume adequate amounts of foods from each food group, which may increase her risk of dietary diseases. For example, if she does not consume enough vegetables, her fibre intake may be too low, which would increase her risk of colorectal cancer later in life. Colorectal cancer contributes significantly to mortality rates in Australia.[26]

[19] An understanding of the Australian Guide to Healthy Eating is shown.
[20] A strength of the Australian Guide to Healthy Eating is provided.
[21] A link to health and wellbeing is made.
[22] A second strength is included.
[23] A limitation of the Australian Guide to Healthy Eating is included.
[24] A second link to health and wellbeing is included.
[25] A second limitation is included.
[26] A specific link to health status is made to provide greater depth to the response.

Practice the key skill

7. Evaluate the Australian Dietary Guidelines in relation to their ability to promote healthy eating and health outcomes among the Australian population.
8. Derek is a 38-year-old Aboriginal man living in a remote community outside of Alice Springs. Evaluate the ability of the Aboriginal and Torres Strait Islander Guide to Healthy Eating to promote healthy eating and health outcomes for people like Derek.

6.6.5 Draw conclusions as to why nutritional improvements are difficult to achieve in Australia

tlvd-11382

KEY SKILL Draw conclusions as to why nutritional improvements are difficult to achieve in Australia

Tell me

To complete this skill, conclusions must be drawn as to why nutritional improvements are difficult to achieve in Australia. In order to draw conclusions, a range of factors that contribute to food intake must be understood.

Questions may specify which group of factors (i.e. sociocultural, commercial or environmental factors) must be used to formulate the response, so a range of each should be known.

When presented with stimulus material, such as case studies or data, ensure that any references to factors that may present challenges to changing dietary behaviour are considered when the conclusions are drawn.

It is important to remember that challenges to nutritional improvements in Australia are generally due to the combined impact of a range of personal, sociocultural (including commercial) and environmental factors. For example, a person who lacks cooking skills may be able to make dietary changes if they can afford a healthy cooked-meal delivery service. But if income is also low, these factors together may reduce the ability of the individual to make healthy changes to their food intake. In this sense, a single factor is less likely to impact nutritional change in isolation of the other factors.

Relevant factors relate to:

- Personal factors
  - willpower and taste preferences
  - attitudes and beliefs
  - health and wellbeing factors
- Commercial factors
  - supply chains
  - distribution and affordability
  - processsing
  - packaging and labelling
  - lobbying
- Sociocultural factors
  - socioeconomic status
  - employment status
  - family and peer group
  - marketing strategies and the use of media
- Environmental factors
  - geographic location
  - workplaces
  - housing environment
  - transport.

Show me

In the following example, conclusions are drawn about the the ability of James to change his food intake in relation to one personal, sociocultural, commercial and environmental factor.

James is a 17-year-old[27] apprentice electrician who lives in a small town outside Bendigo.[28] His mum, Beth, has Italian heritage and does most of the cooking in their home.[29] James has not got his driver's licence yet, so relies on lifts from workmates to get to and from work each day. James spends time with his friends on weekends and spends time on social media[30] when at home.

[27] Personal factor — James is 17 and so may have fairly well-established food preferences, which can reduce his ability to change his food intake.
[28] Environmental factor — James lives in a small town and doesn't drive, so when consuming food outside the home, he would have to rely on foods available to him, impacting his ability to make nutritional changes.
[29] Sociocultural factor — James's mum does most of the cooking in their home, so he will eat what she prepares, which can reduce his ability to make nutritional change.
[30] Commercial factor — James engages with social media, so he may be exposed to the marketing of energy-dense foods, reducing his ability to make nutritional changes.

Practise the key skill

Veronica is a 22-year-old student who works part-time at the local supermarket three nights a week. She goes out with friends on weekends and, as a result, is not home for several meals per week. Veronica's parents are Argentinian and her mother does all the cooking in their home. In recent months, Veronica has started to put on weight, which has taken her above her healthy weight range. She has been introduced to the Australian Dietary Guidelines but is struggling to make significant changes to her food intake.

9. Discuss the challenges that Veronica might face in trying to change her diet. Ensure you include one personal, sociocultural, commercial and environmental factor.
10. Identify two factors that might reduce Veronica's ability to follow Guidelines 2 and 3 of the Australian Dietary Guidelines.

6.7 EXTENDED RESPONSE — Build your exam skills

tlvd-11384

6.7.1 Example 1

In the previous topics, the requirements of questions, interpreting stimulus material and finding links between the information provided have been addressed. In this section and the extended response section in topic 7, you will practise those skills but also learn how to incorporate your own knowledge to answer extended response questions to a high standard.

Extended response questions often require detailed analysis. When answering questions that require analysis, high level responses include connections between the information provided and other information that demonstrates a broad understanding of the concepts being assessed. This can mean showing links or connections between your own knowledge and the information presented in the stimulus material, to explain the potential reasons and/or impacts of particular scenarios. It might also involve discussing the strengths and limitations, or potential positive and negative impacts, of the scenario/s in question.

Consider the following question:

Using the information provided and your own understanding, analyse the potential of health promotion, including the action areas of the Ottawa Charter, in reducing rates of smoking among Aboriginal and Torres Strait Islander Peoples and achieving equality in health outcomes with non-Indigenous Australians. **15 marks**

Step 1:

As suggested in the previous topic, the first step is colour-coding the different aspects of the question so that it is easier to identify the information in the stimulus material that may be relevant.

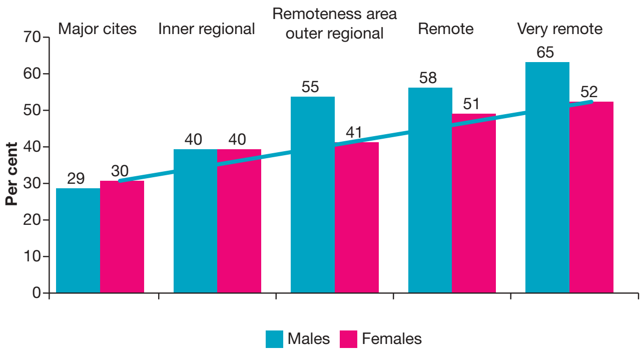
- Use the information provided.
- Use your own understanding.
- Analyse the potential of health promotion, including the action areas of the Ottawa Charter in reducing rates of smoking among Aboriginal and Torres Strait Islander Peoples.
- Analyse the potential of health promotion, including the action areas of the Ottawa Charter in achieving equality in health outcomes between Aboriginal and Torres Strait Islander People and non-Indigenous Australians.

Step 2:

Next, read each part of the stimulus material and highlight in the relevant colour any information that relates to a component of the question. This will also allow you to consider the additional information that you can add from your own knowledge by looking for gaps not provided in the stimulus. This is shown in the following sources.

Source 1

Proportion of Aboriginal and Torres Strait Islander people aged 15 and over who were current smokers, by remoteness and sex, 2018–19



Source: Table D2.15.1 National Aboriginal and Torres Strait Islander Health Survey 2018–19.

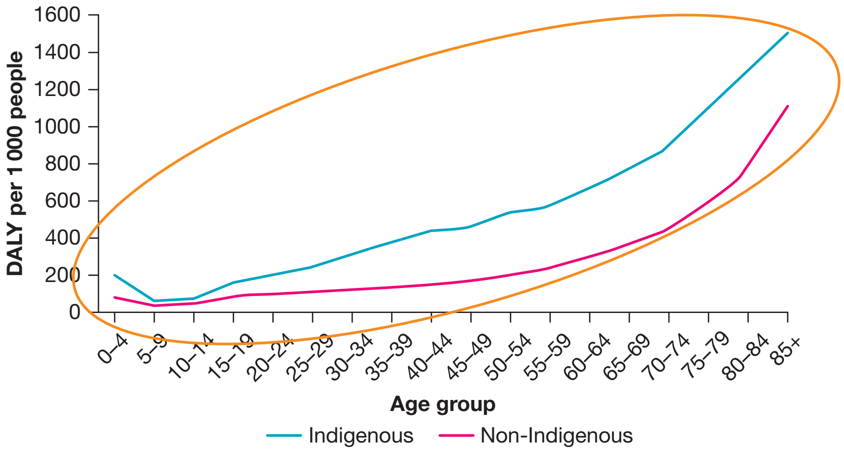
Source 2

The reasons for the high smoking rates among Aboriginal and Torres Strait Islander people are complex. They include:

- being exposed to smoking early in life and living in a community where smoking is ‘the social norm’
- social disadvantage such as living in poverty, leaving school early and unemployment
- smoking to cope with life stressors such as housing stress, mental illness, alcohol and other drug use, grief and loss
- taking up smoking at an early age
- a culture of sharing, often involving tobacco products
- addiction — Nicotine is one of the main ingredients in tobacco and is a powerful drug that makes people who smoke addicted.

Source 3

The rate of DALY per 1000 people according to age group for Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians



Source: https://www.aihw.gov.au/reports/burden-of-disease/illness-death-indigenous-2018/data

You will see that **SOURCES 1**, **2** and **3** relate to different aspects of the question. This means you can discuss the connections to the stimulus material when you are addressing each of the components of the question.

As shown in source 1, as remoteness increases, so does the rate of smoking among both males and female Aboriginal and Torres Strait Islander Peoples.[1] Education programs could be implemented in remote areas to develop personal skills related to the benefits of not smoking[2], such as reducing the risk of diseases such as cancer,[3] but also the money that can be saved. The program could strengthen community action by having Aboriginal and Torres Strait Islander people running the program. This could assist in changing the way that smoking is viewed because, according to source 2, it is often seen as a social norm. Reducing smoking rates in these areas would also decrease the rate of DALY (source 3)[4] caused by premature death from conditions such as lung and mouth cancer, assisting in achieving quality in health outcomes.[5]

[1]Referencing each source as they are used can assist in ensuring all are included at some stage in the response.
[2]An action area of the Ottawa Charter is applied to the issue of smoking.
[3]The link between smoking and cancer is identified.

[4]All three sources are used and connected.

[5]A link to achieving equality in health status is made.

According to source 3, Aboriginal and Torres Strait Islander Peoples have higher rates of DALY for those aged 0–4 compared to non-Indigenous Australians (around 200 DALY per 1000 and around 80 DALY respectively). Governments could reorient health services by engaging health workers to deliver education programs in primary and secondary schools[6], especially in areas outside major cities where smoking rates are higher (source 1). Because Aboriginal and Torres Straight Islander people often start smoking at a young age (source 2), this intervention may lead to fewer people taking up smoking, which can reduce rates of maternal smoking. Reducing maternal smoking can mean that fewer babies are born with low birth weight, which can mean that there is reduced YLD[7] from respiratory conditions and infectious diseases[8], helping to achieve equality between the two population groups.

According to source 2, social disadvantage, such as living in poverty and leaving school early, contribute to higher rates of smoking for Aboriginal and Torres Strait Islander Peoples. Local governments and schools could create supportive environments by providing transport for young Aboriginal and Torres Strait Islander people to get to and from school and by proving healthy lunches as an incentive to encourage them to stay in school. Lack of transport may be a significant issue, especially for those in remote areas where smoking rates are higher (source 1). This can mean that they develop personal skills that can allow them to gain employment later in life, which addresses the risk factors of being unemployed and living in poverty (source 2). This can also assist in achieving equality in health outcomes between the two population groups because Aboriginal and Torres Strait Islander people would be less likely to experience mental health issues due to the high levels of stress associated with social disadvantage.[9]

The rate of DALY for Aboriginal and Torres Straight Islander Peoples is higher for all age groups compared to non-Indigenous Australians. As well as leading to premature death, smoking increases the risk of ill health for those who don't smoke. For example, children are more likely to experience asthma if exposed to tobacco smoke in the uterus and during the first years of life. Children who have asthma are also more likely to experience an asthma attack if exposed to second-hand smoke. Governments could develop healthy public policies by banning smoking in homes where children live. This could mean that fewer people are exposed to tobacco smoke, which could work to reduce the number of people who are exposed to smoking from an early age, which is one of the reasons for higher rates of smoking among Aboriginal and Torres Strait Islander Peoples (source 2). Reducing rates of asthma would in turn reduce the rate of YLD, which can assist in achieving equality between the two population groups.

Although health promotion can be very effective, many interventions require participation from the target group. People can choose to ignore health promotion messages or to not engage in smoking-related interventions. So although health promotion can assist in reducing rates of smoking and promoting equality, it is unlikely that it will be 100 per cent effective.[10]

[6] A range of action areas are applied to the issue of smoking in a meaningful way.

[7] The non-fatal aspect of DALY is considered.

[8] The relationship between maternal smoking and low birth weight is established.

[9] A link is made in relation to achieving equality in health and wellbeing.

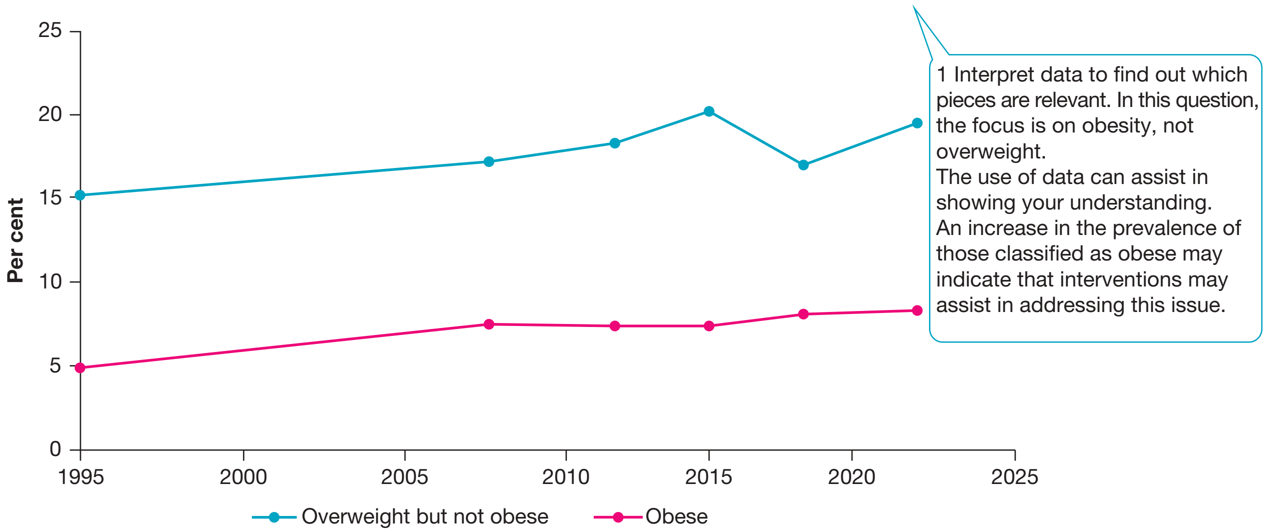
[10] A limitation of health promotion in reducing smoking and achieving equality in health outcome is included.

6.7.2 Example 2

In the remaining topics of this book, you will be given opportunities to further practise writing extended responseswriting extended responses. Note that the questions will increase in complexity and fewer hints and tips will be provided as we move through the upcoming topics.

Source 1

The proportion of those aged 5–17 classified as overweight or obese, 1995–2022



Source: AIHW 2017, ABS 2022.

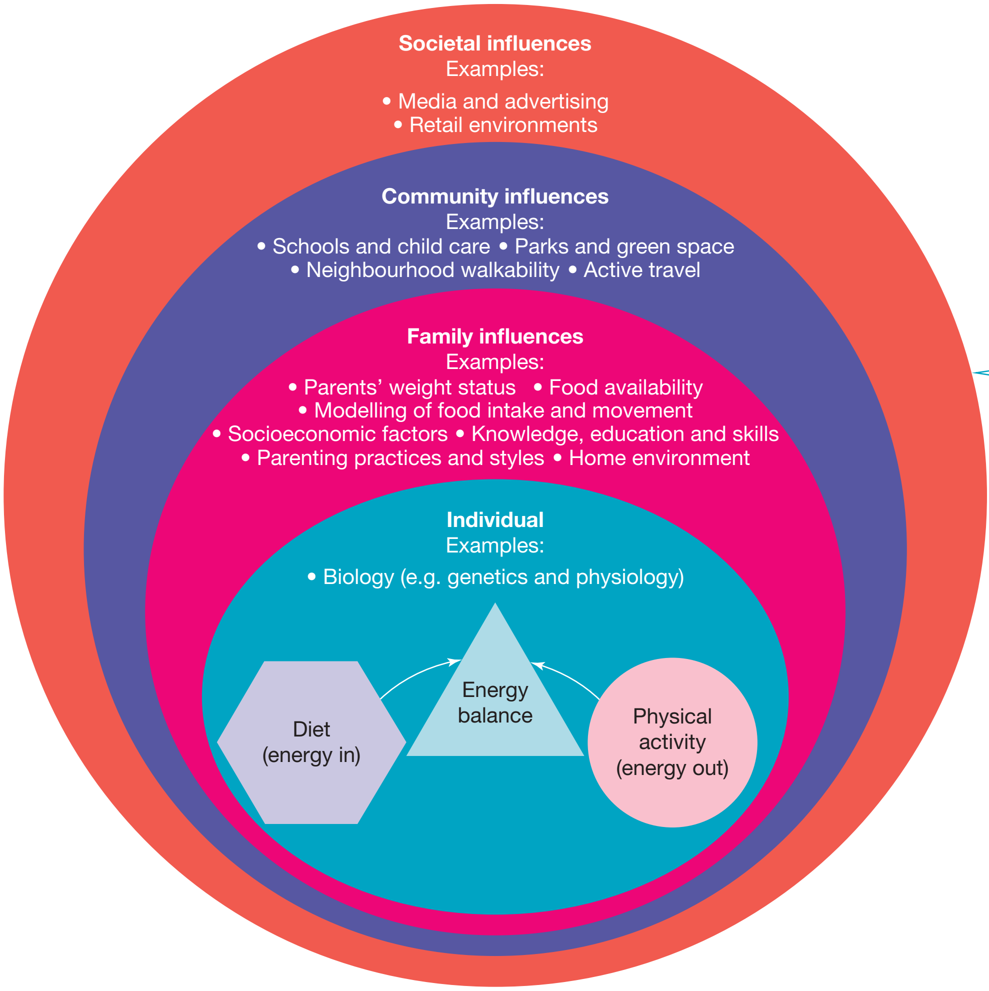
Source 2

Leon is 13-years-old and has classified as obese for a number of years. He often feels self-conscious about his weight and has avoided social occasions in the past, such as swimming at the beach and going to water parks.[2] Leon has experienced bullying as a result of his body weight in the past, which has contributed to feelings of sadness and isolation. Leon lives with his mother, who works full-time, so he spends time at his grandparents' house after school and they often feed him snacks and dinner.[3]

[2] Information within the case study that links to health and wellbeing can be used to discuss how interventions can promote one or more of the dimensions.
[3] This information could be used to discuss potential barriers to Leon losing weight.

Source 3

Causes of overweight and obesity



4 The factors shown in this graphic can form the basis of where Ottawa Charter action areas can be used to address obesity among children.

Source: Mihrshahi S, Gow ML & Baur LA 2018. Contemporary approaches to the prevention and management of paediatric obesity: an Australian focus. *Medical Journal of Australia* 209(6):267-74

Using the information provided and your own knowledge, discuss the potential of the Ottawa Charter in addressing obesity among young people in Australia and how this may promote health outcomes.

15 marks

For this question, links from obesity to health outcomes are required. The stimulus material provides limited information that can be linked to health status, so this requirement provides potential to display related knowledge.

6.8 Review

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6.8.1 Topic summary

6.2 The role of health promotion in improving population health

- Health promotion has targeted a range of issues in Australia that contribute significant economic, social and health-related costs to promote population health.
- The Quit campaign implements media campaigns; implements the Quitline, a telephone counselling service and, in some states, an Aboriginal Quitline; developed the QuitCoach website; provides advice to state and territory governments relating to tobacco laws; conducts research into tobacco use and effective quitting strategies; and provides advice to health professionals on intervention approaches.
- The Good Sports program works with sports clubs to reduce the negative impacts of alcohol misuse. It provides free tools, resources and practical support to move away from an alcohol-centred culture.
- The Victorian Road Safety Strategy 2021–2030 works to eliminate road deaths by 2050 by addressing the range of factors that contribute to road-related injuries, such as infrastructure, road laws, human behaviour and vehicle safety.
- The SunSmart campaign, including the Slip, Slop, Slap, Seek, Slide advertising campaign, shade audits and support for health professionals.
- LiveLighter works to promote healthy eating and regular physical activity to reduce the risk and rates of overweight and obesity. LiveLighter provides a range of support, including healthy recipes and fact sheets, training for health professionals and policies for workplaces.

6.3 Programs to improve Aboriginal and Torres Strait Islander Peoples' health

- Aboriginal and Torres Strait Islander Peoples have significant potential to experience improvements in health outcomes and have therefore been a focus of numerous initiatives under the Closing the Gap policy, including:
  - Deadly Choices initiative — works to encourage healthy lifestyles among Aboriginal and Torres Strait Islander Peoples and promote culturally appropriate health care
  - the 2Spirits program — works to improve the sexual health and wellbeing of Aboriginal and Torres Strait Islander gay men, sistergirls and brotherboys through education, prevention, health promotion and community development activities
  - Tackling Indigenous Smoking (TIS) — a federal government initiative that provides grants and education to assist local organisations in working towards reducing smoking rates among Aboriginal and Torres Strait Islander Peoples
  - Aboriginal Quitline — a telephone counselling service that provides confidential support in a culturally sensitive way for Aboriginal and Torres Strait Islander people wanting to quit smoking
- A number of considerations can be used to evaluate the capacity of initiatives to promote Aboriginal and Torres Strait Islander Peoples' health and wellbeing, including:
  - actual improvements to health and wellbeing
  - the number of participants taking part in the initiative
  - feedback provided by participants
  - action areas of the Ottawa Charter that are evident
  - whether the initiative is culturally appropriate
  - whether the program has taken the specific needs of the target group into account

- funding that has been provided to implement the initiative
- whether the program addresses a significant health issue for Aboriginal and Torres Strait Islander Peoples.

6.4 Promoting healthy eating in Australia

- The Australian Dietary Guidelines encourage individuals to maintain a healthy body weight, include adequate amounts of foods from the five food groups, limit the intake of saturated fat, added salt, added sugar and alcohol, support breastfeeding and care for food.
- The number of serves for each food group and the size of a serve are also included in the Australian Dietary Guidelines.
- The Australian Guide to Healthy Eating is a visual representation of Australian Dietary Guidelines 2 and 3, and is intended to be used by consumers to guide their food intake. The guide shows the proportion of foods that should be consumed from each of the five food groups, but does not include serving numbers or sizes.
- The Aboriginal and Torres Strait Islander Guide to Healthy Eating is based on the Australian Guide to Healthy Eating but includes references to traditional foods such as kangaroo, goanna and crab meat, bush fruits and vegetables, and damper.

6.5 The challenges in bringing about nutritional change

- A range of factors contribute to the foods people consume and these can act as challenges to nutritional change. Factors can be classified as personal, sociocultural (including commercial) or environmental factors.
- Personal factors include willpower and taste preferences, attitudes and beliefs and health and wellbeing factors.
- Sociocultural factors include socioeconomic status, employment status, family and peer group and commercial factors.
- Commercial factors include supply chains, distribution and affordability, processing, packaging and labelling, lobbying, and marketing strategies and the use of media
- Environmental factors include geographic location, workplaces, housing environment and transport.

on Resources

Digital document Summary (doc-41592)

6.8.2 Key terms

brotherboys Aboriginal and Torres Strait Islander transgender men (assigned female at birth) who have a distinct cultural identity and often take on male roles within the community.
commercial factors conditions, actions and policies of corporate organisations that impact health and wellbeing, either positively or negatively
energy balance when the amount of energy consumed is the same as the amount of energy required. Energy balance contributes to neither weight gain or weight loss.
private sector the part of the economy that is not run by the government. It includes companies and enterprises that operate to make a profit.
sistergirls Aboriginal and Torres Strait Islander transgender women (assigned male at birth) who have a distinct cultural identity and often take on female roles within the community, including looking after children and family (2015, Sisters & Brothers NT)
UV index a scale from 1–11+ that provides an indicator of how intense UV radiation will be. Sun protection methods are recommended for any UV index score of 3 and over

6.8 Exercises

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6.8 Exam questions

Question 1 (10 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.5.c,d*; © VCAA

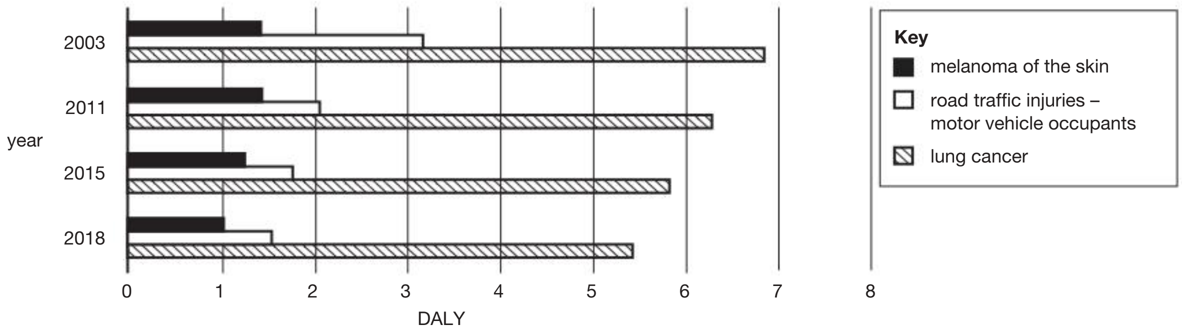
a. Analyse the strengths and weaknesses of the Australian Dietary Guidelines in terms of their ability to increase fibre intake in the Australian population. **2 marks**

b. Suggest one reason why Australians may find it challenging to make improvements to their diets in order to increase fibre intake. **2 marks**

Source: Adapted from *VCE 2023, Health and Human Development Exam, Q. 6.b;* © VCAA

c. Select **one** of the conditions shown in the graph below.
Referring to the information provided and your own understanding of the action areas of the Ottawa Charter for Health Promotion, **analyse** the ways in which health promotion might bring about improvements in health status in Australia for your selected condition. **6 marks**

Age-standardised DALY (per 1000 population) 2003–2018 for a range of conditions



Data: adapted from Australian Institute of Health and Welfare (AIHW), ‘Burden of Disease Study 2022’, data tables: national estimates for Australia, <aihw.gov.au/reports/burden-of-disease/australian-burden-of-disease-study-2022/data>

Question 2 (10 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.14*; © VCAA

Consider the following three sources relating to the link between dietary intake and Australia's health status.

SOURCE 1

Jenna is 10 years old and lives with her mother and younger brother. Jenna eats a cereal with a high sugar content for breakfast. On her way to school, she passes two fast-food outlets and a bus stop that has an advertisement for soft drinks. In the morning, Jenna has a class about the importance of healthy eating. She buys lunch from the school canteen. After school, she plays soccer and wins an 'encouragement' award sponsored by a local fast-food outlet. When she gets home, she watches her favourite television show, during which time she sees advertisements for fried chicken and a chocolate bar. Jenna's mother comes home from work and wants to provide a healthy dinner for her children. She selects a commercially prepared cottage pie from the freezer. The front of the package states that it contains 100% organic Australian beef and no artificial colours.

SOURCE 2

Obesity trends in Australia

- 16.7% of Australians aged 2 to 17 years are overweight and 8.2% are obese*
- 20.2% of boys aged 16 to 17 years are overweight and 10.7% are obese*
- [Being overweight] has increased from 10.2% (1985) to 20.6% (2014) among Australians aged 7 to 15 years*
- 67.0% of Australian adults are overweight or obese
- Severe obesity has risen from 4.9% to 9.4% among Australian adults over the past 20 years†

Source: Obesity Evidence Hub, *'Obesity trends in Australian children',<www.obesityevidencehub.org.au/collections/trends/australian-children>, and †'Obesity trends in Australian adults', <www.obesityevidencehub.org.au/collections/trends/adults-australia>

SOURCE 3

Less than 1 in 10 adults

Met the recommendations for daily vegetable consumption in 2017-18

7.1%

Of children aged 2-17 and 91% of adults consumed sugar sweetened beverages daily in 2017–18

1.4%

Of the Australian burden of disease in 2015 was attributable to a diet low in fruit

About one-third

Of Australians' energy is from discretionary foods. This is highest for teenagers aged 14–18, at 41%

7.3%

Of the total burden of disease in Australia in 2015 was due to poor diet

Source: Adapted from Australian Institute of Health and Welfare (AIHW), 'Food & nutrition', <www.aihw.gov.au/reports-data/behaviours-risk-factors/food-nutrition/overview>

Using information from all three sources and your own knowledge, **discuss** the:

- contribution of dietary risks to Australia's health status and burden of disease
- importance of consuming a diet consistent with the Australian Dietary Guidelines
- challenges that make nutritional improvements difficult to achieve.

Question 3 (6 marks)

Source: *VCE 2020, Health and Human Development Exam, Q.4;* © VCAA

Overall, Australian children aged 14–18:

- get 41% of their energy from discretionary foods
- get 13% of their energy from added sugars and 13% from saturated and trans fats (with the latter exceeding the 10% recommended limit)
- have an intake of sodium well above the level of adequate intake.

Source: Adapted from Australian Institute of Health and Welfare, Nutrition across the life stages, cat. no. PHE 227, AIHW, Canberra, 2018, p. 50

a. Use two examples from the information above to **explain** the impact on the long-term health status of Australians. **2 marks**

b. **Explain** two challenges that can have an impact on an individual's ability to make nutritional changes. **4 marks**

Question 4 (4 marks)

Source: *VCE 2014, Health and Human Development Exam, Q.5.c;* © VCAA

Dietary Guideline 3 states that an individual should 'limit intake of foods containing saturated fat, added salt, added sugars and alcohol'.

Explain two ways in which this guideline may help reduce the incidence of diabetes mellitus.

Question 5 (8 marks)

The Yarning It Up — Don't Smoke It Up journey to quit tobacco project, provided by the East Metropolitan Community and Population Health Service, aims to reduce tobacco-related harm in the adult Aboriginal population of Perth, Western Australia.

The project delivers workplace information sessions to service providers focusing on this program. It also provides workshop sessions to community members. This involves a thorough explanation of the Yarning It Up — Don't Smoke It Up journey to quit tobacco model. The workshops are culturally appropriate; education is presented as a story, which allows participants to lead the workshop. The project provides information sessions to community groups, organisations and others working in the tobacco cessation area.

The workshop includes:

- the Yarning It Up — Don't Smoke It Up journey to quit model
- triggers and barriers to smoking
- a referral process
- support to quit.

Source: Edited extract from Australian Indigenous HealthInfoNet

a. **Evaluate** the Yarning It Up program in terms of its capacity to improve health outcomes for Aboriginal for Health Promotion and Torres Strait Islander Peoples. **4 marks**

b. **Identify** two action areas of the Ottawa Charter for Health Promotion and **explain** how they are reflected in the Yarning It Up program. **4 marks**

on Resources

Digital document	Key terms glossary (doc-41591)
Interactivities	Crossword (int-9238)
	Definitions (int-9239)
Exam question booklet	Topic 6 Exam question booklet (eqb-0250)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 6 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- **6.3** Closing the Gap worksheet (doc-32212) ☐
- 2Spirits worksheet (doc-32003) ☐
- Condoman and Lubelicious (doc-41615) ☐
- Deadly Sista Girlz (doc-41616) ☐
- Deadly Dan, the Smoke-Free Man (doc-41617) ☐
- **6.4** Servings and nutrients calculator worksheet (doc-32213) ☐
- **6.8** Summary (doc-41592) ☐
- Key terms glossary (doc-41591) ☐

Interactivities

- **6.8** Crossword (int-9238) ☐
- Definitions (int-9239) ☐

Teacher-led videos

- **6.6** Key skill: Analyse a range of data, case studies and examples of health promotion programs in relation to the use of action areas of the Ottawa Charter for Health Promotion and how they can lead to improved health outcomes (tlvd-11379) ☐
- Key skill: Analyse initiatives introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in Australia, and how they reflect the action areas of the Ottawa Charter for Health Promotion and social justice (tlvd-11380) ☐
- Key skill: Evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice (tlvd-11381) ☐
- Key skill: Evaluate the impact of initiatives to promote healthy eating in Australia and their ability to improve health outcomes (tlvd-11383) ☐
- Key skill: Draw conclusions as to why nutritional improvements are difficult to achieve in Australia (tlvd-11382) ☐
- **6.7** Extended response: Build your exam skills (tlvd-11384) ☐

Weblinks

- **6.3** Closing the Gap ☐
- 2Spirits ☐
- Condoman ☐
- Lubelicious ☐
- Deadly Sista Girlz ☐
- Deadly Dan, the Smoke-Free Man ☐
- **6.4** Servings calculator ☐
- Nutrients calculator ☐

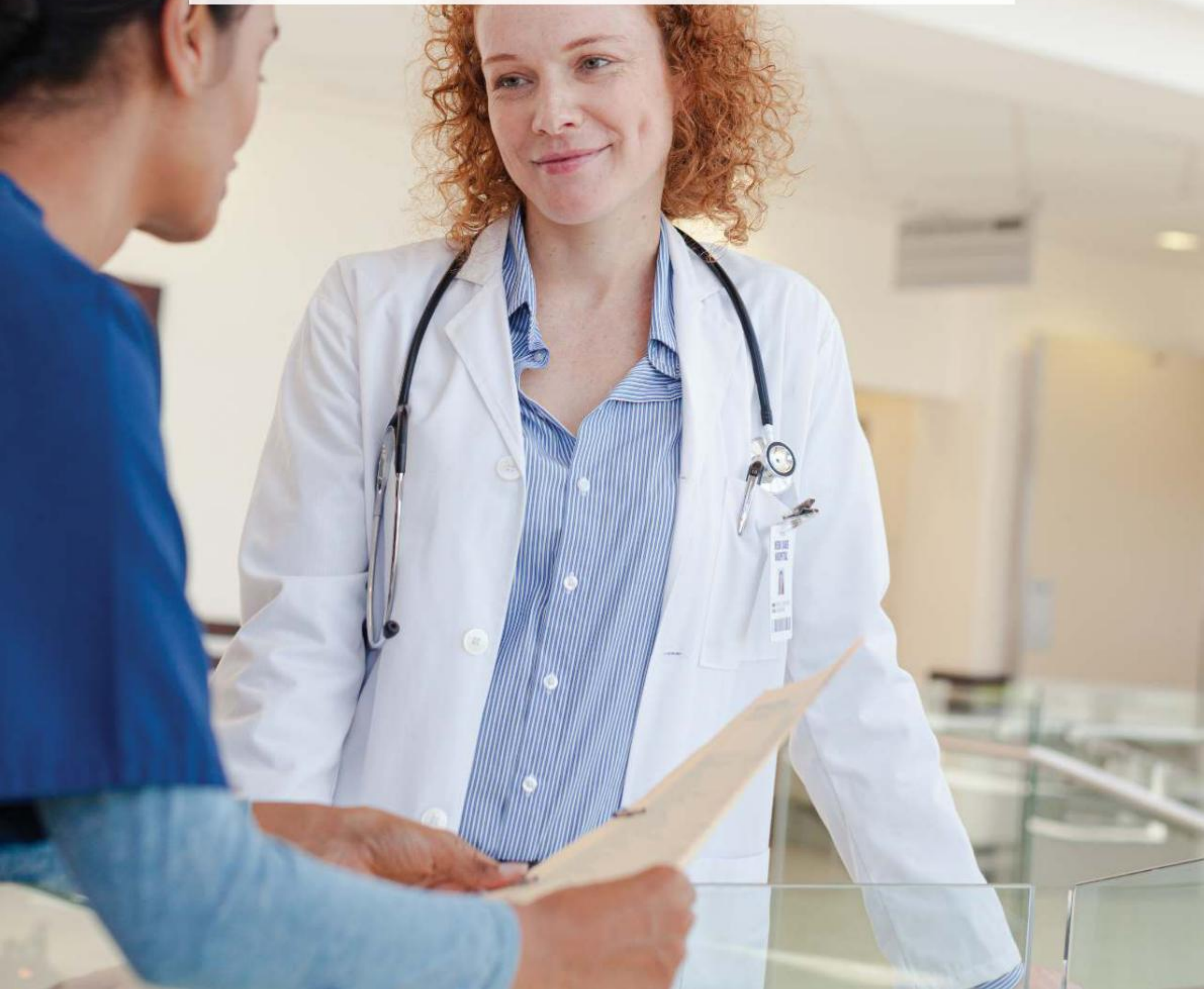
Exam question booklet

- **6.8** Topic 6 Exam question booklet (eqb-0250) ☐

To access these online resources, log on to **www.jacplus.com.au**

7 Australia's health system

LEARNING SEQUENCE



7.1 Overview

	Key knowledge	Key skill	Subtopic
◯	Australia's health system, including Medicare, private health insurance, the Pharmaceutical Benefits Scheme (PBS) and the National Disability Insurance Scheme (NDIS), and its role in promoting health in terms of funding, sustainability, access and equity	Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health	**7.2, 7.3, 7.4 ,7.5, 7.6**

Key terms

allied health services

bulk-billing

equity

Medicare

patient co-payment

premium

schedule fee

Exam terminology

Analyse	Examine the components of; look for links, patterns, relationships and anomalies

on Resources

Digital document	Key terms glossary (doc-36128)
Exam question booklet	Topic 7 exam question booklet (eqb-0060)

7.2 Medicare

Key knowledge	Key skill
Australia's health system, including Medicare	Analyse the role of Medicare in promoting Australia's health

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what Medicare is, including who and what it covers and how it is funded • how Medicare can promote health outcomes in Australia • strengths and limitations of Medicare.	• describe specific aspects of Medicare and make meaningful links from them to health outcomes • discuss strengths and limitations of Medicare.

According to the World Health Organization (WHO), a health system is 'all the activities whose primary purpose is to promote, restore and/or maintain health'.

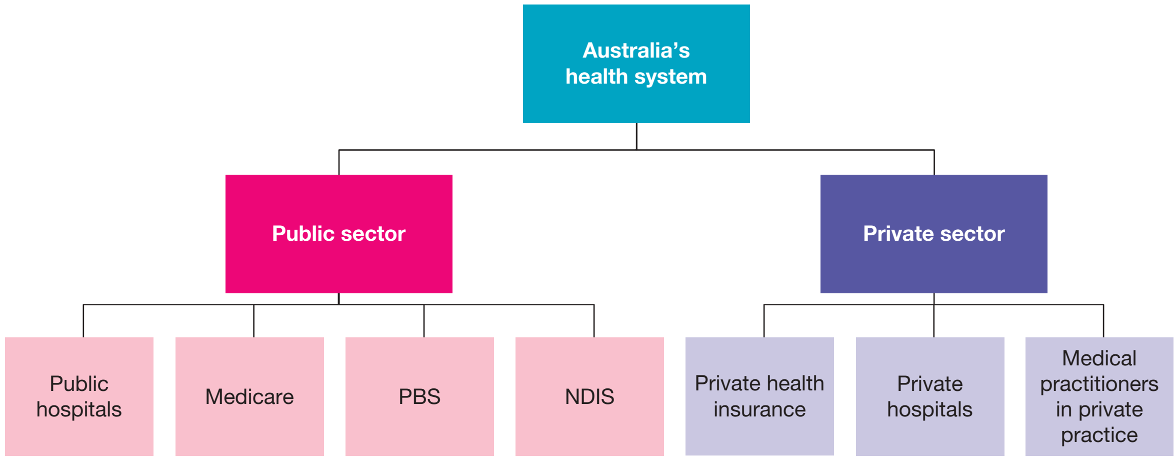
Common elements of health systems include funding models, a professional and well-trained workforce, reliable information on which to base decisions and policies, up-to-date facilities, and logistics to deliver quality medicines and technologies.

Australia's health system is made up of two main components: public and private health care. The public component includes public-sector health services and schemes that are provided by the Australian, state/territory and local governments. This includes public hospitals, Medicare, the Pharmaceutical Benefits Scheme (PBS) and the National Disability Insurance Scheme (NDIS). The private sector includes private health insurance, private hospitals and medical practitioners in private practices (see **FIGURE 7.1**).

The Australian government and state/territory governments also fund and deliver a range of other services, including population health programs, health and medical research, and health services for Aboriginal and Torres Strait Islander Peoples.

int-8502

FIGURE 7.1 Australia's health system is made up of the public and private sectors and the respective components.



THINKING AHEAD

A key part of this topic is understanding Australia's health system and how it promotes health outcomes in relation to funding, sustainability, access and equity. Although these considerations will be discussed once the components of the health system have been explored, it can be useful to consider the following as you move through the components of the health system:

Funding: What does the component of the health system provide funding for? Be specific here, because multiple components provide funding for 'health care'.

Sustainability: What does the component of the health system do to ensure it can continue into the future, providing high-quality care for years to come?

Access: What does the component of the health system do to provide geographic, economic and/or culturally appropriate access to health care?

Equity: How does the component of the health system provide greater support for disadvantaged groups?

7.2.1 Medicare

Medicare is Australia's universal health insurance scheme. Established in 1984 and administered by the federal government, Medicare gives all Australians, permanent residents and people from countries with a reciprocal agreement (New Zealand, the United Kingdom, the Republic of Ireland, Belgium, Sweden, the Netherlands, Finland, Italy, Malta, Slovenia and Norway) access to subsidised health care.

7.2.2 What does Medicare cover?

Out-of-hospital expenses

Medicare will pay all or some of the fees relating to many essential healthcare services. This includes consultation fees for doctors (general practitioners, or GPs) and specialists, tests and examinations needed to treat illnesses, such as X-rays and pathology (e.g. blood tests), and eye tests performed by optometrists. Most surgical and other therapeutic procedures performed by GPs are also covered.

FIGURE 7.2 Medicare is administered by the federal government and is available to all Australians.

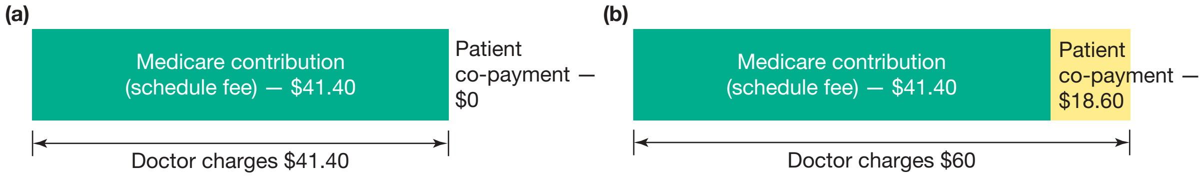
The Medicare Benefits Schedule is a document that lists the range of services covered and the amount that Medicare will contribute to each, known as the **schedule fee**. The schedule fees are based on the amount that is thought to be 'reasonable', on average, for that particular service. For example, the schedule fee for a GP's visit in January 2024 was $41.40. Based on this contribution, every time an individual goes to the doctor for a standard consultation, Medicare will contribute $41.40. This does not necessarily mean that the doctor will only charge that amount. Depending on the individual doctor's policy, the fee may be more than the schedule. If this is the case, the patient is responsible for paying the difference (known as the **patient co-payment**). If the doctor charges only the schedule fee, the patient does not have any out-of-pocket expenses and is said to have been **bulk-billed**. Examples of the contributions of both Medicare and the individual are outlined in the hypothetical situations in FIGURE 7.3.

schedule fee the amount of money that the government deems appropriate for a particular medical service or procedure

patient co-payments the payment made by the consumer for health products or services in addition to the amount paid by the government

bulk-billing when the doctor charges only the schedule fee. The payment is claimed directly from Medicare so there are no out-of-pocket expenses for the patient.

FIGURE 7.3 (a) A bulk-billed GP consultation and (b) a GP consultation requiring patient co-payment



Source: www.health.gov.au.

The Medicare Benefits Schedule also contains schedule fees for specialist services such as those performed by dermatologists (who treat skin conditions), cardiologists (who treat heart conditions) and obstetricians (who treat women during pregnancy and childbirth). When an individual accesses such services, Medicare will contribute 85 per cent of the schedule fee (although the specialist may charge more than the schedule fee), meaning a patient co-payment will be required, unless the additional cost is covered under private health insurance.

FIGURE 7.4 X-ray is one of the many services Medicare covers.

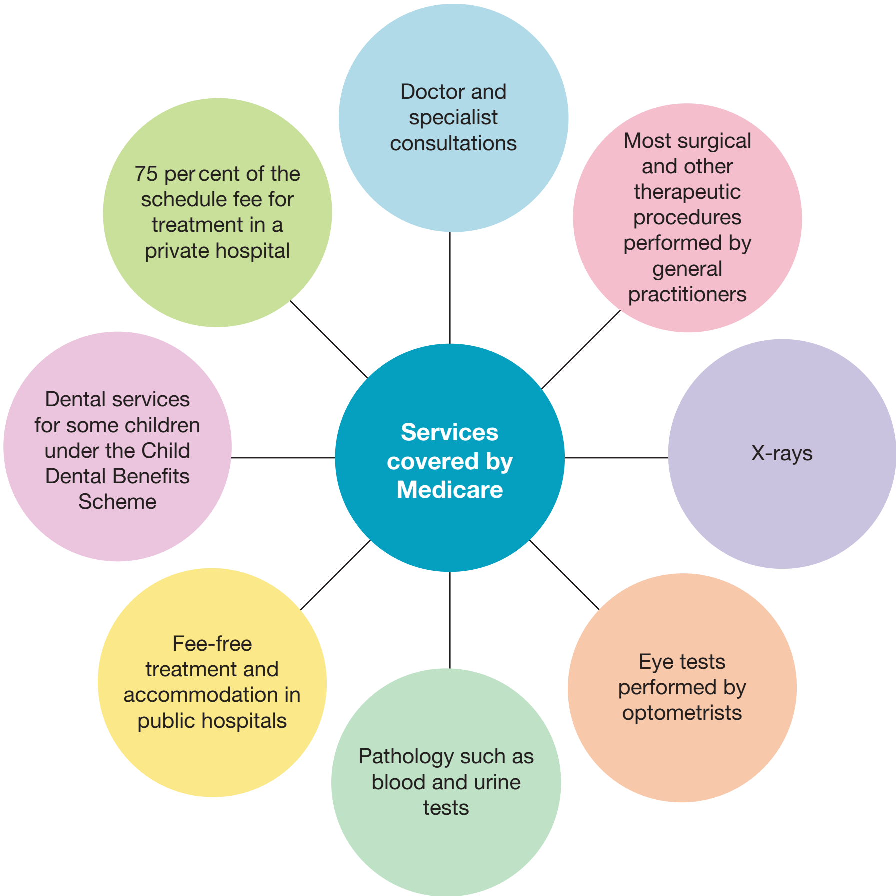
Although most basic dental services are usually not covered by Medicare, some dental procedures can be covered, including:

- some surgical procedures performed by approved dentists
- services for some children aged 2–17. Under the Child Dental Benefits Scheme, some children are eligible for Medicare-funded dental procedures. Medicare will provide $1095 worth of dental treatment over two years for those who qualify. In order to qualify, the individual must be eligible for Medicare and they or their family, guardian or carer must receive certain government benefits, such as Family Tax Benefit Part A or Youth Allowance (forms of social security), for at least part of the calendar year.

In-hospital expenses

As a public patient in a public hospital, accommodation and treatment by doctors and specialists is covered by Medicare, including initial treatment and aftercare. If an individual chooses to be admitted to a private hospital or as a private patient in a public hospital, Medicare will pay 75 per cent of the schedule fee for treatment by doctors and specialists, but will not contribute to accommodation or other costs, such as theatre fees and medication. A summary of the in- and out-of-hospital services covered by Medicare is shown in **FIGURE 7.5**.

FIGURE 7.5 Summary of services covered by Medicare



Medicare Safety Net

The Medicare Safety Net provides extra financial assistance for those that incur significant out-of-pocket costs for Medicare services. Once an individual or family has contributed a certain amount out of their own pocket to Medicare services in a calendar year ($560.40 in 2024), further financial support is provided by the government, making Medicare services cheaper for the remainder of that year.

7.2.3 What is not covered by Medicare?

Medicare covers most 'clinically necessary' hospital and doctors' services. Any cosmetic or unnecessary procedures are generally not covered. Other services not covered by Medicare include:

- most costs associated with private hospital care. Medicare will pay 75 per cent of the schedule fee for treatment in private hospitals but will not contribute to accommodation and other costs.
- most dental examinations and treatment. Although some children aged 2–17 can qualify for Medicare-funded dental care, most individuals are responsible for meeting their own costs associated with dental health care.
- in-home nursing care or treatment
- ambulance services
- most **allied health services** (unless referred by a GP or carried out in a public hospital).

allied health services health services provided by trained health professionals who are not doctors, dentists or nurses, such as physiotherapists, psychologists and occupational therapists

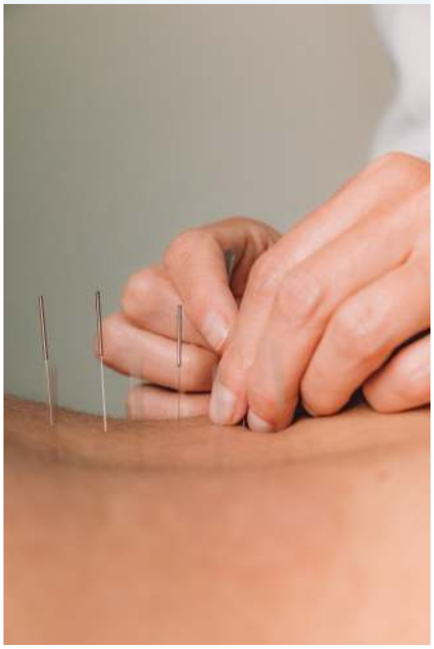
A number of treatments that exist in addition to traditional medicine are generally not covered by Medicare. These are often seen as 'alternative medicines' and include chiropractic services, acupuncture, remedial massage, naturopathy and aromatherapy. Medicare may contribute if these services are carried out or referred by a GP.

Health-related aids, such as glasses and contact lenses, hearing aids and the cost of artificial limbs (prostheses), are also exempt from the Medicare rebate. Pharmaceuticals are not covered under Medicare but may be subsidised under the Pharmaceutical Benefits Scheme.

Medical costs for which someone else is responsible (e.g. a compensation insurer, an employer, or a government or non-government authority) do not qualify for a Medicare contribution because the person or organisation responsible is expected to pay the medical fees.

Individuals and/or families can choose to purchase private health insurance to cover many of the services not covered by Medicare if they wish (see subtopic 7.4).

FIGURE 7.6 Alternative therapies, such as acupuncture, are not usually covered by Medicare, but can be if carried out or referred by a GP.



7.2.4 The advantages and disadvantages of Medicare

The advantages and disadvantages of Medicare are summarised in **TABLE 7.1**.

TABLE 7.1 The advantages and disadvantages associated with Medicare

Advantages	Disadvantages
• Choice of doctor for out-of-hospital services • Available to all Australian citizens • Reciprocal agreement between Australia and other countries allows Australian citizens to access free health care in selected countries • Covers tests and examinations, doctors' and specialists' fees (schedule fee only), and some procedures such as X-rays and eye tests • The Medicare Safety Net provides extra financial contributions for medical services once an individual's or family's co-payments reach a certain level	• No choice of doctor for in-hospital treatments • Waiting lists for many treatments • Does not cover alternative therapies • Often does not cover the full amount of a doctor's visit

7.2.5 How is Medicare funded?

Medicare is funded through three sources of income:
- the Medicare levy
- the Medicare levy surcharge
- general taxation.

The Medicare levy is an additional 2 per cent tax placed on the taxable income of most taxpayers. Those with low incomes or with specific circumstances may be exempt from paying the levy.

People without private health insurance earning more than a certain amount ($97 000 a year for individuals and $194 000 for families in 2023–24) have to pay an extra tax called the Medicare levy surcharge. The Medicare levy surcharge increases as income increases; for example, an individual without private health insurance earning more than $97 000 will pay an extra 1 per cent of their income to Medicare, and an individual without private health insurance earning more than $144 001 will pay an extra 1.5 per cent of their income to Medicare. This is an incentive for those on higher incomes to take out private health insurance, which takes some of the financial pressure off Medicare.

TABLE 7.2 Medicare services provided and benefits paid, 2009–23

	Total services provided (millions)	Average number of services per person	Total cost of services ($ billions)	Average cost per person ($)
2009–10	308.0	14.2	15.4	711
2010–11	318.7	14.5	16.3	741
2011–12	332.2	14.9	17.6	790
2012–13	343.6	15.1	18.6	817
2013–14	356.1	15.4	19.1	827
2014–15	368.5	15.7	20.2	860
2015–16	384.0	16.1	21.1	886
2016–17	394.3	16.3	22.0	910
2017–18	414.3	16.8	23.2	943
2018–19	424.2	17.0	24.1	964
2019–20	428.3	16.9	24.7	974
2020–21	465.9	18.2	27.5	1071
2021–22	506.8	19.7	28.8	1120
2022–23	454.4	17.5	27.3	1051

Source: www.health.gov.au

The Medicare levy surcharge aims to encourage individuals to take out private hospital cover and, where possible, to use the private system to reduce the demand on the Medicare-funded public system.

The revenue collected from the Medicare levy and the Medicare levy surcharge does not meet the full operating costs of Medicare and, as a result, income collected through general taxation is also used to help fund it.

EXAM TIP

This study design dot point relates to Australia's health system and how it promotes 'health', which can relate to either health and wellbeing or health status. If asked how the health system (or an aspect of it) can promote health or improve health outcomes, links to either health and wellbeing or health status are acceptable.

7.2 Activity

Access the **Medicare** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Medicare worksheet (doc-32205)

Weblink Medicare

7.2 Exercises

7.2 Quick quiz on | 7.2 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5, 7, 8, 10	6, 9

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Test your knowledge

1. a. Briefly describe Medicare.
   b. What does Medicare cover?
   c. What does Medicare not cover?
2. a. What is meant by the term 'schedule fee'?
   b. What is bulk-billing?
3. Identify the percentage of the schedule fee that Medicare will pay if individuals are treated as private patients.
4. What is the Medicare Safety Net?
5. Outline how Medicare is funded.

Apply your knowledge

6. Does Medicare represent the biomedical or social model of health? Explain. (You may need to refer to subtopics 5.4 and 5.5.)
7. Does Medicare cover dental health care? Discuss.
8. Explain how the Medicare Safety Net might promote health status in Australia.
9. Explain how Medicare improves health outcomes in Australia.
10. a. According to **TABLE 7.2**, how has the average number of Medicare services per person changed from 2009–10 to 2022–23?
    b. Suggest two possible reasons for this change.

7.2 Exam questions

Question 1 (6 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.7.a,b*; © VCAA

a. **Identify** two services covered by Medicare. **2 marks**

b. In relation to funding and equity, **discuss** how Medicare promotes the health and wellbeing of Australians. Refer to a different dimension of health and wellbeing in each part of the answer. **4 marks**

Question 2 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.11.c*; © VCAA

Explain how Medicare provides universal health coverage.

Question 3 (2 marks)

Source: *VCE 2016, Health and Human Development Exam, Q.1.a;* © VCAA

List one service that is covered by Medicare and **explain** how this service can improve the health status of Australians.

Question 4 (2 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.11.c;* © VCAA

Mavis is 76 years old and has been diagnosed with colorectal cancer. Her family is devastated by this diagnosis as Mavis has been an outgoing, independent woman. As a result of her diagnosis, Mavis has had to visit the doctor more regularly to ensure management of the condition and to be prescribed appropriate medication.

Identify two services covered by Medicare that Mavis could access as a result of her diagnosis.

Question 5 (5 marks)

Source: *VCE 2014, Health and Human Development Exam, Q.3.b;* © VCAA

Dental services are generally not covered by Medicare. However, in January 2014 the Child Dental Benefits Schedule was introduced. It provides financial support for basic dental services for children. To be eligible for these benefits:

- the child must be aged 2–17 years
- the child's family must receive certain government benefits, such as Family Tax Benefit Part A, for at least part of the calendar year
- the child must be eligible for Medicare.

List two other health services not covered by Medicare.

More exam questions are available in your learnON title.

7.3 The Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme

Key knowledge	Key skill
Australia's health system, including the Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme	Analyse the role of the PBS and the NDIS in promoting Australia's health

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what the Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme are, including who and what they cover • how the Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme can promote health outcomes in Australia.	• describe specific aspects of the Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme and make meaningful links from them to health outcomes.

In addition to Medicare, the federal government is responsible for the Pharmaceutical Benefits Scheme (PBS) and plays a key role in administering the National Disability Insurance Scheme (NDIS). The PBS and NDIS are two key components of Australia's health system and work to promote health outcomes in Australia.

7.3.1 The Pharmaceutical Benefits Scheme

The PBS is a key component of the federal government's contribution to Australia's health system.

The PBS has been evolving since 1948, when the government provided lifesaving and disease-preventing medication to the community free of charge. The aim was to provide essential medicines to people who needed them, regardless of their ability to pay. The purpose of the PBS remains the same today, but instead of being free, medicines are now subsidised and consumers must make a patient co-payment. As of 1 January 2024, the patient co-payment for most PBS-subsidised medication was $31.60, or $7.70 for concession card holders. The government pays the remaining cost. These costs are adjusted each year on 1 January to stay in line with inflation.

In addition to the initial subsidy, individuals and families are further protected from large overall expenses for PBS-listed medicines through the PBS Safety Net. Once they (or their immediate family) have spent $1647.90 within a calendar year on PBS-listed medicine, the patient pays only a concessional co-payment rate of $7.70 rather than the normal $31.60.

Currently, more than 5000 brands of prescription medicine are covered by the PBS. This includes different brands of the same medicine.

There are also a number of drugs not covered by the PBS. These drugs require the patient to pay the full amount. Available medications are reviewed three times a year by the Pharmaceutical Benefits Advisory Committee (PBAC). The PBAC is an independent committee made up of health professionals who review and consider new medications for inclusion in the PBS. No new medicine can be listed on the PBS unless the committee makes a positive recommendation. Before recommending a medicine for listing, the PBAC takes into account the medical conditions for which the medicine is used, its clinical effectiveness, safety and cost-effectiveness ('value for money') compared with other treatments.

FIGURE 7.7 More than 5000 essential medications are subsidised under the PBS.

In 2022–23, more than $17 billion was paid through the PBS. On average, there were around eight and a half prescriptions subsidised for every person in Australia (Department of Health and Aged Care, 2024).

CASE STUDY

New $160 000 drug for multiple myeloma blood cancer to be added to PBS at a cost to patients of $480

More than 1000 patients with an incurable type of blood cancer are expected to benefit from a 'completely new' treatment that will be subsidised by the Federal Government in the new year.

Darzalex, which will be listed on the Pharmaceutical Benefits Scheme (PBS) from January 1, is a medicine used to treat multiple myeloma, a cancer that causes cancerous plasma cells to accumulate in bone marrow and crowd out healthy blood cells.

An estimated 18 000 to 20 000 people are living with multiple myeloma and about 1000 die with it each year, Myeloma Australia chief executive Steve Roach said.

Miles Prince, the director of molecular oncology and cancer immunology at Epworth Health Care, said treatment options for the cancer had been 'quite limited'.

But he described Darzalex as a 'new drug acting in a completely new way' that could allow patients to go for years before needing further treatment.

'But the deeper we get that response, the longer it lasts for.

'So it becomes actually undetectable for quite some time, and it's the first time we're seeing responses where we just cannot see the myeloma at all. It does come back, but it takes a long time.'

Multiple myeloma is similar to leukemia in that it affects blood cells, but is a different disease.

It can damage people's bones and weaken the immune system, and is often diagnosed in older people with aches and pains that cannot be explained another way, Mr Roach said.

'Light at the end of the tunnel'

Professor Prince said while Darzalex did not cure myeloma, it was an 'incredibly powerful tool' that could work for several years.

Professor Miles Prince said the drug could allow patients to go years without needing further treatment.

'In one way it gives us a bit of light at the end of the tunnel, that we may be able to cure this cancer one day,' he said.

Darzalex works by binding to the cancerous plasma cells and either destroying them directly or helping the immune system identify and kill them.

The treatment will cost patients as little as $40 per month, or $480 a year, when listed on the PBS ($31.60 per month in 2024 or $379.20 per year), down from up to $160 000 per year. Concession card holders will pay even less.

The Federal Government said about 1165 patients would benefit from access to the treatment.

It will be listed on the PBS as a second-line treatment for when patients relapse.

Mr Roach said the announcement was 'enormous' and 'heart-lifting' news for people with myeloma and their families.

'It's absolutely huge,' he said.

'People have been waiting for this moment to … know that we're there with the rest of the world and we have the best treatments available.'

Mr Roach said living with an incurable disease 'hanging over your head' was difficult for patients.

But he also said one of the things that made it difficult was the fact it was seen as a rare disease that was not talked about very often.

'You're living with that, without people understanding what you're living with, so it can be a heavy weight for patients, I think,' he said.

'When things like this happen it not only creates hope, but it also means people are taking notice.'

Source: 'New $160 000 drug for multiple myeloma blood cancer to be added to PBS at a cost to patients of $480', ABC News, 28 December 2020, https://www.abc.net.au/news/2020-12-28/myeloma-blood-cancer-drug-darzalex-gets-federal-government-funds/13017254

CASE STUDY REVIEW

1. Discuss how adding Darzalex to the PBS could promote health status in Australia.
2. Explain how including Darzalex on the PBS can assist in promoting the sustainability of the health system.
3. Explain how listing Darzalex on the PBS may promote three dimensions of health and wellbeing for those who can access it.

7.3.2 The National Disability Insurance Scheme

The NDIS is a national insurance scheme that provides services and support for people with permanent, significant disabilities, and their families and carers. Funded by the federal and state/territory governments, the NDIS works to assist individuals with permanent and significant disabilities to live an ordinary life.

To be eligible for the NDIS, a person must meet the age, residency and disability requirements. The age requirement states that an individual must be aged under 65 when applying for the NDIS. To meet the residency requirement, the individual must live in Australia and be an Australian citizen or hold a permanent visa or a **Protected Special Category visa.**

The disability requirements are fourfold:

- you have an impairment or condition that is likely to be permanent (i.e. it is likely to be lifelong)
- your impairment substantially reduces your ability to participate effectively in activities, or perform tasks or actions unless you have:
  - assistance from other people, or
  - you have **assistive technology** or equipment (other than common items such as glasses), or
  - you can't participate effectively even with assistance or aides and equipment
- your impairment affects your capacity for social and economic participation
- you are likely to require support under the NDIS for your lifetime.

If the age, residency and disability requirements are met, the first step in accessing the NDIS is developing an individualised plan. The plan is based on the individual's goals and aspirations, both now and in the future. This may include greater independence, community involvement, employment and improved health and wellbeing. The plan also identifies the functional support needed for daily living and participation, the support needed to pursue goals, and how the individual wants to manage their plan over time. For example, the individual may choose to manage the plan themselves, nominate someone to help manage their plan, or ask NDIS staff to manage all or part of their plan on their behalf. The NDIS provides information to help participants make these choices and design an individualised plan that is right for each person.

FIGURE 7.8 The NDIS provides services and support for people with disabilities.

Through the individualised plan, the NDIS assists participants to:

- access mainstream services and supports — These are the services available for all Australians from people such as doctors or teachers through the health and education systems. It also covers areas such as public housing and the justice and aged care systems. The NDIS provides information about appropriate support options and assists participants in accessing such services by providing resources such as transport and the assistance of a carer if required.
- access community services and supports — These are activities and services available to everyone in a community, such as sports clubs, community groups, libraries or charities. Many individuals wish to be socially connected by accessing services and supports within the community.
- maintain informal support arrangements — This is the help that people get from their family and friends. It is support people don't pay for and is generally part of most people's lives.
- receive reasonable and necessary funded supports — The NDIS can pay for supports that are reasonable and necessary. This means they are related to a person's disability and are required for them to live an ordinary life and achieve their goals. Funding is provided for assistive technology such as a mobility cane, nonslip bathmat, talking watch, shower stool/chair, over-toilet frame, bed rails and wheelchairs. Funding is also provided to pay for carers if the individual requires assistance with daily tasks.

Protected Special Category visa these visas are held by some people who arrived in Australia on a New Zealand passport and meet other specific criteria

assistive technology a device, system or design that allows an individual to perform a task that they would otherwise be unable to do, or increase the ease and safety with which a task can be performed

FIGURE 7.9 The NDIS assists people with permanent disabilities to lead an ordinary life.

As an insurance scheme, the NDIS takes a lifetime approach, investing in people with disability early to improve their health and wellbeing later in life. By 2024, the NDIS was supporting close to 650 000 Australians living with disability.

FIGURE 7.10 An individual plan through the NDIS provides a range of resources and support.

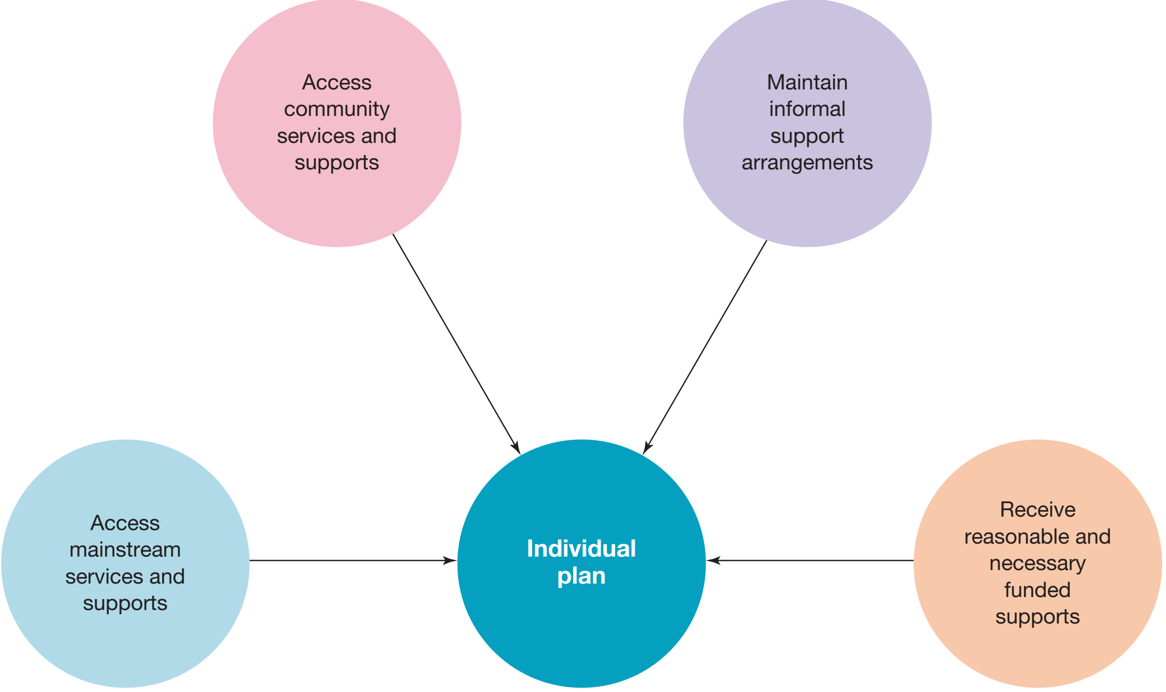

FIGURE 7.11 Assistive technology includes devices like wheelchairs that assist people in carrying out everyday tasks such as attending school.

CASE STUDY

Sarah's story — How we might provide a personal plan and supports over a lifetime

Sarah is 24, and was born with cerebral palsy. Prior to her contact with the National Disability Insurance Agency, she had no job or friends. Sarah has limited mobility and uses an electric wheelchair. Her parents provide her with most of her support. She had outgrown her wheelchair, which she had had for over eight years.

After her initial contact, Sarah worked with us to develop an individual plan. She was asked to think about her goals and aspirations, not just her physical needs. Sarah said she wanted to socialise more, and she was really interested in film.

Sarah's plan identified that she would benefit from physiotherapy and she could have daily in-home assistance with some tasks and help improve her independence. She was provided with funding for a new wheelchair.

The biggest change in Sarah's life came when we helped her locate a film club and worked with the club to support her involvement. Sarah's plan also included transport to and from these events.

Source: www.ndis.gov.au

CASE STUDY REVIEW

1. Explain how the NDIS assisted Sarah.
2. Discuss how the NDIS may have promoted Sarah's health and wellbeing.

7.3 Activity

Access the **NDIS** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document NDIS worksheet (doc-32202)

Weblink NDIS

7.3 Exercises

7.3 Quick quiz on | **7.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4, 5, 6, 8	7, 9, 10	11

These questions are even better in jacPLUS!

- Receive immediate feedback
- Access sample responses
- Track results and progress

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Test your knowledge

1. What is the Pharmaceutical Benefits Scheme (PBS)?
2. a. What is the Pharmaceutical Benefits Advisory Committee (PBAC)?
   b. Outline the role the PBAC plays in the PBS.
   c. Outline the factors the PBAC takes into account.
3. Identify what the co-payment means in the PBS.
4. What is the National Disability Insurance Scheme (NDIS)?
5. Identify the eligibility criteria for the NDIS.
6. Once the eligibility criteria are met, identify the first step in accessing the NDIS.
7. Describe what the NDIS assists participants in doing.
8. Describe what is meant by 'assistive technology'.

Apply your knowledge

9. Outline two differences between Medicare and the NDIS.
10. Explain how the PBS and the NDIS improve the health status of Australians.
11. Explain how assistive technology could promote the health and wellbeing of individuals in Australia.

7.3 Exam questions

Question 1 (2 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.3.a*; © VCAA

Outline two aspects of the National Disability Insurance Scheme (NDIS).

Question 2 (1 mark)

Source: *VCE 2019, Health and Human Development Exam, Q.10.a*; © VCAA

Describe the Pharmaceutical Benefits Scheme (PBS).

Question 3 (2 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.2.c;* © VCAA

The Australian healthcare system consists of private health insurance, Medicare and the Pharmaceutical Benefits Scheme (PBS).

Provide one similarity and one difference between Medicare and the PBS.

Question 4 (2 marks)

Source: *VCE 2012, Health and Human Development Exam, Section A, Q.3.b;* © VCAA

The Australian Government is responsible for administering the Pharmaceutical Benefits Scheme (PBS).

Explain how the PBS may improve the health status of Australians.

Question 5 (2 marks)

Describe how the NDIS promotes the social or mental health and wellbeing of individuals with a disability.

More exam questions are available in your learnON title.

7.4 Private health insurance

Key knowledge	Key skill
Australia's health system, including private health insurance	Analyse the role of private health insurance in promoting Australia's health

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what private health insurance is, including who and what it covers • how private health insurance can promote health outcomes in Australia.	• describe specific aspects of private health insurance and make meaningful links from them to health outcomes • discuss strengths and limitations of private health insurance.

Private health insurance is a type of insurance under which members pay a **premium** (or fee) in return for payment towards health-related costs not covered by Medicare. It is an optional form of health insurance that can be purchased in addition to Medicare.

premium the amount paid for insurance

hospital separations episodes of hospital care that start with admission and end at transfer, discharge or death

Private health insurance is an important part of Australia's health system. As well as contributing much of the necessary health care funding, it gives Australians more choice in the sort of care they wish to access. Private hospitals (which are largely funded by private health insurance companies) provide about one-third of all hospital beds and 40 per cent of **hospital separations**. In 2020, the Australian government made it compulsory for all insurers to classify their hospital policies according to one of four tiers, which relate to the level of hospital cover provided:

- gold — covers the most categories of hospital treatment
- silver — covers the second most categories of hospital treatment
- bronze — covers the second fewest categories of hospital treatment
- basic — covers the fewest categories of hospital treatment.

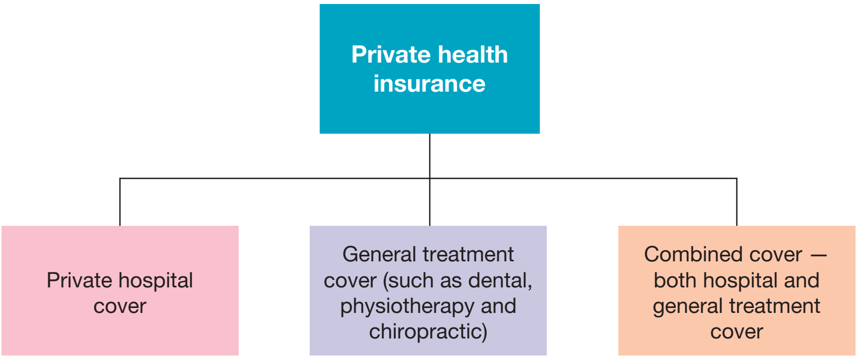
In order to be classified as a particular tier, the policy must cover the minimum requirements for that tier as determined by the government. Selected categories are shown in **TABLE 7.3**. The tier system was designed to simplify the process of selecting an appropriate level of cover for those wishing to take out hospital cover.

TABLE 7.3 Selected services covered by each of the four private health insurance tiers

Category	Basic	Bronze	Silver	Gold
Rehabilitation	✓	✓	✓	✓
Brain and nervous system		✓	✓	✓
Heart and vascular system			✓	✓
Assisted reproductive services				✓

As well as private hospital cover, people can receive cover for general treatment (also known as 'extras' cover) to pay for services provided by dentists, physiotherapists and chiropractors, which are generally not covered by Medicare. The individual can choose which extras are covered, but the premium increases with each addition. The options available in private health insurance are shown in **FIGURE 7.12**.

FIGURE 7.12 Private health insurance options



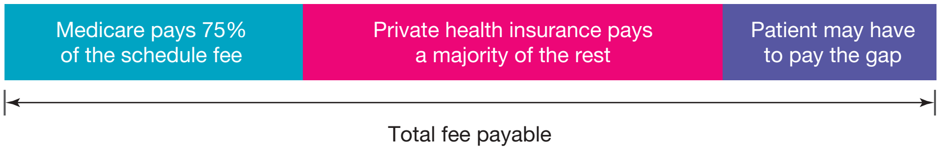
Like all insurance policies, private health insurance works by participants paying a premium, which can vary depending on how many people are covered by the policy and the options included in the policy. The basic benefit of most policies is the right to be admitted as a private patient in a public or private hospital, with many of the expenses met by the insurance company. Medicare will still pay 75 per cent of the doctor's schedule fee for treatment in private hospitals.

FIGURE 7.13 People with private health insurance often have more choice in their health care, such as choosing their own doctor for hospital treatment and having their own hospital room.

People with private health insurance generally have greater choice in terms of hospitals and doctors. Because private hospitals charge much more than public hospitals, generally only people with insurance tend to use them. In private hospitals, patients get their choice of doctor, can have their own room and generally don't have to wait for extended periods for elective (non-emergency) surgery, which can happen in the public system.

Private hospitals usually charge more than the schedule fee for services. Generally, private health insurance companies pay the additional costs, but sometimes the total bill may exceed the amount contributed by the insurance company. In these cases, the patient has to pay the rest, known as 'the gap' (see **FIGURE 7.14**). Many health insurance companies have partnership arrangements with hospitals to ensure that gap payments are kept to a minimum.

FIGURE 7.14 Breakdown of fees paid for using private hospitals

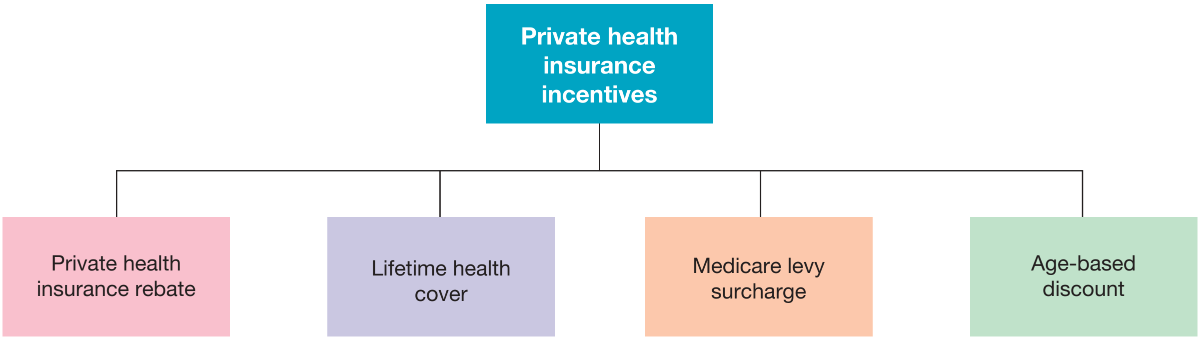


7.4.1 Private health insurance incentives

The proportion of people who have private health insurance has fluctuated over the years. When Medicare was introduced, many people opted out of private health insurance because they could access essential treatments without having to pay expensive private health insurance premiums. This put a strain on the public health system because fewer people were using private hospitals.

In order to encourage people to go back to private health insurance, the government has introduced four main incentives (see **FIGURE 7.15**).

FIGURE 7.15 The four incentives put in place to encourage people to take out private health insurance



Private health insurance rebate

In 1999, the government introduced the 30 per cent rebate incentive. Under this scheme, policyholders received a 30 per cent rebate (or refund) on their premiums for private health insurance. In 2012, this rebate became **income tested**. In 2024, under this arrangement, individual policyholders under the age of 65 received the following rebates:

- Individuals with an income under $93 000 received a 25 per cent rebate.
- Individuals with an income between $93 001 and $108 000 received a 16 per cent rebate.
- Individuals with an income between $108 001 and $144 000 received an 8 per cent rebate.
- Individuals with an income of $144 001 or more received no rebate.

income test a determination of whether an individual or family is eligible for government assistance based on their level of income

The threshold amounts are higher for families to reflect the extra expenses families incur compared to individuals. In 2023:

- Families earning under $186 000 received a 25 per cent rebate.
- Families earning between $186 001 and $216 000 received a 16 per cent rebate.
- Families earning between $216 001 and $288 000 received an 8 per cent rebate.
- Families earning $288 001 or more received no rebate.

Eligible policyholders aged between 65 and 70 received approximately an extra 4 per cent rebate, and those aged over 70 received approximately an extra 8 per cent rebate.

Eligible policyholders can opt to pay a reduced premium (with the government contributing the remainder) or pay the total and reclaim the rebate in their tax return. Although the government is paying a substantial amount to fund this incentive, it increases the affordability of private health insurance and generates much-needed funds for the health system. It also increases the proportion of people using the private system, which takes pressure off public hospitals, especially for elective surgery.

Lifetime Health Cover

A second incentive is referred to as 'Lifetime Health Cover'. People who take up private insurance after the age of 31 pay an extra 2 per cent on their premiums for every year they are over the age of 30. For example, a person who takes out private health insurance at age 40 will pay 20 per cent more for their private health insurance than someone who first takes out hospital cover at age 30. This encourages younger people to take up private health insurance and keep it for life. Having more young people with private health insurance helps offset the cost of providing health care for older Australians, who are more likely to need it.

The maximum Lifetime Health Cover loading payable is 70 per cent, which would apply to a person who takes out private health insurance for the first time at age 65.

Once taken out, if an individual holds private health insurance for 10 continuous years, the loading is removed and the individual will pay the same amount as someone who took out insurance at the age of 30.

Medicare levy surcharge

A third incentive is the Medicare levy surcharge. People earning $97 001 or more a year ($194 001 or more for families) pay an extra tax as a Medicare levy surcharge if they do not purchase private health insurance. The Medicare levy surcharge is calculated according to income and ranges from 1 per cent to 1.5 per cent. This encourages high income earners to take out private health insurance.

Age-based discount

In 2019, the Australian government introduced a fourth incentive referred to as the 'age-based discount'. Under this initiative, insurers have the option of offering young people aged 18–29 a discount of up to 10 per cent for hospital cover. The discount allows for a 2 per cent reduction in premiums for each year that the person is aged under 30, to a maximum of 10 per cent (see **TABLE 7.4**).

TABLE 7.4 The age range and discount amounts in relation to the age-based discount incentive

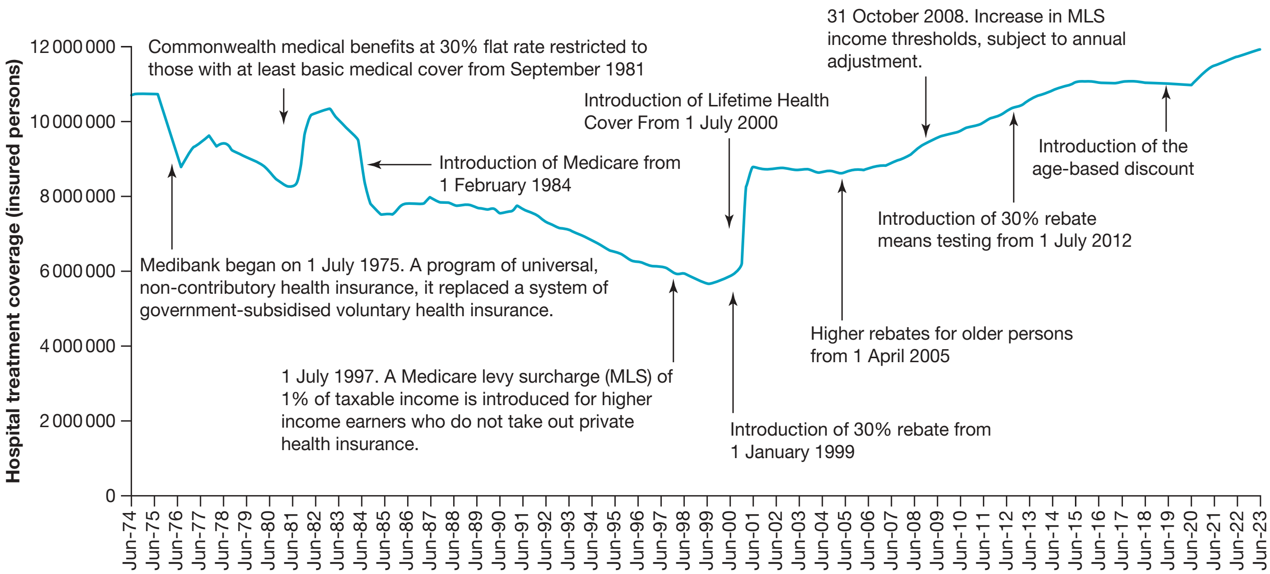
Person's age when they become insured under hospital policy offering discounts	Percentage discount that insurer may offer
18–25	10
26	8
27	6
28	4
29	2
30	0

If the insurer offers the discount, eligible policyholders will retain the initial discount rate until they reach the age of 41, after which the discount will decrease by 2 per cent per year until it reaches zero. So, a person who joins at age 25 and receives a 10 per cent discount will receive this discount until they reach the age of 41, when it will reduce to 8 per cent. In each subsequent year, the rate will decrease by a further 2 per cent, until it reaches 0 per cent (at the age of 45). If a person joins at age 28 and receives a 4 per cent discount, this will reduce to 2 per cent when they turn 41 and they will lose this discount once they turn 42.

Like all incentives, the age-based discount is designed to encourage more people to take out private health insurance and keep it for life.

The number of people with private health insurance between 1971 and 2023, along with significant interventions, are shown in **FIGURE 7.16**.

FIGURE 7.16 Changes in private health insurance membership over time



Source: www.apra.gov.au

7.4.2 The advantages and disadvantages of private health insurance

The advantages and disadvantages of private health insurance are summarised in **TABLE 7.5**.

TABLE 7.5 The advantages and disadvantages of private health insurance

Advantages	Disadvantages
• Enables access to private hospital care • Choice of doctor while in public or private hospital • Shorter waiting times for some medical procedures, such as elective surgery • Depending on the level of cover purchased, services such as dental, chiropractic, physiotherapy, optometry and dietetics could be paid for • Helps to keep the costs of operating Medicare under control • High income earners with private health insurance do not have to pay the additional tax, called the Medicare levy surcharge • Government rebate for eligible policy holders • Lifetime Health Cover incentive • The age-based discount may provide cheaper private cover for those aged 18–29.	• Costly in terms of the premiums that have to be paid • Sometimes have a ‘gap’, which means the insurance doesn’t cover the whole fee and the individual must pay the difference • Qualifying periods apply for some conditions, such as pregnancy • Policies can be complex to understand and so create confusion for the average person

7.4 Exercises

7.4 Quick quiz on | 7.4 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5, 6, 7	8, 9, 10

Test your knowledge

1. Explain private health insurance.
2. Describe the four incentives used to encourage people to take up private health insurance.
3. What is a premium?
4. What is 'the gap'?
5. Identify three advantages and three disadvantages of private health insurance.

Apply your knowledge

6. Explain how private health insurance can promote:
   a. the health and wellbeing of individuals
   b. health status in Australia.
7. Explain why the government provides incentives for people to take out private health insurance.
8. Describe why private health insurance is an essential part of Australia's health system.
9. Can people without private health insurance use private hospitals? Explain.
10. Outline two differences between Medicare and private health insurance.

7.4 Exam questions

Question 1 (2 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.7.c;* © VCAA

Private health insurance can be expensive.

Outline two reasons why Australians may choose to purchase private health insurance.

Question 2 (2 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.2.a;* © VCAA

The Australian healthcare system consists of private health insurance, Medicare and the Pharmaceutical Benefits Scheme (PBS).

What is private health insurance?

Question 3 (2 marks)

Source: *VCE 2008, Health and Human Development Exam, Q.7.d.ii;* © VCAA

Marco has been advised by his parents to take out private health insurance before his 30th birthday.

Why would Marco be advised to take out private health insurance prior to turning 30?

Question 4 (2 marks)

The federal government introduced four incentives to encourage people to take out private health insurance. **Identify** and **explain** one of these incentives.

Question 5 (4 marks)

Michelle is a 29-year-old lawyer who enjoys playing basketball and spending time with family and friends. Michelle and her fiancée have been discussing whether they should take out private health insurance.

Describe two advantages for Michelle if she took out private health insurance.

More exam questions are available in your learnON title.

7.5 Funding and sustainability and the role of Australia's health system

Key knowledge	Key skill
Australia's health system and its role in promoting health in terms of funding and sustainability	Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by funding and sustainability in terms of Australia's health system • how the health system, including Medicare, private health insurance, the PBS and the NDIS, work to promote health in relation to funding and sustainability.	• describe how Medicare, the PBS, the NDIS and private health insurance promote health outcomes in relation to funding and sustainability.

Australia's health system plays a significant role in promoting health outcomes. Four key areas of focus guide the implementation of the health system and can be used to explore the way in which health is targeted:

- funding
- sustainability
- access
- equity.

Each of the four areas will be explored in the coming sections. It is important to note that these areas are interrelated and impact each other. As a result, there is some overlap in how each of the areas impact the health system.

7.5.1 Funding

Funding of the health system relates to the financial resources that are provided to keep the health system adequately staffed and resourced so a high level of care is available for those who need it. Funding also relates to the money used to pay for services and resources provided by the health system to patients, such as doctors consultations, subsidies for medication, supports provided through the NDIS, and contributions for health services made by private health insurance companies.

Funding the health system means more people can receive treatment by reducing the costs the individual must contribute. As a result, more people can access health care and receive treatment for a range of conditions, reducing morbidity and mortality rates.

Funding related to Medicare, the PBS, the NDIS and private health insurance contributes to improved health outcomes in Australia, as shown in **TABLE 7.6.**

TABLE 7.6 Funding across Australia's health system provides better access to health care and improved services.

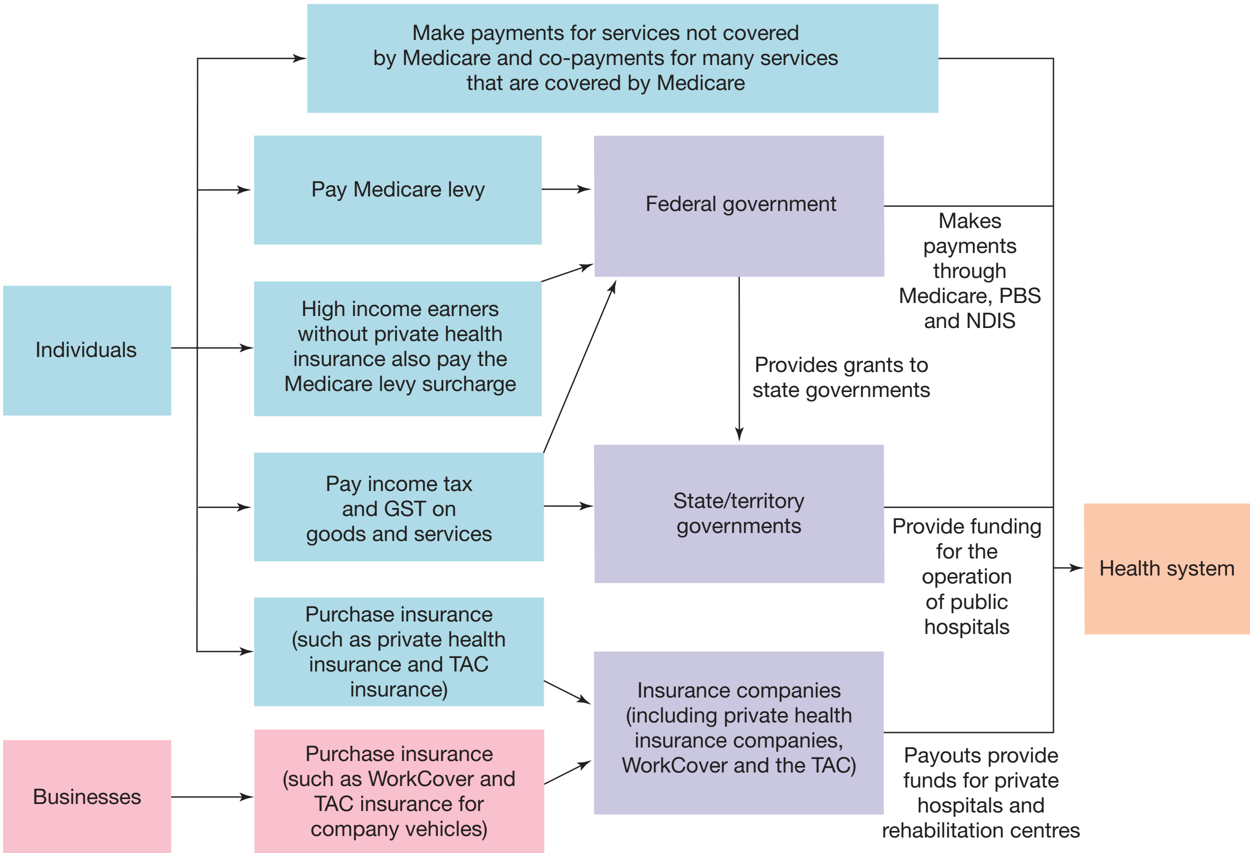
Medicare	The PBS	The NDIS	Private health insurance
• Medicare funds part or all of the fees associated with health services, including doctor and specialist consultations, pathology tests and fee-free treatment in public hospitals.	• Essential medicines are subsidised through the PBS, providing treatment for many conditions and promoting health outcomes.	• The NDIS can provide funding for a range of resources that promote health status, including carers who can provide support with daily living and staying socially connected. • Assistive technology such as wheelchairs and bed rails are provided.	• Private health insurance provides much of the funding for private hospitals, which are responsible for around 40 per cent of hospital treatments. • The federal government funds the private health insurance rebate, which means private health insurance is more affordable for more people.

Funding Australia's health system also assists in promoting health outcomes by providing:

- healthcare infrastructure — such as hospitals, consulting rooms and medical technology
- highly trained health professionals — adequate funding assists in maintaining professional standards through ongoing training and education
- personnel — administrative and support staff in public hospitals are largely funded through Medicare and government grants
- medical supplies — including those used to administer treatments, such as surgical tools, tapes and bandages
- public health programs — programs that work to promote health and wellbeing and prevent disease, such as Quit and LiveLighter, are funded through the health system
- advances in knowledge and technology through research — such as developments in preventing, diagnosing and treating common conditions.

Australia's health system operates with the combined funding from the federal and state/territory governments, private health insurance, other forms of insurance funds and individuals (see **FIGURE 7.17**).

FIGURE 7.17 Funds reach the healthcare system through numerous avenues.



Total expenditure on health in 2021–22 was $241.3 billion compared with an expenditure of $227.6 billion the previous year, an increase of around 6 per cent. This represented an average rate of health expenditure in 2021–22 of about $9365 per person.

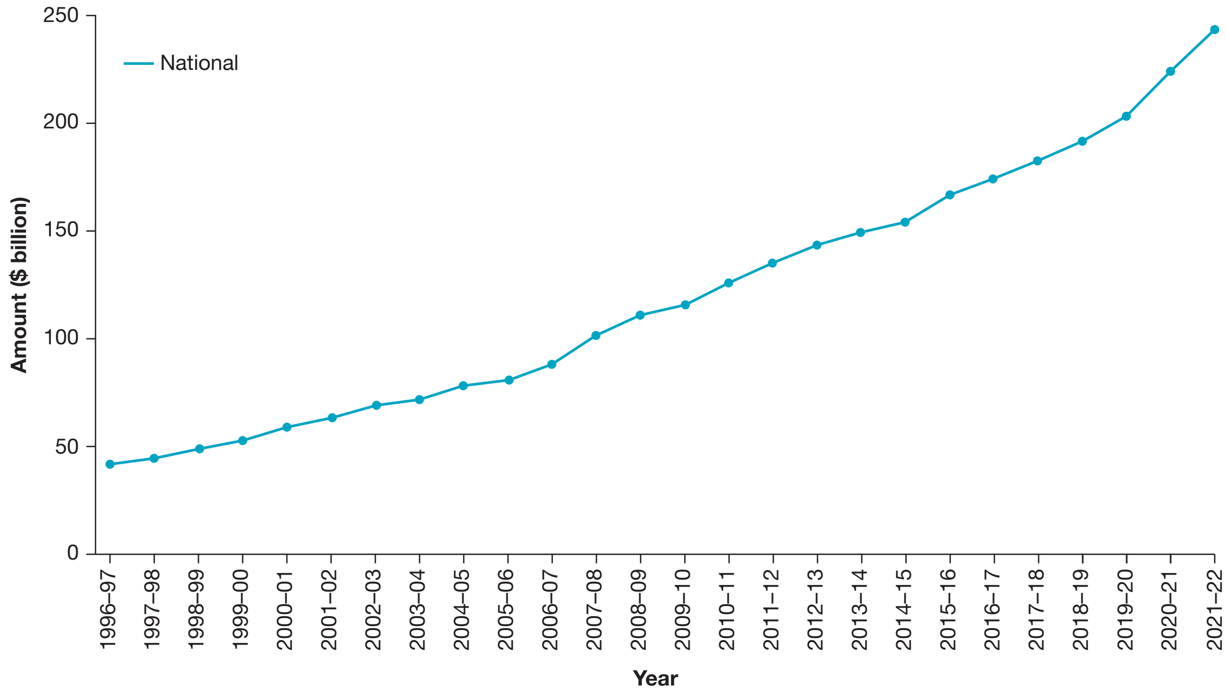
In 2022–23, total health expenditure as a proportion of gross domestic product was around 10.5 per cent; in 1995–96 the proportion was 7.5 per cent. When costs are kept constant to 2021–22 prices, increases in expenditure over time can be analysed, as shown in **FIGURE 7.19**. Increasing health costs have occurred over time, largely due to:

- an aging population — the average age is increasing in Australia. This results in a higher proportion of chronic conditions requiring care.
- increasing incomes, a growing economy and rising expectations — rising incomes and a growing economy mean that there is more money available to spend on health care. As more money becomes available, the population expects that more can be done to improve their health and wellbeing when required.
- more expensive technologies and services — as research and development progress, there are more medical technologies and services available and these contribute to increased expenditure
- increased cost of medicines — many medicines included on the PBS have increased in price over time, contributing to higher health-related expenditure.

FIGURE 7.18 Some healthcare funding is used to promote skills among health professionals such as hygiene practices, which can reduce the risk of infection in the healthcare setting.

A great challenge for governments and non-government groups is to devise systems to continue to fund the health system into the future so it can continue to provide the quality of care that people expect.

FIGURE 7.19 Expenditure on health care over time (figures constant to 2021–22 prices)



Source: Australian Institute of Health and Welfare, 2023, *Health expenditure Australia 2022–23*. Canberra: AIHW.

Funding for most goods and services is shared between federal and state/territory governments and the private sector, including private health insurance and contributions made by individuals. In 2021–22, around 73 per cent of the health system's funding came from the government (see **FIGURE 7.20**). Of this, around 60 per cent came from the federal government and 40 per cent from state/territory and local governments. The federal government's main contribution is through schemes such as Medicare, the PBS and the NDIS. The Medicare levy and the additional surcharge raised over $20 billion in 2021–22, while Medicare paid out $28.6 billion. As the Medicare levy and surcharge do not generate enough money to fully fund the Medicare scheme, some general taxation revenue is also contributed to Medicare. The PBS is funded through general taxation revenue and contributed $12.1 billion in funding in 2021–22. In 2014, the Medicare levy was increased by 0.5 per cent to help fund the NDIS, the remainder of which is funded by taxation revenue collected by the federal and state/territory governments. The private (non-government) sector contributed around $65 billion (27 per cent) to total health system funding in 2021–22.

The main categories of health expenditure in 2021–22 were:

- hospitals — this group was the greatest recipient of funding and includes both private and public hospitals
- primary health care — primary health care relates to general health-related goods and services delivered outside of the hospital environment. It includes general practitioner consultations, dental services, medications and public health initiatives.
- referred medical services — these services relate to specialist consultations that have been referred by a general practitioner
- other services — these include patient transport, aids and appliances (including hearing aids, glasses and wheelchairs), and administration of healthcare facilities
- research — this relates to health-related research that aims to discover new ways to prevent, diagnose and treat illness.

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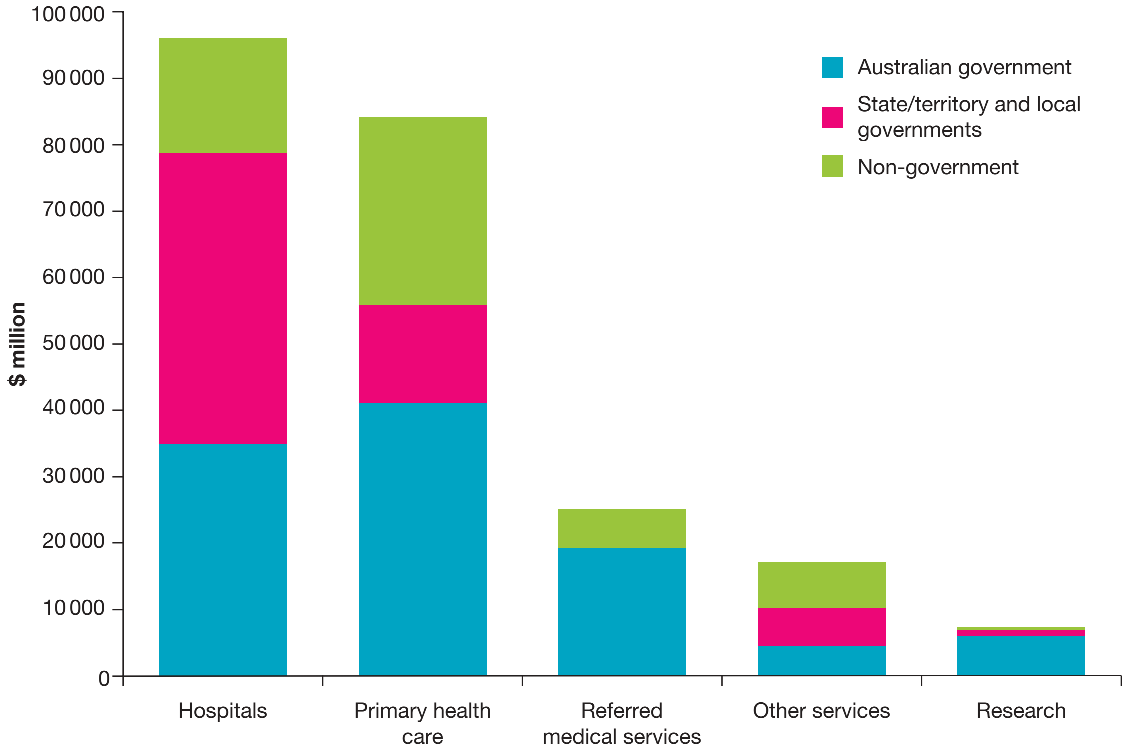
FIGURE 7.20 Recurrent health expenditure by area of expenditure and source of funds, 2021–22



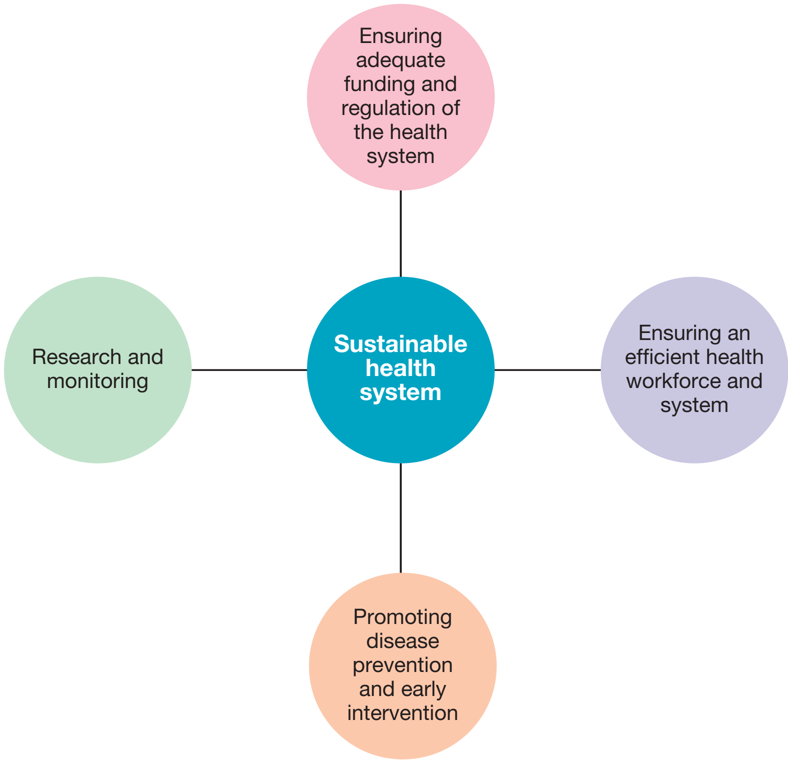
Source: https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2021-22/contents/overview/total-health-spending

7.5.2 Sustainability

The sustainability of the Australian health system relates to its capacity to provide a workforce and infrastructure, such as facilities and equipment, into the future, and to be innovative and responsive to emerging needs through interventions such as research and monitoring.

As the population grows and ages, and different needs emerge within the Australian population, the health system is experiencing increasing pressure. The system must be equipped so that it can evolve to ensure that a high quality of care is continually available for anyone in need. Promoting a sustainable health system involves a range of considerations, as shown in **FIGURE 7.21**.

FIGURE 7.21 Key considerations of a sustainable health system



Funding and regulation

Funding is crucial to the sustainability of the health system. Adequate funds must be available to ensure that the health system can continue to cater to the needs of the population into the future. As explored in section 7.5.1, healthcare funding in Australia has increased over time and currently sustains the health system.

Regulating the health system helps it remain sustainable by promoting the efficient use of funds and other resources. The federal and state/territory governments are responsible for most of the regulations applied to the health system.

State and territory governments are responsible for managing public hospitals and play a key role in ensuring that funds are used sustainably.

TABLE 7.7 Sustainability within the health system

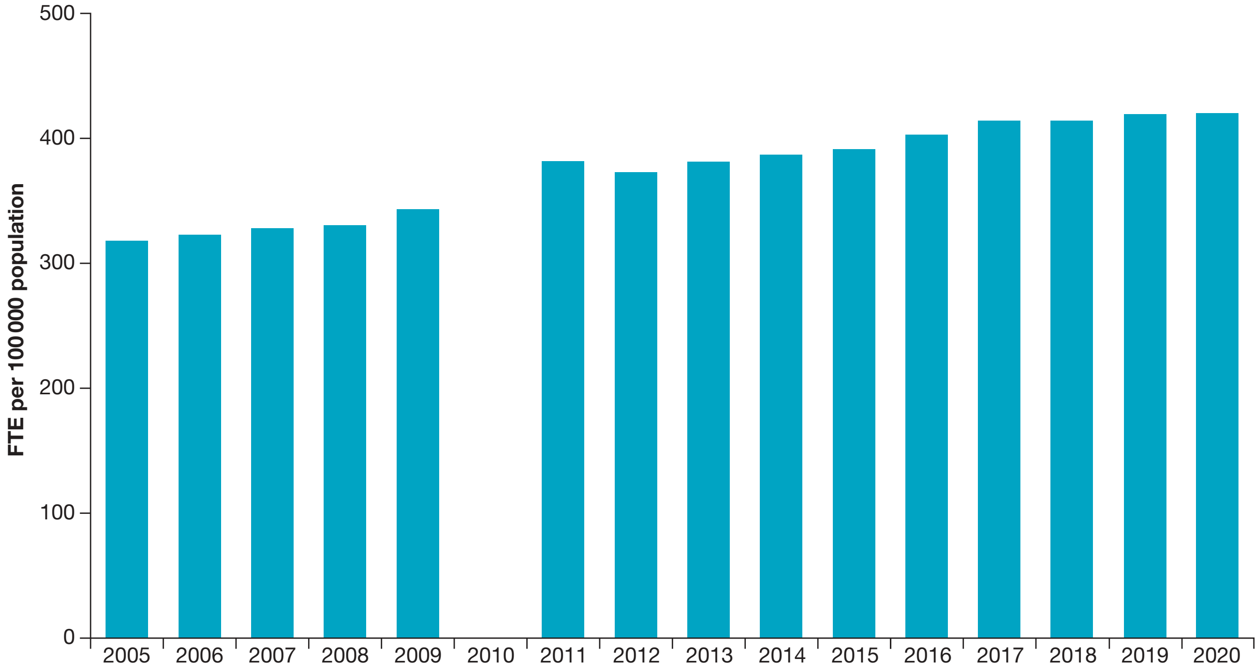
Medicare	The PBS	The NDIS	Private health insurance
• Determining which services will be subsidised through Medicare can preserve funds for the most necessary services, yielding the greatest gains in health outcomes. • The Medicare levy increased from 1.5 to 2 per cent in July 2014 to assist in providing the necessary funds to maintain Australia's health system and introduce the NDIS.	• Continually reviewing the medicines available through the PBS means those that will have the greatest benefits are prioritised, which assists in keeping the scheme sustainable. • The Therapeutic Goods Administration (a federal government body) verifies the effectiveness of all PBS medicines. This contributes to improved treatment and less reliance on the health system.	• Each participant in the NDIS receives an individualised plan, which means that only necessary funds are spent on each person. As a result, more people can access the NDIS and experience improved health outcomes.	• Incentives such as the private health insurance rebate, Lifetime Health Cover and the age-based discount assist in maximising the funding gained through the private system. This means more people are treated through the private system, which reduces the strain on the public system, improving health outcomes for more people.

An efficient health system and workforce

The healthcare workforce in Australia consists of a range of healthcare practitioners, and administrative and support staff. Ensuring that the health workforce is adequately staffed with highly trained healthcare practitioners is another important aspect of a sustainable health system, and responsibility for this rests with the state and territory governments. The health workforce must continue to develop in size and skill in order to achieve the objective of improving health outcomes for all Australians. Ensuring health services are delivered efficiently assists in reducing health-related costs.

The rate of medical practitioners has increased over time in Australia (see **FIGURE 7.22**).

FIGURE 7.22 Employed medical practitioners: FTE per 100 000 population, 2005–20



The way in which data were collected changed in 2010 and, due to the transition process, data for 2010 are not available. FTE is a unit of measurement that stands for 'full-time equivalent'. One FTE is equivalent to one person working a full week (40 hours). If two people work 20 hours a week each, they contribute one FTE. Due to the proportion of people working part time, it is useful to use FTE instead of the total number of people working in the field of healthcare.

Source: https://www.aihw.gov.au/reports/australias-health/health-workforce

The federal and state/territory governments are also working to improve the efficiency of the health system. A key aspect of this work is the development of an electronic health record (eHealth) system in Australia, referred to as My Health Record. My Health Record promotes sustainability by streamlining the recordkeeping system and allowing healthcare information to be accessed electronically by an individual's healthcare provider anywhere in Australia. It also works to promote individual's health literacy by providing greater access to and control over healthcare information, which helps to improve health status.

Disease prevention and early intervention

A key intervention for reducing the strain on the health system is to reduce the number of people who need to use it. This is done through disease prevention, early detection and health promotion. The health system plays a key role in this process by providing:

- free testing for infectious diseases such as COVID-19 — this works to reduce the strain on the health system, allowing more resources to be used for other conditions
- public cancer screening such as BreastScreen and BowelScreen — early detection can reduce the cost of treatment and improve health status
- the Immunise Australia program — provides free vaccines for 16 diseases to people at specific ages. Reducing the incidence of these diseases through vaccination is a cost-effective intervention that saves the health system millions of dollars in treatment costs.
- health promotion programs — programs implemented by government and non-government groups that work to decrease the risk or impact of diseases reduce the strain on the health system because fewer people will require health care. Examples of health promotion programs include Quit, Good Sports, LiveLighter and SunSmart (see topic 6).

FIGURE 7.23 BreastScreen Australia offers women over 40 a free mammogram every 2 years and actively invites women aged 50 to 74.

Research and monitoring

Through the National Health and Medical Research Council (NHMRC), the government funds research into a range of health and medical areas. The NHMRC supports research to find new ways to cure, treat and prevent illness and disease, and to improve the effectiveness of health services in Australia. Examples of research funded by the NHMRC include:

- reducing the spread and impact of sexually transmissible infections, especially among high-risk groups such as young people, Aboriginal and Torres Strait Islander Peoples and homosexual men
- new therapies for treating cancer

FIGURE 7.24 Research is vital in ensuring the sustainability of the health system.

- developing new and more effective vaccines for a range of infectious diseases
- creating new ways to prevent and treat influenza
- suicide prevention among Aboriginal and Torres Strait Islander youth
- preventing chronic disease through health promotion, including in Aboriginal and Torres Strait Islander communities
- a range of studies to improve the public health and medical responses to the COVID-19 outbreak.

Through research projects such as these, the NHMRC assists in preventing disease and treating illness more effectively and efficiently, therefore saving valuable health system funding and promoting sustainability.

7.5 Activities

1. Access the **My Health Record** weblink and worksheet in the Resources tab and then complete the worksheet.
2. Access the **PBS** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital documents My Health Record worksheet (doc-32203)
PBS worksheet (doc-32204)

Weblinks My Health Record
PBS

7.5 Exercises

7.5 Quick quiz on | 7.5 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3, 4, 8	2, 5, 6, 9	7, 10, 11

Test your knowledge

1. Identify the four areas that can be used to explore the way the health system targets health outcomes in Australia.
2. Outline how the Australian health system is funded. You may need to refer to **FIGURE 7.17**.
3. Identify five sources of health system funding.
4. Explain what sustainability refers to in the health system.
5. **a.** Explain what is meant by eHealth.
   b. Explain how eHealth can promote the sustainability of the health system.
6. Using examples, explain how disease prevention and early intervention can promote health status in Australia.
7. Explain how research can promote health status in Australia.

Apply your knowledge

8. Complete the following table to explain how each of the following can promote health outcomes in relation to funding and sustainability.

	Funding	Sustainability
Medicare		
The PBS		
The NDIS		
Private health insurance		

9. a. Using data, describe the change in health system funding over time according to **FIGURE 7.19**.
   b. Outline three reasons why health system funding has increased over time.
10. a. Identify the top three areas of health expenditure according to **FIGURE 7.20**.
    b. Explain what these areas relate to.
    c. Which model of health do these areas reflect?
11. a. Using data, outline the change in the rate of medical practitioners over time according to **FIGURE 7.22**.
    b. Explain how this change can promote sustainability of the health system.

7.5 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2019, Health and Human Development Exam, Q.10.b;* © VCAA

Analyse how the PBS demonstrates sustainability.

Question 2 (2 marks)

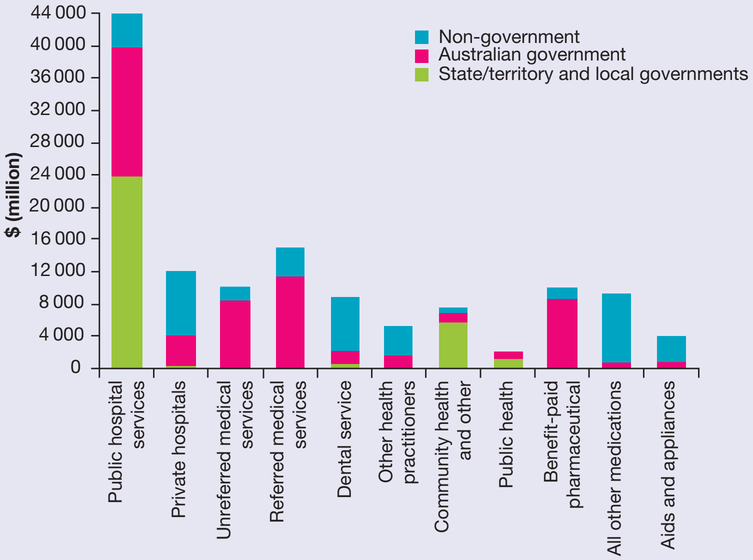
Outline two actions that the federal government has undertaken to ensure sustainability of the Australian healthcare system.

Question 3 (1 mark)

Review the data in the following graph.

From **where** do most private hospital services receive most of their funding?

Recurrent health expenditure by area of expenditure and source of funds, 2012–13



Source: AIHW, *Health expenditure in Australia*, 2012–13, 2014.

Question 4 (3 marks)

Discuss how a sustainable healthcare system can be achieved.

Question 5 (3 marks)

Review the data in the graph in question 3.

Identify one example of health expenditure in which the Australian government is responsible for most of the funding and **describe** how this example improves the health status of Australians.

More questions are available in your learnON title.

7.6 Access and equity and the role of Australia's health system

Key knowledge	Key skill
Australia's health system and its role in promoting health in terms of access and equity	Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by access and equity in terms of Australia's health system • how the health system, including Medicare, private health insurance, the PBS and the NDIS, work to promote health in relation to access and equity.	• describe how Medicare, the PBS, the NDIS and private health insurance promote health outcomes in relation to access and equity.

7.6.1 Access

An accessible health system is one that can provide all people with timely access to quality health services based on their needs, not their ability to pay, regardless of where they live in the country. This means that access must be available to people from all socioeconomic groups and those living within and outside Australia's major cities.

Access to health care promoted by Medicare, the PBS, the NDIS and private health insurance contribute to improved health outcomes in Australia as shown in **TABLE 7.8**.

Despite these interventions, some people still struggle to meet the costs associated with healthcare, particularly in relation to patient co-payments for consultations and medications, allied health services such as physiotherapy, ambulance transport and treatment, and dentistry. According to the Australian Institute of Health and Welfare (AIHW) (2023), almost one in five (18 per cent) of people delayed or avoided a visit to the dentist due to cost. Delaying medical treatment can cause conditions to progress and contribute to further ill health.

As explored earlier, an increase in medical practitioners per 100 000 population in Australia indicates an overall increase in the ability to access health care when required, but access is not the same for people in all regions. Although rates of general practitioners are similar for all regions, those in major cities have greater access to a wider range of health professionals, including specialists (see **FIGURE 7.26**).

FIGURE 7.25 Dentistry often requires the patient to pay, and this can prevent people from accessing this important health service.

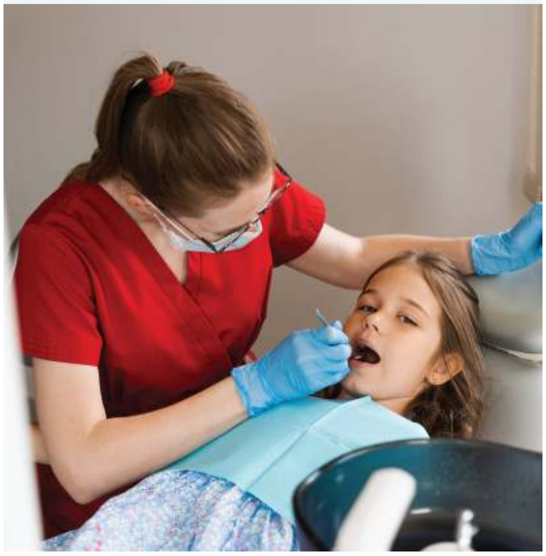


TABLE 7.8 Access to health care contributes to improved health outcomes in Australia.

Medicare	The PBS	The NDIS	Private health insurance
• Medicare provides access to people of all socioeconomic backgrounds to services such as doctors consultations and treatment in public hospitals. • Medicare provides funding for telephone and video consultations, which can assist those living outside major cities in accessing health services.	• All Australian citizens and permanent residents are entitled to access subsidised medicines through the PBS. • The PBS promotes access to essential medicines for low income earners by including a concessional co-payment amount.	• The NDIS improves access to health services for people with significant, lifelong disabilities by providing resources such as transport and the support of a carer if required. • The NDIS has been rolled out in every region of Australia, improving access for those living outside major cities.	• The federal government's private health insurance rebate increases access to private health insurance for those on lower incomes. • Private health insurance can increase access to health services that may have otherwise been too expensive for patients to afford.

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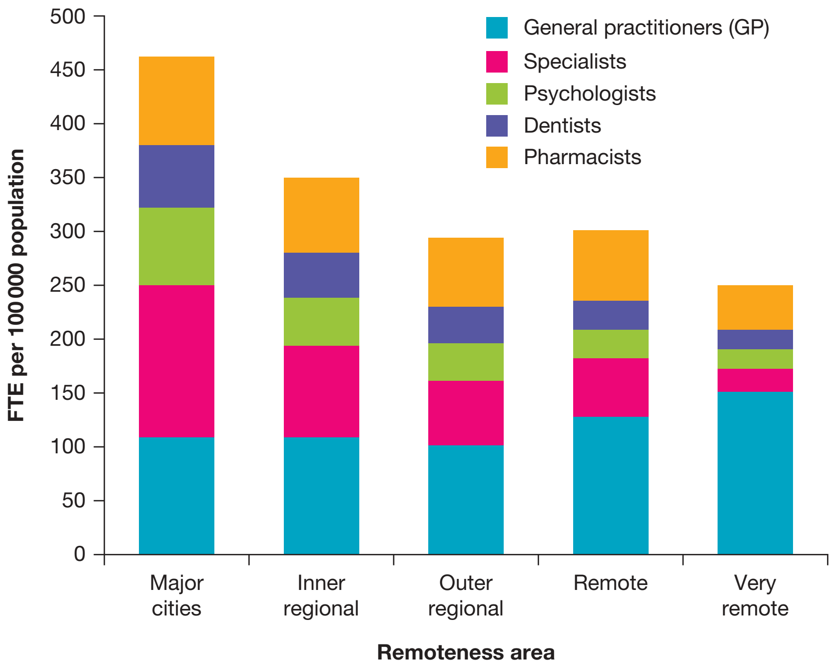
FIGURE 7.26 Employed health professionals — FTE per 100 000 population: by selected areas of practice and remoteness area, 2017



Source: Department of Health, 2019

Governments and non-government organisations work to increase access in all geographical areas through a range of interventions including:

- Royal Flying Doctor Service — a non-government organisation that provides health care to thousands of Australians living outside of major cities. The Royal Flying Doctor Service receives funding from the federal and state/territory governments to maintain its fleet of air and road vehicles, and reach and treat those in need.

- the Workforce Incentive Program — a federal government strategy that aims to provide financial incentives for doctors who work in rural and remote areas. It increases access to health care for those living outside Australia's major cities.

Access to culturally appropriate health care is also a consideration in Australia, especially for Aboriginal and Torres Strait Islander Peoples. The federal and state/territory governments have developed the Indigenous Health Incentive, which provides financial incentives to medical practices to provide culturally appropriate health care for Aboriginal and Torres Strait Islander Peoples. Through the Close the Gap initiative, governments have invested in other strategies as a part of the National Aboriginal and Torres Strait Islander Health Plan 2021–2031, which includes further training for Aboriginal and Torres Strait Islander health workers and working with Aboriginal and Torres Strait Islander groups and leaders to plan service delivery. While these initiatives have succeeded in increasing access to culturally appropriate health care, many Aboriginal and Torres Strait Islander people still lack such access and this contributes to the variations in health status between Aboriginal and Torres Strait Islander Peoples and other Australians.

FIGURE 7.27 For Aboriginal and Torres Strait Islander Peoples, culturally appropriate health care often involves Aboriginal and Torres Strait Islander practitioners.

7.6.2 Equity

An equitable health system is one that takes the different circumstances of individuals and groups into account, so that those who need more support are able to receive it. As a result, disadvantaged individuals and groups are targeted in an attempt to create a level playing field.

As already discussed, all Australians should be able to access health care when required. Achieving equality in access is important, because some people — such as Aboriginal and Torres Strait Islander Peoples and those living outside of major cities — do not have the same access to health services as others. Equal access, however, does not necessarily mean the system is equitable. Because Australians have different health care needs, the health system must take these differences into account if it is to be equitable and fair for all people.

A range of factors contribute to disadvantage in using the health system, including chronic illness, poverty, discrimination and access to goods and services. An equitable health system must recognise and respond to those with special needs.

Equity relating to Medicare, the PBS, the NDIS and private health insurance contribute to improved health outcomes in Australia, as shown in **TABLE 7.9**.

TABLE 7.9 Equity within the health system contributes to improved health outcomes in Australia.

Medicare	The PBS	The NDIS	Private health insurance
• Medicare Safety Net — people who require frequent services covered by Medicare, such as doctor's visits and tests, receive additional financial support • Mental health treatment plans — those with mental health disorders are eligible for 10 individual and 10 group therapy sessions per calendar year with the cost covered by Medicare.	• PBS Safety Net — further protects individuals and families from large overall expenses for PBS-listed medicines • The concessional co-payment amount provides greater assistance to those who are unemployed or on low incomes. • Many Aboriginal and Torres Strait Islander Peoples can qualify for reduced PBS co-payment amounts under the Closing the Gap initiative.	• The individualised plan developed as a part of the NDIS ensures that those with more significant needs receive more assistance. • Those who require the NDIS do not have to pay more towards funding it than those who don't.	• Those on lower incomes receive more financial assistance through the private health insurance rebate. • Those aged 65 and over (who often have lower incomes) receive a greater rebate from the government if they have private health insurance. • People who use their private health insurance more often than others do not have to pay a higher premium.

Other interventions designed to promote equity include:

- interventions to increase access for those of low socioeconomic status, those living outside major cities and Aboriginal and Torres Strait Islander Peoples
- public dental health services — the Victorian Government funds the Royal Dental Hospital of Melbourne and more than 80 dental clinics in metropolitan and regional Victoria to provide dental treatment that is generally fee-free for vulnerable groups including:
  - young people aged 13–17 years who are healthcare or pensioner concession cardholders or dependents of concession cardholders
  - all youth justice clients in custodial care, up to 18 years of age
  - all refugees and asylum seekers
  - Aboriginal and Torres Strait Islander Peoples
- continuity between healthcare providers — continuity aims to increase the level of communication and care planning between different health professionals, making the process of care more manageable for any patient with multiple healthcare needs. For example, a cancer patient may be under the care of a general practitioner and numerous specialists. Communication between these health professionals promotes equity for people with serious illness by coordinating care on behalf of the patient.

These interventions help to meet the specific needs of many Australians, thereby helping achieve equity in use of the health system. This in turn promotes the health and wellbeing of vulnerable populations.

7.6 Exercises

7.6 Quick quiz on | **7.6 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 5	2, 3, 4	6, 7

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Test your knowledge

1. Explain what is meant by 'access' in Australia's health system.
2. Outline three ways that access to the health system has been promoted for low socio-economic status groups in Australia.
3. Outline two ways that access to the health system has been promoted for those living outside of major cities in Australia.
4. Explain three interventions that have been implemented to promote equity in the health system in Australia.

Apply your knowledge

5. Complete the following table by explaining how each of the following can promote health outcomes in relation to access and equity.

	Access	Equity
Medicare		
The PBS		
The NDIS		
Private health insurance		

6. a. Outline the difference in the rate of employed medical practitioners between major cities and other areas in Australia according to **FIGURE 7.26**.
   b. Explain how this might contribute to variations in health status between those living within and outside major cities in Australia.
7. Outline two ways that culturally appropriate health care can be promoted for Aboriginal and Torres Strait Islander Peoples.

7.6 Exam questions

Question 1 (4 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.3.b;* © VCAA

Describe how the NDIS promotes health and wellbeing in terms of both equity and access.

a. Equity **2 marks**
b. Access **2 marks**

Question 2 (6 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.3.b;* © VCAA

Around 4 in 10 people aged 65 and over say they are in excellent or very good health.

It is estimated that 400 000 to 459 000 Australians are living with dementia. This number is expected to increase to between 550 000 and 590 000 by 2030, in line with the continued growth and ageing of Australia's population.

Source: Australian Institute of Health and Welfare (AIHW), *Australia's Health 2020: In Brief,* 'Australia's Health' series no. 17, cat. no. AUS 232, AIHW, Canberra, pp. 3 and 15

Using the information above, **discuss** the implications of increasing life expectancy for Australia's health system.

Question 3 (2 marks)

Source: Adapted from *VCE 2019, Health and Human Development Exam, Q.10;* © VCAA

Analyse how the PBS demonstrates equity.

Question 4 (3 marks)

Outline three interventions/actions introduced by the government that improve access to health care in Australia.

Question 5 (4 marks)

Briefly **explain** the role of the health system in promoting health outcomes in relation to:

a. funding **2 marks**

b. equity. **2 marks**

More exam questions are available in your learnON title.

7.7 KEY SKILLS

7.7.1 Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health

tlvd-1917

KEY SKILL Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health

Tell me

This skill requires a detailed understanding of the key components of Australia's health system including:

- Medicare
- the PBS
- the NDIS
- private health insurance.

Detailed knowledge of the various aspects of each component of the health system (listed below) is important in explaining the role each plays in promoting health and wellbeing and health status in Australia. This includes:

- the services covered by Medicare
- the services not covered by Medicare
- how Medicare is funded
- the contribution private health insurance makes to the health system
- the options available to an individual with private health insurance
- the incentives used to encourage people to take out private health insurance
- the function of the PBS
- the support provided by the NDIS
- how funding, sustainability, access and equity apply to the health system and are reflected by each component of the health system
- making links between each component of the health system and improved health and wellbeing and health status.

Show me

An example of this skill could be explaining the role that Medicare plays in improving health outcomes in Australia in relation to funding and equity. A possible response could be:

Medicare is Australia's universal health insurance scheme and contributes a significant amount of funding for doctors' consultations and treatment in public hospitals.[1] This means that Australians with medical problems can have them checked and treated if necessary. Treating symptoms of disease substantially reduces the risk of premature death and improves mortality rates.[2]
The Medicare Safety Net provides additional subsidies for services such as specialists' consultations once a set amount has been paid in relation to Medicare-funded services in a calendar year.[3] This promotes equity for those with chronic or ongoing medical issues requiring treatment by reducing the cost of treatment, and promotes mental health and wellbeing by reducing the level of stress associated with paying for health care.[4]

[1] How Medicare contributes to the funding of the health system is specified.
[2] This statement outlines how Medicare promotes health status in relation to funding.

[3] How Medicare contributes to equity in the health system is identified.
[4] This statement explains how Medicare promotes health and wellbeing in relation to equity.

Practise the key skill

1. What is Australia's universal health insurance scheme called?
2. Discuss the contribution private health insurance makes to Australia's health system.
3. Outline two ways the NDIS promotes health and wellbeing in Australia.
4. Explain how Medicare, the PBS and private health insurance can promote the health and wellbeing of an individual with cancer.
5. Create a table like the following that includes the four key components of the Australian healthcare system, a brief description of each and how it promotes health in relation to funding, sustainability, access and equity.

		How it promotes health in relation to:			
Component of the health system	**Description**	**Funding**	**Sustainability**	**Access**	**Equity**
Medicare					
The PBS					
The NDIS					
Private health insurance					

7.8 EXTENDED RESPONSE — Build your exam skills

tlvd-2881

In previous extended response subtopics, you practised:

- identifying requirements of the question
- interpreting stimulus material
- finding links between the information provided
- incorporating your own knowledge to answer extended response questions to a high standard.

In this subtopic, another annotated example is provided with a further opportunity to practice these skills.

Extended response questions often require detailed analysis. When answering questions that require analysis, high level responses include connections between the information provided and other information that demonstrates a broad understanding of the concepts being assessed. This can mean showing links or connections between your own knowledge and the information presented in the stimulus material, to explain the potential reasons for and/or impacts of particular scenarios. It may also involve discussing the strengths and limitations, or potential positive and negative impacts, of the scenario/s in question.

Consider the following question:

Using the information provided and your own understanding, analyse how the health system promotes health status and health and wellbeing in relation to equity and sustainability. **15 marks**

Step 1:

As suggested in topic 5, the first step is colour-coding the different aspects of the question so that it is easier to identify the information in the stimulus material that may be relevant.

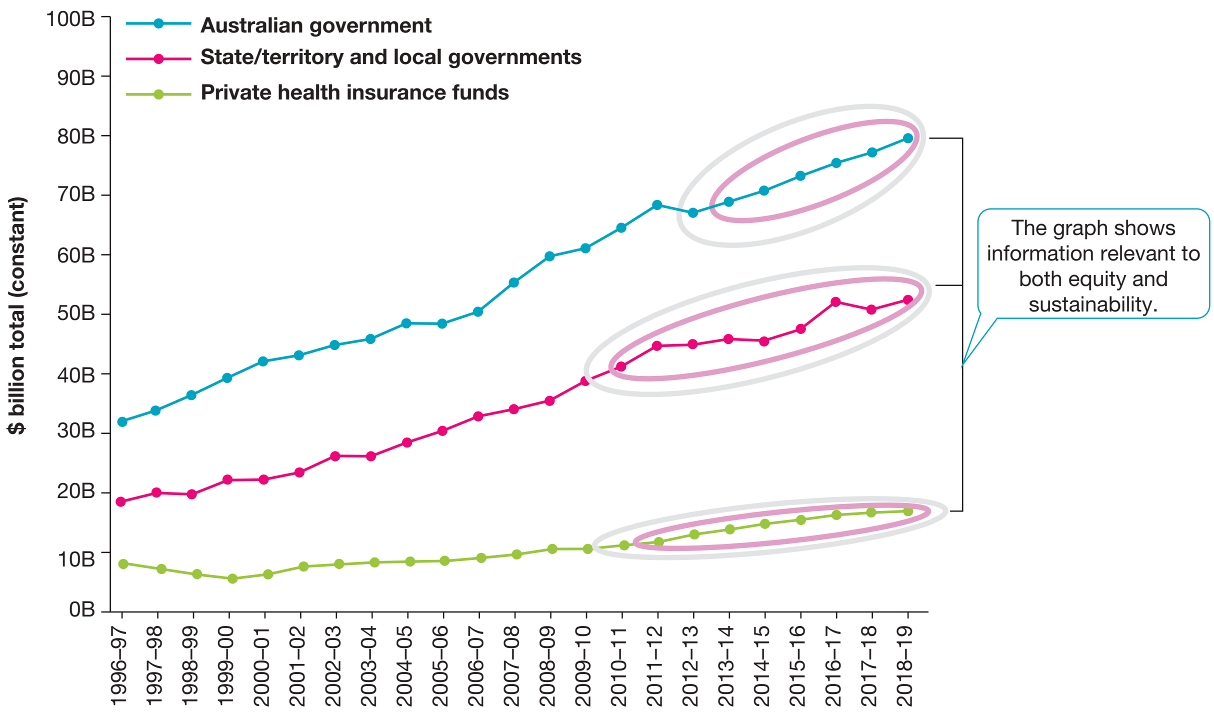
- Use the information provided.
- Use your own understanding.
- Analyse how the health system promotes health status in relation to equity and sustainability.
- Analyse how the health system promotes health and wellbeing in relation to equity and sustainability.

Step 2

Next, read each part of the stimulus material and highlight in the relevant colour any information that relates to a component of the question. This will also allow you to consider the additional information that you can add from your own knowledge by looking for gaps not provided in the stimulus. This is shown in the following sources.

Source 1

This graph shows sources of health system funding over time, in constant prices. Constant prices take inflation into account so expenditure in different years can be compared fairly.



Source: https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2018-19/contents/data-visualisation

Source 2

Sunny is 31-years-old and is a qualified librarian. Last year, he took out private health insurance for the first time. Six months ago, Sunny sustained a significant, permanent disability when he was paralysed after falling while painting the roof of his house. He hasn't been able to work since the accident and has been receiving a government pension. Sunny will require ongoing health care but, with adequate support, he will be able to maintain his social life, continue to live independently and return to his job, where he earns $80 000 a year.

Source 3

The following diagram shows ways that the Australian government, state and territory governments and private health insurance companies contribute funds to the health system.

Australian government	Provides funding in relation to →	• Medicare services • PBS • NDIS • Public hospitals • Private health insurance rebate
State/territory governments	Provides funding in relation to →	• Public hospitals • NDIS
Private health insurance companies	Provides funding in relation to →	• Private hospitals • Specialists • Allied health such as ambulance, physiotherapy and dentistry

You will see that **SOURCES 1**, **2** and **3** each relate to more than one aspect of the question. This means you can discuss the connections to the stimulus material when you are addressing each of the components of the question.

Example answer

According to Source 1[1], the amount of money spent by the Australian and state/territory governments has increased over time. This can mean that there is more support for people like Sunny (Source 2) through Medicare services such as public hospital treatments and doctors' and specialists' consultations (Source 3)[2]. Sunny will also be eligible for the private health insurance rebate, which makes his premiums cheaper[3] and reflects equity. By being able to access services covered under private health insurance, such as rehabilitation services, Sunny may be able to learn ways to live with his injury so he can continue to work, which can provide him with a sense of purpose in life and enhances his spiritual health and wellbeing.[4] The private health insurance rebate makes private cover more affordable for lower income earners, meaning that they can skip public hospital waiting lists for elective surgery, reducing rates of morbidity and mortality.[5]

[1] Referencing each source as they are used can assist in ensuring all are included at some stage in the response.

[2] Links are made between all three sources.

[3] Knowledge of the private health insurance rebate that is not included in the stimulus material is provided.

[4] A specific link is made to a dimension of health and wellbeing.

[5] A specific link to health status is included.

An increase in funding through private health insurance providers can mean that more money is being provided to private hospitals. This is cheaper for the government because Medicare pays 75 per cent of the schedule fee, instead of 100 per cent.[6] This means more money is preserved for other areas such as the NDIS (Source 3), which promotes sustainability.[7] The NDIS provides recipients with an individualised plan, which means that only necessary funding is provided and reflects sustainability because there will be more money to spend in the future. When people like Sunny can access support through the NDIS, they are more likely to be able to spend time with friends, which enhances social health and wellbeing.[8] It also means that people are able to lead an ordinary life[9] by attending work and spending time with family members. As a result, they are less likely to experience mental health issues as a result of their injury, which can decrease the prevalence of depression.[10]

Increased federal government funding may mean that more medicines are being funded through the PBS. The concessional[11] patient co-payment amount reflects equity because those with concession cards, like Sunny, don't have to pay as much as others. This provides disadvantaged people with greater access to essential medicines, which can enhance health status by managing chronic conditions, meaning they are less likely to contribute to premature death, which increases life expectancy.[12] The PBS can enhance Sunny's physical health and wellbeing because he can receive treatment for pain management. The PBS reflects sustainability because not every drug is subsidised, so money is preserved for the future. This can mean that Sunny may not be able to access the drugs he needs, which may contribute to increased levels of stress and anxiety[13], impacting his mental health and wellbeing. It can also mean that people with life-threatening conditions such as cancer may not be able to access certain medicines, which can increase mortality rates and contribute to lower life expectancy.

[6] A deep understanding of Medicare is included.

[7] An understanding of the concept of sustainability is provided by showing knowledge of the NDIS.

[8] A link between the NDIS and social health and wellbeing is provided, using information provided in source 2.

[9] Further understanding of the NDIS is included.

[10] Specific aspects of the NDIS are linked to health status.

[11] Own knowledge of the PBS is included and used to show an understanding of equity.

[12] A specific link to health status is included.

[13] Potential negative impacts on both health and wellbeing and health status are included.

Key to colour annotations on sample response

- Use the information provided
- Use your own understanding
- Analyse how the health system promotes health status in relation to equity and sustainability
- Analyse how the health system promotes health and wellbeing in relation to equity and sustainability.

Practise this skill

Use this practice extended response question to build your exam skills. Follow the steps shown in the annotated example above.

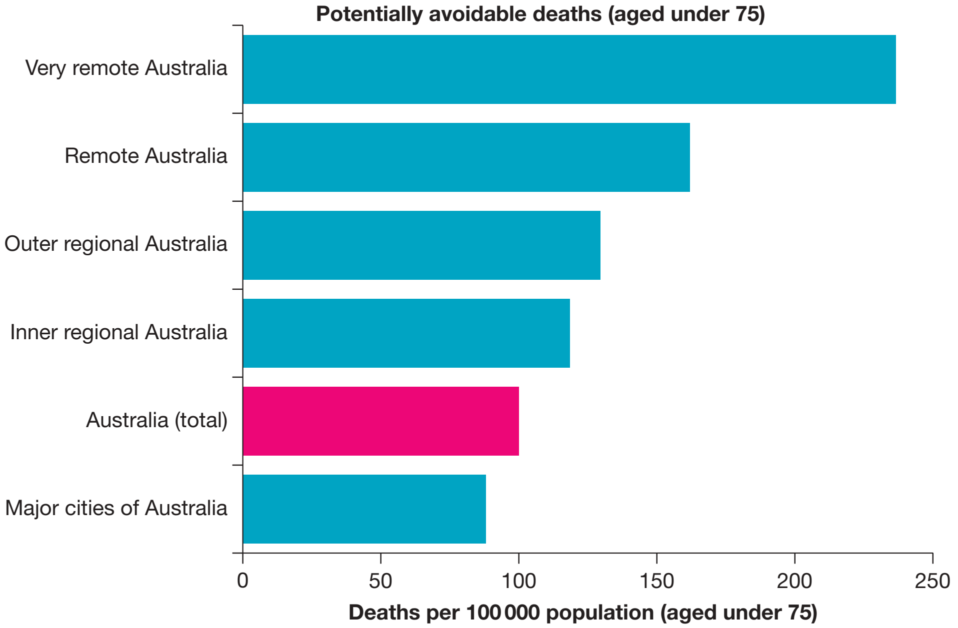
Source 1

The following table shows the proportion of the population with and without private health insurance by remoteness, 2019–20.

	Major cities of Australia	Inner regional Australia	Outer regional/ Remote/Very remote Australia
Does not have private health insurance	41.0	49.4	51.7
Has private health insurance	59.0	50.6	48.3

Source: ABS 2020, *Patient Experiences in Australia: Summary of Findings, 2019–20*.

Source 2



Source: Adapted from https://www.aihw.gov.au/reports/rural-health/rural-remote-health/data

Source 3

Jim is a 25-year-old man living in a remote area of South Australia. He is a qualified builder, but regularly struggles to get enough work to be classified as full-time. As a result, he often receives financial support from the government. Jim recently experienced a serious fracture in his leg while playing soccer with some friends in the area. As a result, he will be unable to drive for two months, which will make leaving his home difficult. He may also be required to undergo rehabilitation to get full movement back in his leg, once the plaster is removed.

Using the information provided and your own knowledge, discuss the potential of the health system to improve health outcomes for those living outside major cities compared to those living inside major cities. In your response, include references to access and funding within the health system. **15 marks**

7.9 Review

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7.9.1 Topic summary

7.2 Medicare

- Australia's health system is made up of public and private providers.
- Public health care includes public hospitals, Medicare, the Pharmaceutical Benefits Scheme (PBS) and National Disability Insurance Scheme (NDIS).
- Private health care includes private health insurance, private hospitals and medical practitioners in private practices.
- Medicare is Australia's universal health insurance scheme. It provides necessary treatment and hospital care in public hospitals for all Australians.
- Medicare is funded through three sources of income: the Medicare levy, the Medicare levy surcharge and general taxation.

7.3 The Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme

- The PBS subsidises more than 5000 essential medications, with individuals responsible for making a patient co-payment.
- Medicare and the PBS have safety nets to provide further support for those with extensive medical bills.
- The NDIS is a national insurance scheme that provides services and support for people with permanent, significant disabilities, and their families and carers.

7.4 Private health insurance

- Private health insurance companies give people wider choice and assist in funding the health system.
- To encourage Australians to take out private health insurance, four incentives were created by the federal government: the private health insurance rebate, Lifetime Health Cover, the Medicare levy surcharge and the age-based discount.

7.5 Funding and sustainability and the role of Australia's health system

- Funding the health system increases access for all people by reducing the costs the individual must pay for required treatment.
- Australia's health system operates with the combined funding from the federal and state/territory governments, private health insurance, other forms of insurance funds and individuals.
- Health costs have increased over time, and funding is an important consideration moving into the future.
- The sustainability of the Australian health system relates to the capacity to provide a workforce and infrastructure such as facilities and equipment, and to be innovative and responsive to emerging needs through interventions such as research and monitoring.
- Sustainability is promoted by adequate funding and regulation to increase the efficiency of the health system. Preventing disease and carrying out research and monitoring are also important for sustainability.

7.6 Access and equity and the role of Australia's health system

- An accessible health system is one that can provide all people with timely access to quality health services based on their needs, not their ability to pay, regardless of where they live in the country.
- Government support in the form of subsidised health care and medicines, fee-free treatment in public hospitals, and support provided through the NDIS, increase accessibility.

- All Australians have different healthcare needs, so an equitable system provides more support for those who need it, such as the Medicare and PBS safety nets.

on Resources

Digital document Summary (doc-36141)

7.9.2 Key terms

allied health services health services provided by trained health professionals who are not doctors, dentists or nurses, such as physiotherapists, psychologists and occupational therapists
assistive technology a device, system or design that allows an individual to perform a task that they would otherwise be unable to do, or increase the ease and safety with which a task can be performed
bulk-billing when the doctor charges only the schedule fee. The payment is claimed directly from Medicare so there are no out-of-pocket expenses for the patient.
hospital separations episodes of hospital care that start with admission and end at transfer, discharge or death
income test a determination of whether an individual or family is eligible for government assistance based on their level of income
patient co-payments the payment made by the consumer for health products or services in addition to the amount paid by the government
premium the amount paid for insurance
Protected Special Category visa these visas are held by some people who arrived in Australia on a New Zealand passport and meet other specific criteria
schedule fee the amount of money that the government deems appropriate for a particular medical service or procedure

7.9 Exercises

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7.9 Exam questions

Question 1 (4 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.3.b;* © VCAA

Describe how the NDIS promotes health and wellbeing in terms of both equity and access.

Question 2 (12 marks)

Source: *VCE 2020, Health and Human Development, Q.2;* © VCAA

Stewart is a 58-year-old father of three. Stewart and his wife own and manage a cafe. He spends his spare time with his children and close network of friends. Stewart has recently experienced depression and has had to take some time off work to focus on his condition and receive medical care. This has had significant impacts on his mental, social and emotional health and wellbeing. He has experienced depression in the past and has a number of strategies to assist with the recovery process. Stewart and his family have private health insurance (hospital and extras).

a. Other than treatment in a public or private hospital, **list** one health service that Stewart could access that is covered by Medicare and one health service that could be accessed through private health insurance. **2 marks**

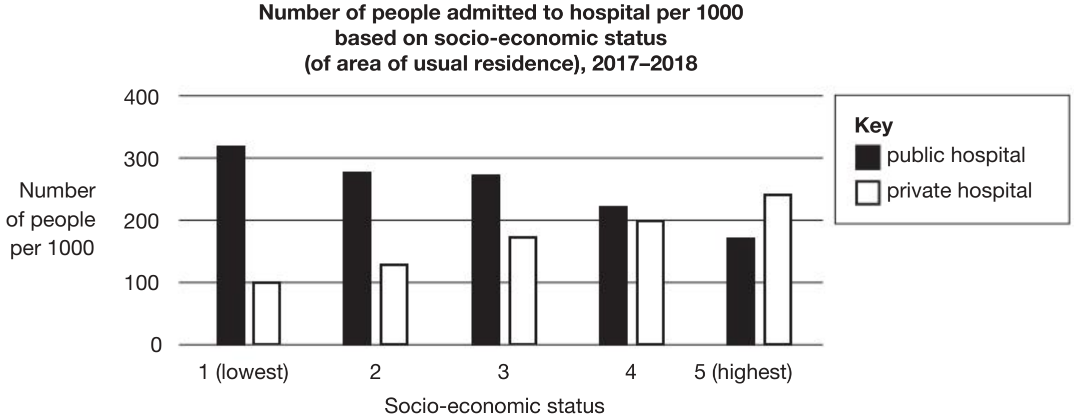
b. **Identify** two advantages and two disadvantages of private health insurance. **4 marks**

c. **Explain** how Stewart's current situation may have an impact on his emotional health and wellbeing. **2 marks**

d. **Explain** how Stewart's emotional health and wellbeing could have an impact on his social and spiritual health and wellbeing. **4 marks**

Question 3 (11 marks)

Source: *VCE 2020, Health and Human Development, Q.7;* © VCAA



a. **Outline** one relationship between socio-economic status (SES) and the use of private and public hospitals that is evident in the graph above. **2 marks**

b. **Explain** the benefits of private hospital use to Australia's health system in relation to sustainability and access. **4 marks**

c. **Identify** two differences in health status between high and low SES groups. **2 marks**

d. **Identify** one environmental factor and **explain** how it might contribute to one difference identified in **part c**. **3 marks**

Question 4 (2 marks)

Source: *VCE 2013, Health and Human Development, Section A, Q.8;* © VCAA

Outline two examples of how Medicare is different from private health insurance.

Question 5 (5 marks)

Medicare is Australia's universal health insurance scheme.

a. Briefly **explain** how Medicare is funded. **3 marks**

b. **Identify** two services covered by Medicare. **2 marks**

on Resources

Digital document	Key terms glossary (doc-36128)
Interactivities	Crossword (int-6889) Definitions (int-6890)
Exam question booklet	Topic 7exam question booklet (eqb-0060)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 7 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- 7.2 Medicare worksheet (doc-32205) ☐
- 7.3 NDIS worksheet (doc-32202) ☐
- 7.5 My Health Record worksheet (doc-32203) ☐
- PBS worksheet (doc-32204) ☐
- 7.9 Summary (doc-36141) ☐
- Key terms glossary (doc-36128) ☐

Interactivities

- 7.2 Australia's health system is made up of the public and private sectors and the respective components (int-8502) ☐
- 7.5 Recurrent health expenditure by area of expenditure and source of funds, 2021–22 (int-8503) ☐
- 7.6 Employed health professionals — FTE per 100 000 population: by selected areas of practice and remoteness area, 2017 (int-8504) ☐
- 7.9 Crossword (int-6889) ☐
- Definitions (int-6890) ☐

Teacher-led videos

- 7.7 Key skill: Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health (tlvd-1917) ☐
- 7.8 Extended response: Build your exam skills (tlvd-2881) ☐

Weblinks

- 7.2 Medicare ☐
- 7.3 NDIS ☐
- 7.5 My Health Record ☐
- PBS ☐

Exam question booklet

- 7.9 Topic 7 exam question booklet (eqb-0060) ☐

To access these online resources, log on to **www.jacplus.com.au**

School-Assessed Coursework Unit 3

OUTCOME 2

Explain changes to public health approaches, analyse improvements in population health over time and evaluate health promotion strategies and initiatives

School-Assessed Coursework 2 online only

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Digital document School-Assessed Coursework 2 (doc-41695)

Key knowledge

- Reasons for improvements in Australia's health status since 1900, focusing on:
  - 'old' public health
  - the biomedical approach to health and improvements in medical technology
  - the concept of the social model of health and the Ottawa Charter for Health Promotion (not including the principles of the social model of health)
- The role of health promotion in improving population health
  programs to improve Aboriginal and Torres Strait Islander Peoples' health, including how they promote social justice
- Initiatives to promote healthy eating in Australia, including the Australian Dietary Guidelines, the Australian Guide to Healthy Eating and the Aboriginal and Torres Strait Islander Guide to Healthy Eating
- Challenges in bringing about nutritional change, including sociocultural, environmental and commercial factors
- Australia's health system, including Medicare, private health insurance, the Pharmaceutical Benefits Scheme (PBS) and the National Disability Insurance Scheme (NDIS), and its role in promoting health in terms of funding, sustainability, access and equity

Key skills

- Analyse data that shows improvements in health over time and draw conclusions about reasons for improvements
- Explain how initiatives of 'old' public health and the social model of health, including those reflecting action areas of the Ottawa Charter for Health Promotion, could lead to improved health outcomes
- Describe the relationship between biomedical and social models of health, including the strengths and limitations of each
- Analyse a range of data, case studies and examples of health promotion programs in relation to the use of action areas of the Ottawa Charter for Health Promotion and how they can lead to improved health outcomes
- Analyse initiatives introduced to improve Aboriginal and Torres Strait Islander Peoples' health and wellbeing in Australia, and how they reflect the action areas of the Ottawa Charter for Health Promotion and social justice
- Evaluate initiatives in terms of their capacity to improve health outcomes of Aboriginal and Torres Strait Islander Peoples and promote social justice
- Evaluate the impact of initiatives to promote healthy eating in Australia and their ability to improve health outcomes
- Draw conclusions as to why nutritional improvements are difficult to achieve in Australia
- Analyse the role of Medicare, private health insurance, the PBS and the NDIS in promoting Australia's health.

UNIT 4 Health and human development in a global context

AREA OF STUDY 1 GLOBAL HEALTH AND HUMAN DEVELOPMENT

OUTCOME 1

Analyse similarities and differences in health status and human development globally and analyse the factors that contribute to these differences.

AREA OF STUDY 2 HEALTH AND THE SUSTAINABLE DEVELOPMENT GOALS

OUTCOME 2

Analyse the relationships between the SDGs and their role in the promotion of health and human development and evaluate the effectiveness of global aid programs.

8 Comparing health status and human development across countries

LEARNING SEQUENCE

8.1 Overview

	Key knowledge	Key skills	Subtopics
◯	Characteristics of low-, middle- and high-income countries	Describe characteristics of low-, middle- and high-income countries	**8.2, 8.3**
◯	The concept of human development	Explain the concept of human development	**8.4**
◯	Advantages and limitations of the Human Development Index	Explain the Human Development Index and evaluate its usefulness in measuring human development in different countries	**8.5**
◯	Similarities and differences in health status and human development in low-, middle- and high-income countries, including Australia	Evaluate data to analyse similarities and differences between countries in relation to health status and human development	**8.6**
◯	Factors that contribute to similarities and differences in health status and human development: – access to safe water – sanitation – poverty – discrimination (race, religion, sex, sexual orientation and gender identity)	Analyse factors that contribute to health status and human development in different countries Compare health data and other information to analyse reasons for health inequalities within and between countries	**8.7, 8.8, 8.9**

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

communicable diseases
discrimination
extreme poverty
gender equality
globalisation
Gross Domestic Product (GDP)
Gross National Income (GNI)
human development
Human Development Index (HDI)
human rights
non-communicable diseases
urban slums

Exam terminology

Analyse Examine the components of; look for links, patterns, relationships and anomalies

Compare Show similarities and/or differences

Describe Provide a general description

Evaluate Make a judgement; weigh up the pros and cons

Explain Make plain, make clear (may require reasons)

on Resources

Digital document Key terms glossary (doc-41595)

Exam question booklet Topic 8 Exam question booklet (eqb-0252)

8.2 Economic characteristics of low-, middle- and high-income countries

Key knowledge	Key skill
Economic characteristics of low-, middle- and high-income countries	Describe economic characteristics of low-, middle- and high-income countries

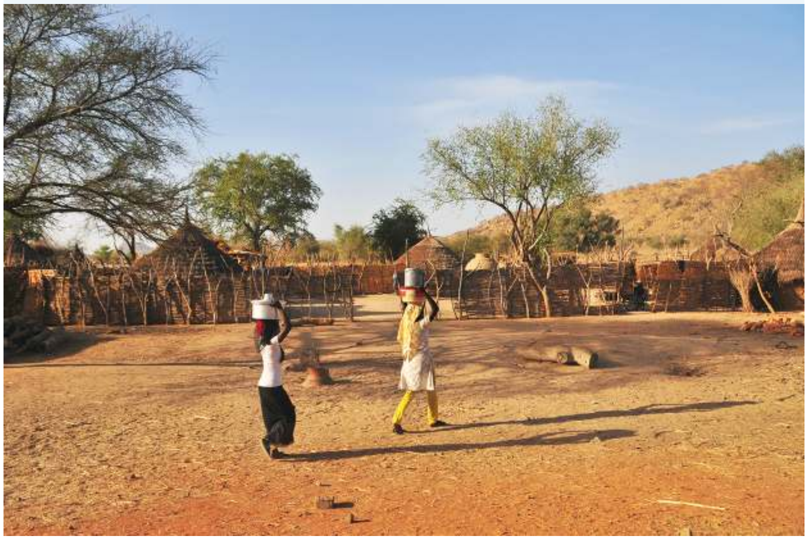
Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what the World Bank income grouping classification system is • the economic characteristics of low-, middle- and high-income countries.	• explain how countries are classified according to the World Bank income grouping classification system • discuss differences in economic characteristics between low-, middle- and high-income countries.

Classifying countries into groups allows countries that experience similar characteristics to be grouped together for the purpose of guiding policies and interventions that may improve the health outcomes experienced. Successful strategies used in one country may be built upon and applied to other, similar countries to promote trade, and increase incomes and health outcomes.

8.2.1 Classifying countries

FIGURE 8.1 Chad is classified as a low-income country and largely relies on subsistence farming.



Numerous systems have been developed to classify countries over time. Recently, one of the main ways to group countries has been to classify them as either developed or developing. Developed countries were considered to have a high level of economic development, including a range of industries, trading on the global market and high average incomes. They were not solely reliant on **primary production**, such as mining and farming. Developing countries had a low level of economic development and relied largely on primary production and **subsistence farming**.

primary production the process of producing natural products for human use, such as plants and animals

subsistence farming self-sufficient farming carried out by individuals to provide food for themselves and their family

Although still used in some instances, this system of classification is now seen as outdated because it is quite subjective and agreement could not be made on the specific criteria that should be met to classify a country as either developed or developing. As a result, a more modern system of classifying countries was developed by the World Bank and uses a country's **Gross National Income (GNI)** per capita, or average income, to classify countries into one of three main groups:

- low income
- middle income
- high income.

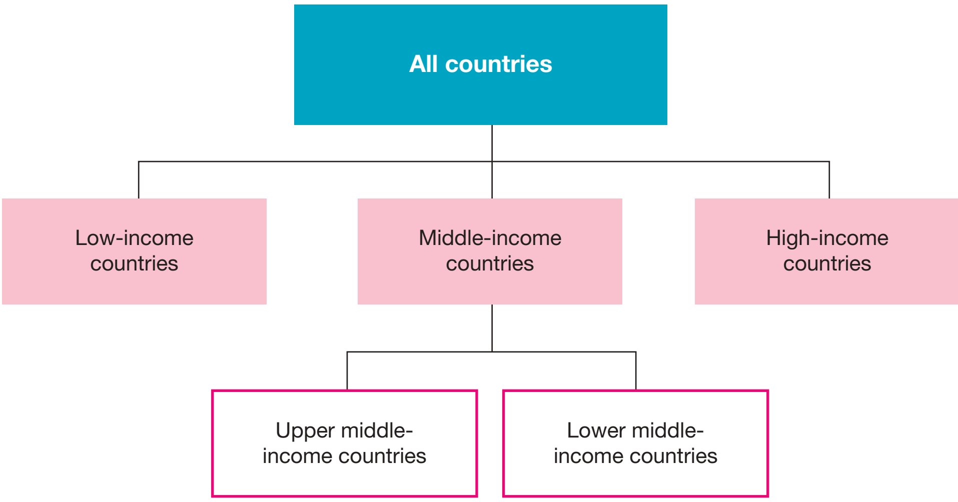
Gross National Income (GNI) the total value of goods and services a country's citizens produce, including the value of income earned by citizens who may be working in an overseas country

Middle-income countries are often broken down into two further groups:

- upper middle income
- lower middle income (see **FIGURE 8.2**).

The income thresholds, or GNI per capita for each group, are updated on 1 July each year, to take into account changes in average incomes in the previous year. As a result, countries can change groupings from one year to the next. The thresholds are adjusted according to criteria set by the World Bank and not by dividing the countries into equal groups, which means that the income groups do not contain the same number of countries.

FIGURE 8.2 All countries can be classified into one of three categories. Middle-income countries are sometimes broken down into a further two groups.



The figures shown in **TABLE 8.1** are for the 2023–2024 financial year.

TABLE 8.1 Income thresholds and example countries for the World Bank income groupings classification system

	GNI per capita range	Examples of countries in this group	Number of countries in this group
High income	$13 846 or more	Australia, Canada, Chile, Greece, Ireland, Japan, USA, United Kingdom	83
Upper middle income	$4466–$13 845	China, Cuba, Fiji, Indonesia, Mexico, South Africa, Turkey, Russian Federation	54

(continued)

TABLE 8.1 Income thresholds and example countries for the World Bank income groupings classification system *(continued)*

	GNI per capita range	Examples of countries in this group	Number of countries in this group
Lower middle income	$1136–$4465	Cambodia, India, Nepal, Pakistan, Papua New Guinea	54
Low income	$1135 or less	Afghanistan, Chad, Uganda, Rwanda, South Sudan	26

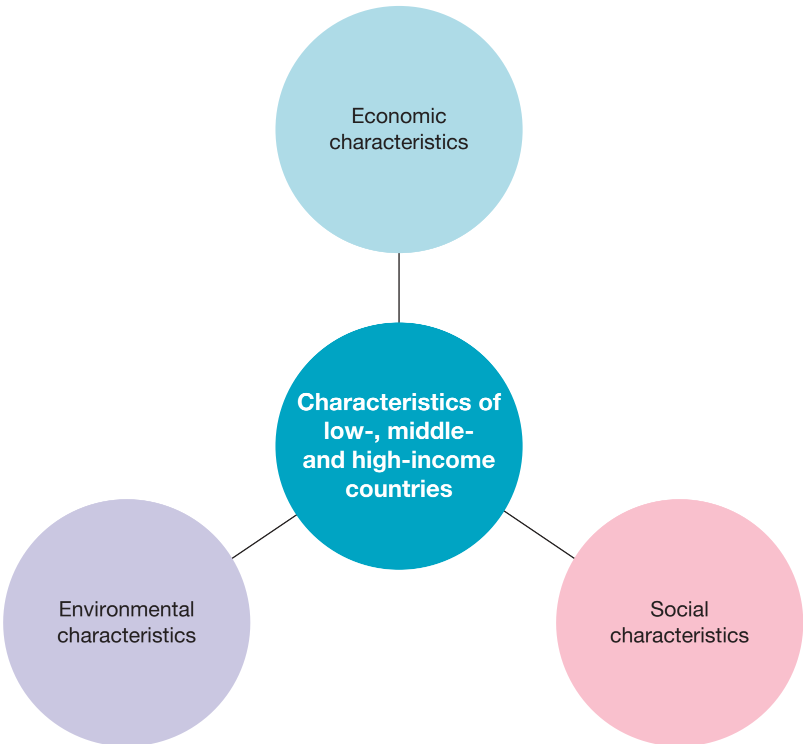
It is important to remember that the World Bank system of classifying countries uses average incomes for each country and therefore doesn't acknowledge the variations that are experienced within any one country or between two countries in the same group. For example, China is classified as upper middle-income but average incomes vary considerably across China and some regions would be classified as low income if they were independent of the rest of the country. Fiji, a Pacific Island country, is another upper middle-income country but is quite different from China in relation to industry, population and culture.

Although variations exist between and within countries in the same groupings, there are identifiable characteristics that are common to each type of country.

8.2.2 Characteristics of low-, middle- and high-income countries

The characteristics of different countries are related to the resources and opportunities available in each income group. The characteristics of low-, middle- and high-income countries can be classified into three categories, as shown in **FIGURE 8.3**.

FIGURE 8.3 Characteristics of low-, middle- and high-income countries



The characteristics discussed here (economic characteristics in this subtopic; social and environmental characteristics in subtopic 8.3) are not necessarily common to all low-, middle- or high-income countries, but they represent differences that are often experienced between the three groups. The extent of these differences will vary depending on which countries are being compared.

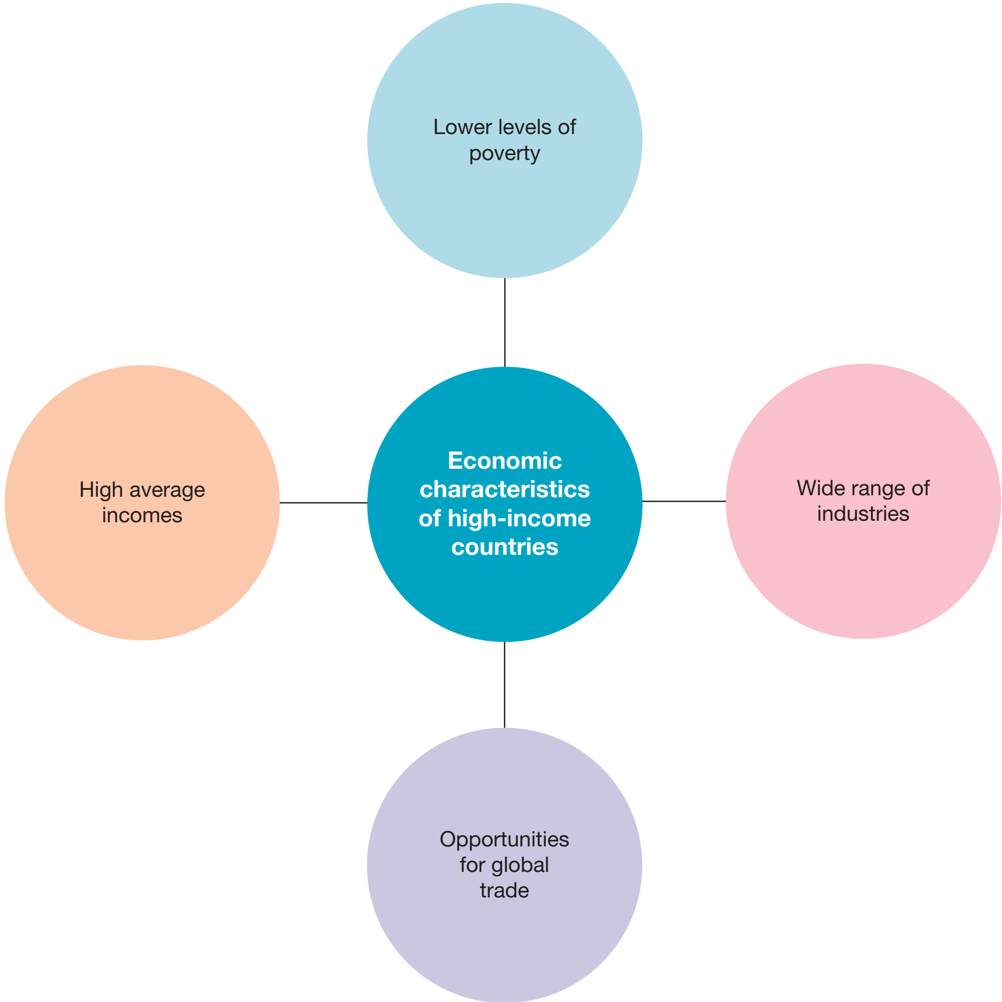
The economic, social and environmental characteristics are often related and affect each other. For example, a country with adequate infrastructure (environmental) is more likely to trade on the global market, which can contribute to high average incomes (economic). High average incomes mean that governments and individuals have more money to invest in education (social). Understanding the relationships between the factors can make it easier to identify a range of characteristics common to each income group.

Economic characteristics

A range of factors relating to the financial or economic state of a country can influence the opportunities and resources that are available to its citizens. 'Poverty' is a term commonly used to describe the lack of access to resources, often as the result of a lack of access to money. Low-income countries and, to a lesser extent, middle-income countries, often have a large proportion of their population living in poverty compared to high-income countries.

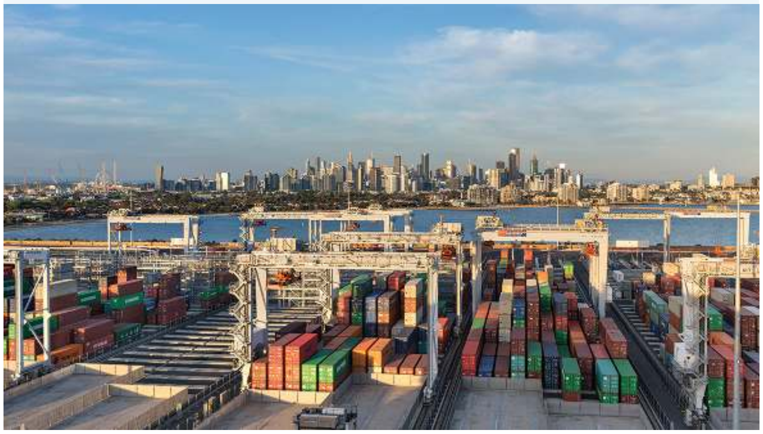
There are many reasons for the difference in the levels of poverty experienced between the three groups. They include the industries present in each country, opportunities for global trade and average incomes (see **FIGURE 8.4**).

FIGURE 8.4 Economic characteristics of high-income countries



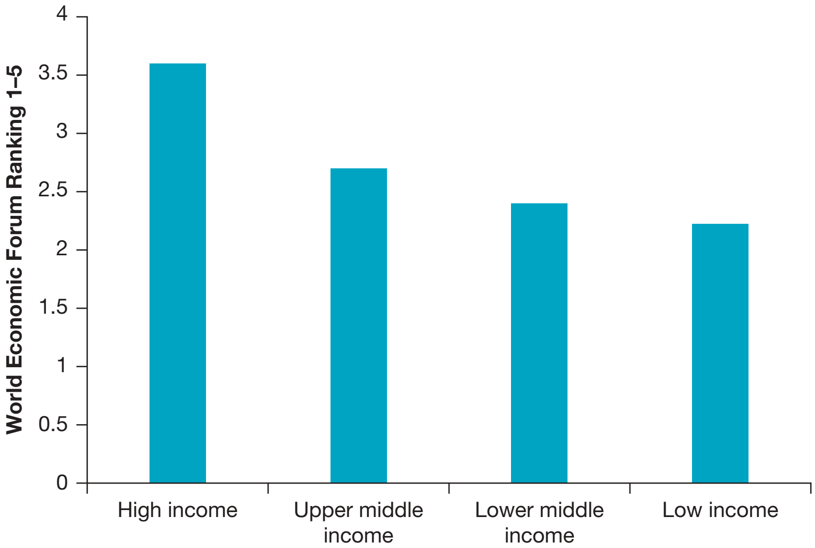
High-income countries often have a wide range of industries, including mining, processing, manufacturing, education, health care, scientific research and technology. Low-income countries, on the other hand, often have a limited range of industries, usually centred on farming and primary production. According to the World Bank, in 2021, around 3 per cent of the workforce in high-income countries worked in agriculture, compared to almost one-third in middle-income countries and up to 70 per cent and higher in many low-income countries. This reduces the ability of low-income countries to trade on the global market, because they may not be able to generate goods that other countries require. Middle-income countries often reflect aspects of both high- and low-income countries in relation to trade and many are in a transition period, experiencing increasing trade opportunities and growing economies.

FIGURE 8.5 Adequate infrastructure, like the shipping port in Melbourne, assists in promoting economic development by contributing to increased global trade.



Most industries experience highs and lows in relation to production and demand. Having a range of industries increases the probability that at least some of these industries will experience positive production and trade trends at any one time. If a country's industries revolve around one resource (such as food production), events such as drought can have a significant impact on this industry. If there are no other industries to take their place on the global market, trade can be affected.

FIGURE 8.6 Logistics performance index: Quality of trade and transport-related infrastructure (1 = low to 5 = high), 2022



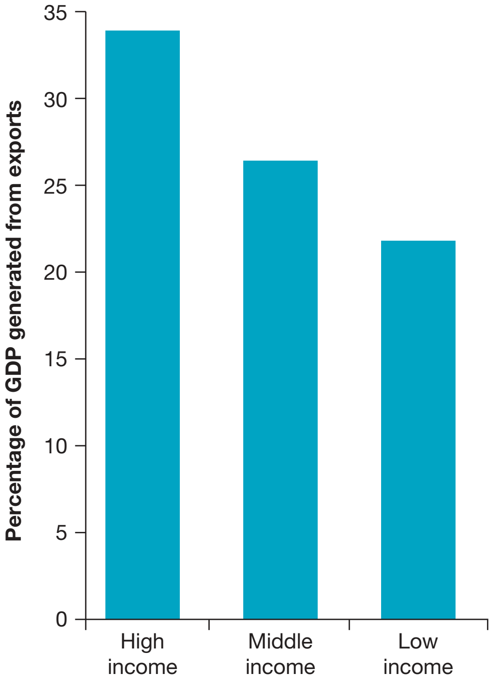
Source: https://data.worldbank.org/indicator/LP.LPI.INFR.XQ?view=chart

Global trade is also affected by infrastructure (such as roads, ports and airports) and knowledge and experience, which assist in buying from and selling to other countries around the world. High-income countries generally have access to these resources, so they can transport goods from the place of production to an overseas destination, and benefit most from trading opportunities as a result. Many middle-income countries are in the process of building infrastructure and developing trading links around the world. Low-income countries often lack the infrastructure (see **FIGURE 8.6**), knowledge and production capabilities to produce a range of goods and services to trade on a global scale (see **FIGURE 8.7**). This prevents the economies of low-income countries from growing and contributes to the low average incomes they experience.

The level of poverty can be expressed as the proportion of those with incomes of less than PPP$2.15 per day, known as **extreme poverty**. Low- and middle-income countries experience a greater proportion of the population living in extreme poverty than high-income countries (see **FIGURE 8.8**).

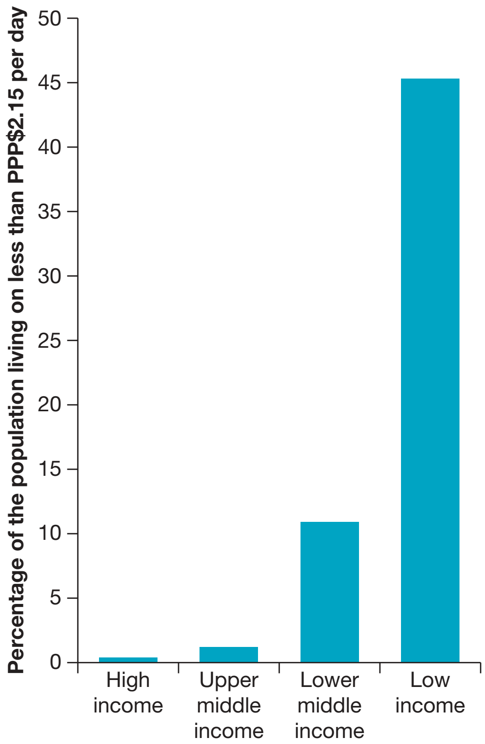
extreme poverty living on less than PPP$2.15 per day

FIGURE 8.7 The proportion of GDP generated by the export of goods and services, 2022



Source: Adapted from http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?view=chart

FIGURE 8.8 Proportion of the population living on less than PPP$2.15 per day



Source: Adapted from https://data.worldbank.org/indicator/SI.POV.DDAY?view=chart

PPP refers to 'purchasing power parity', which provides a way to compare countries that have different currencies and costs of living. PPP takes a range of factors into account, such as average income and the cost of living, to provide a standard comparable currency. PPP is often expressed in US dollars (US$) or as international dollars (PPP$), which is a theoretical currency.

EXAM TIP

There are variations within and between all types of countries, and you should avoid making definite statements that are not technically correct. For example, to say that 'people in low-income countries live on less than PPP$2.15 per day' implies that all people in low-income countries live in extreme poverty, which is not true. Instead, say that 'people in low-income countries are more likely to live on less than PPP$2.15 per day than those in high-income countries' because this statement is true and will be eligible for marks.

Gross National Income (GNI) per capita is the measure used to categorise countries according to the income groupings used by the World Bank. As a result, GNI per capita increases from low- to middle-income and from middle- to high-income countries. Average income can also be measured in relation to **Gross Domestic Product (GDP)** per capita. This measure is similar to GNI per capita, but is not adjusted to take into account the income earned by foreign citizens or the income earned by citizens working in other countries. As a result, GNI per capita is being used more as an accurate indicator of the average income of a country. Regardless of the measure used, lower incomes in low- and middle-income countries have an impact on many aspects of life, such as access to education, health care, housing, clean water and food. All of these factors have an impact on quality of life and health status.

Gross Domestic Product (GDP) a measure that reflects the economic state of a country; the value of all goods and services produced in a country in a 12-month period

Classifying a country as low-, middle- or high-income only takes economic indicators into account, and these do not necessarily reflect the overall quality of life experienced. In addition to economic characteristics, social and environmental characteristics must be taken into consideration.

8.2 Exercises

8.2 Quick quiz on | 8.2 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
2, 3, 5	1, 4, 8	6, 7

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Test your knowledge

1. a. Briefly explain the World Bank's income grouping classification system.
   b. Explain why the income grouping system is more reliable than classifying countries as either 'developed' or 'developing'.
2. Outline three economic characteristics common among high-income countries compared to low- and middle-income countries.
3. Explain reasons for the lower level of global trade in most low- and middle-income countries compared to high-income countries.
4. Explain how adequate infrastructure can assist in trading on the global market in middle-income countries.
5. Identify the measure that reflects extreme poverty.

Apply your knowledge

6. Explain how having a diverse range of industries could assist in reducing poverty.
7. Discuss two ways that high-income countries could assist low-income countries in breaking the cycle of poverty.
8. Use data from this subtopic to compare the following between high-, middle- and low-income countries:
   a. quality of infrastructure promoting trade
   b. proportion of people living on less than PPP$2.15 per day.

8.2 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2014, Health and Human Development Exam, Q.8;* © VCAA

Low- and middle-income countries often share a number of social, environmental and economic characteristics.

Identify any two examples of characteristics common to low- and/or middle-income countries.

Question 2 (1 mark)

On **what** basis are countries classified according to the World Bank income classification system?

Question 3 (2 marks)

Identify two economic characteristics of a low- or middle-income country.

Question 4 (2 marks)

List two economic characteristics of a high-income country.

Question 5 (2 marks)

In the last decade, Country X has shown the following improvements:

- access to sanitation has improved, particularly in urban areas
- birth rates have steadily decreased
- growth of industries, particularly in the electronics and communication fields
- the introduction of social housing and a universal health scheme has been established
- increase in living standards, with very few families living on less than PPP$2.15 per day
- construction and redevelopment of major roads and rail systems.

From the information above, **identify** two economic characteristics relevant to Country X.

More exam questions are available in your learnON title.

8.3 Social and environmental characteristics of low-, middle- and high-income countries

Key knowledge	Key skill
Social and environmental characteristics of low-, middle- and high-income countries	Describe social and environmental characteristics of low-, middle- and high-income countries

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

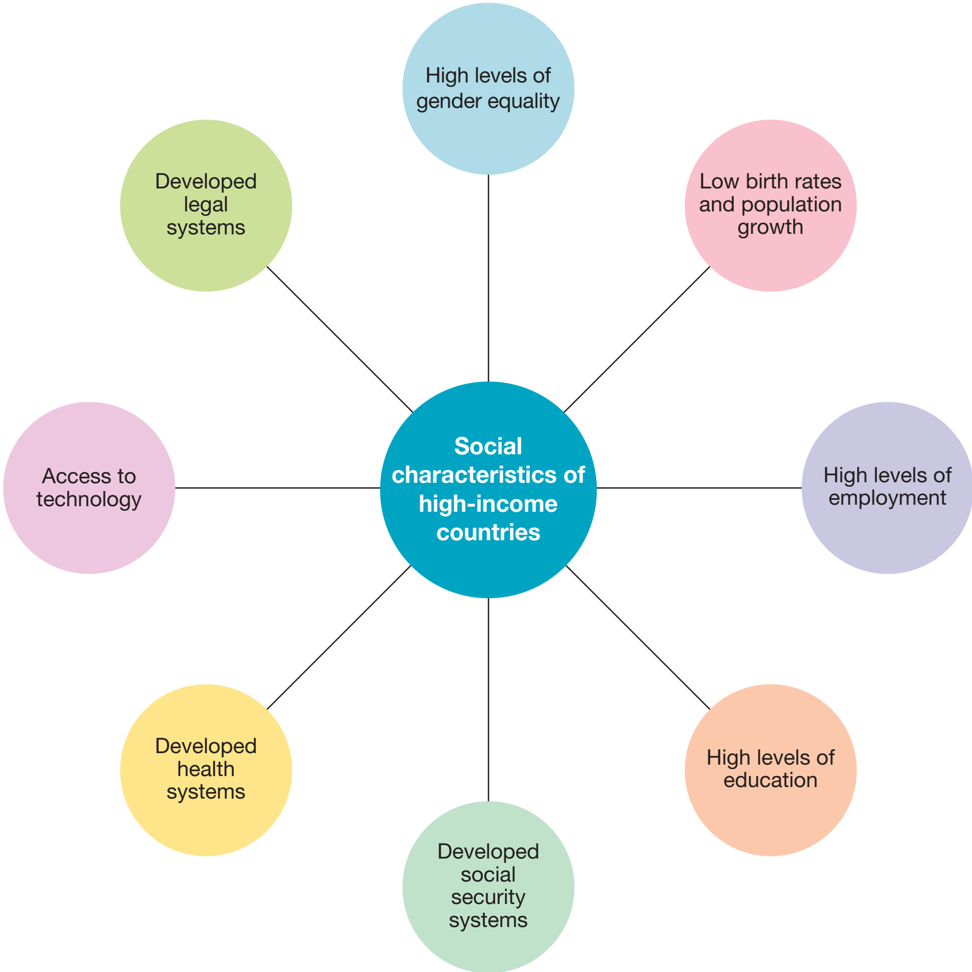
You need to know:	You need to be able to:
• what is meant by social characteristics • what is meant by environmental characteristics • how these characteristics differ between low-, middle- and high-income countries.	• discuss differences in social and environmental characteristics between low-, middle- and high-income countries.

8.3.1 Social characteristics

There are many social factors associated with low-, middle- and high-income countries. The social factors that are characteristic of high-income countries are summarised in **FIGURE 8.9** and include the impacts of:

- gender equality
- birth and population rates
- education and employment levels
- social security systems
- health systems
- access to technology
- legal systems.

FIGURE 8.9 Social characteristics common among high-income countries



Gender equality

High-income countries often experience relatively high levels of **gender equality**. In these countries, both males and females have opportunities and choices in education, employment, community participation, family planning and recreation. In many low-income countries, however, females do not have the same opportunities as males in society. Females may have limited opportunities for education and often work in fields tending crops and/or spend significant time collecting water and preparing meals. Many middle-income countries are benefitting from greater levels of gender equality as more females in paid employment help to reduce levels of poverty and contribute to the country's productivity and economy.

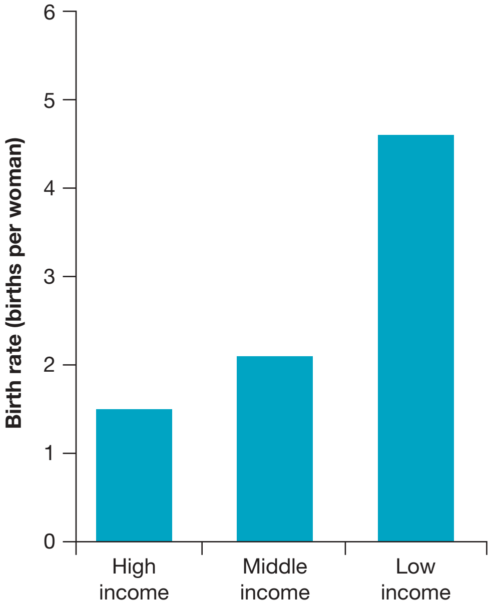
gender equality when males and females have equal rights, responsibilities and opportunities

Birth and population rates

Low birth rates (see **FIGURE 8.10**) and slow rates of population growth (see **FIGURE 8.11**) are characteristic of many high-income countries compared to middle-income — and especially low-income — countries.

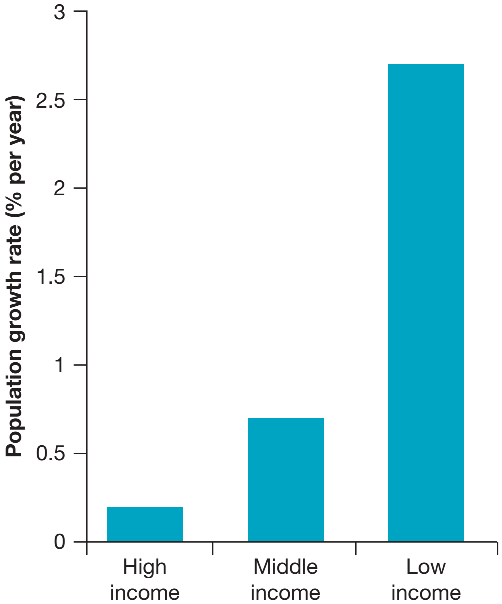
Access to contraception, choice in family planning, career choices, education, gender equality and culture contribute to this difference. High birth rates in many low- and middle-income countries can limit the ability of parents to care for all of their children and provide them with the resources required to live a healthy life. High population growth rates limit the ability of governments to provide services for its citizens such as education, health care and social security.

FIGURE 8.10 Birth rate, average number of births per woman, 2021



Source: Adapted from http://data.worldbank.org/indicator/SP.DYN.TFRT.IN?view=chart

FIGURE 8.11 Population growth rate (% per year) by income grouping, 2022



Source: Adapted from http://data.worldbank.org/indicator/SP.POP.GROW?view=chart

Education and employment levels

High rates of education and employment are characteristic of most high-income countries. People often have choices about the level of education and the type of career they pursue. Many low-income countries do not have a developed education system, so career options are often limited. In addition, families in low-income countries usually have to pay for their children to attend school, as opposed to in middle- and high-income countries, where governments contribute significant funds to provide education opportunities.

Social security systems

High levels of economic development and relatively stable political systems increase the ability of governments in high-income countries to provide social security payments for those in need. Individuals who are unemployed, or unable to work due to illness or disability, are often provided with financial support to assist in promoting their health and wellbeing. Low- and middle-income countries often do not have the means to provide assistance to their citizens, and those who are unemployed or unable to work are driven further into poverty.

Health systems

High-income countries generally have public health systems. People are usually able to access basic health care when they need it, regardless of their ability to pay. Those in low- and middle-income countries often lack access to suitable health care, which affects the level of health and wellbeing they experience.

Access to technology

Technology includes access to communication systems, the internet and medical technologies. It can be used to assist countries in developing their economies, building trade opportunities, furthering education and treating ill health. Technology is more accessible in high-income countries due to a combination of economic resources, infrastructure and education. Low-income countries often lack access to technology, and this impacts on the ability of citizens to gain an education and earn an income.

Legal systems

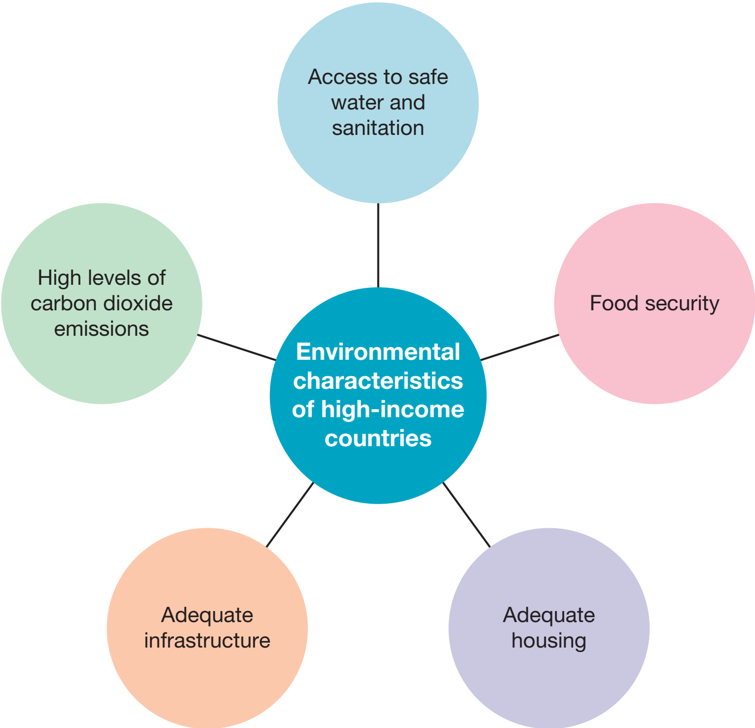
Most high-income countries experience strong political and legal systems. Unstable governments and political unrest are characteristic of many low-income and some middle-income countries and increase the risk of civil conflict, which is also more common in low-income countries. A strong legal system is important for ensuring that human rights, such as the right to education and the right to live safely, are upheld. Many low-income countries and, to a lesser extent, middle-income countries, lack a strong legal system, and the health and wellbeing of their citizens can be affected as a result.

FIGURE 8.12 Medical technology is more readily available in high-income countries.

8.3.2 Environmental characteristics

Characteristics of the environment contribute to the level of health and wellbeing experienced in all countries. Aspects of the environment include the accessibility of food, water and sanitation, adequate housing, infrastructure and carbon dioxide emissions (see **FIGURE 8.13**).

FIGURE 8.13 Environmental characteristics common among high-income countries



Safe water and sanitation

Safe water and sanitation are characteristics of high-income and many middle-income countries. Access to safe water and sanitation is responsible for a large proportion of the variations in health and wellbeing between the three groups and will be explored in more detail later.

Food security

People in high-income countries generally have access to a quality food supply. Those in low-income countries, however, often lack food security. Natural disasters, such as floods and droughts, tend to have a more pronounced impact on the availability of food for those in low-income countries, because they lack the financial resources to purchase food in emergency situations.

Adequate housing

Compared to high-income countries, many people in low- and middle-income countries lack access to adequate housing. They often live in substandard housing with poor ventilation, lack of heating and cooling, poor resistance to infestation of disease-carrying organisms such as insects, lack of cooking facilities and running water, and poor protection from the elements. In many low- and middle-income countries, **urban slums** are also a common feature of cities compared to high-income countries.

urban slums a settlement, neighbourhood or region comprised of housing that does not provide the essential conditions required to live a healthy life

Adequate infrastructure

Infrastructure is responsible for many differences between low-, middle- and high-income countries. High-income countries usually have adequate roads and transport systems, piped water, sewerage systems, electricity grids and telecommunication systems. People living in low- and middle-income countries often lack access to such facilities, especially in rural and remote areas and urban slums.

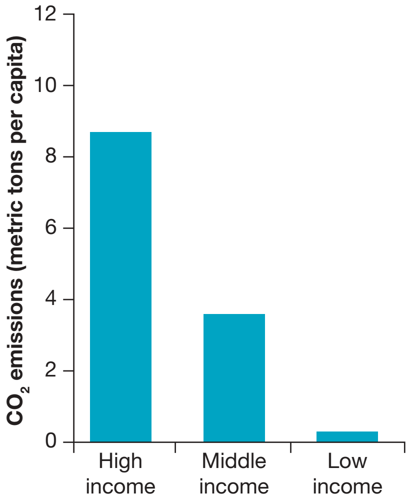
FIGURE 8.14 Urban slums are common in low-income countries.

Levels of carbon dioxide emissions

Due to the range of industries in high-income countries, these countries emit greater amounts of carbon dioxide (CO_2) per person into the atmosphere (see **FIGURE 8.16**). Carbon dioxide emissions have been linked to climate change and the associated effects on sea levels and changing weather patterns. Low- and middle-income countries are often the most affected by climate change because they lack the economic resources to effectively deal with the associated impacts.

FIGURE 8.15 Adequate infrastructure in high-income countries contributes to resources such as a reliable electricity supply and adequate public transport systems.

FIGURE 8.16 Carbon dioxide emissions in high-, middle- and low-income countries



Source: Adapted from http://data.worldbank.org/indicator/EN.ATM.CO2E.PC

The economic, social and environmental characteristics of low-, middle- and high-income countries contribute significantly to the differences in health status experienced in each type of country. Many of these factors and their relationships to health status will be explored in more detail later in this topic.

EXAM TIP

Middle-income countries are often in the process of transitioning from low- to high-income and therefore share a range of characteristics common to both low- and high-income countries. For example, most middle-income countries have a proportion of residents living in poverty and a proportion with high average incomes. As a result, discussions about these countries should reflect both the positive and negative aspects of high- and low-income countries. For example, if discussing levels of education in middle-income countries, an answer could include that education levels are generally increasing and many people have sufficient access to education, however there is still a significant proportion lacking access to adequate educational opportunities.

8.3 Exercises

8.3 Quick quiz on | **8.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 5	3, 4, 6, 9	7, 8

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Test your knowledge

1. Discuss three social characteristics of middle-income countries.
2. Discuss three environmental characteristics of high-income countries.

3. a. Explain what is meant by gender equality.
   b. Explain two ways that gender equality can assist in reducing poverty in low-income countries.
4. Explain two ways that technology can assist a country in transitioning from low income to middle income.
5. Identify the factors that contribute to the difference in birth rates between high- and low-income countries.
6. Outline reasons for differences in the level of education experienced in high- and middle-income countries.

Apply your knowledge

7. Use data from subtopic 8.3 to compare the following between high-, middle- and low-income countries:
   a. birth rates
   b. population growth
   c. carbon dioxide emissions.
8. Outline two ways that economic, social and environmental characteristics in low-income countries are related. Ensure you include a reference to one economic, one social and one environmental characteristic in each response.
9. Draw a concept map that summarises the economic, social and environmental characteristics that are common among high-income countries.

8.3 Exam questions

Question 1 (2 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.8.a*; © VCAA

Other than the Human Development Index (HDI), **identify** two characteristics of a low-income country.

Question 2 (2 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.6;* © VCAA

According to the United Nations Development Programme's Human Development Report, in 2017 Australia had a Human Development Index (HDI) of 0.939, while Papua New Guinea had an HDI of 0.544. The World Bank classifies Australia as a high-income country and Papua New Guinea as a middle-income country.

Outline two characteristics, other than HDI, that could be used to classify countries as either high-income or middle-income countries.

Question 3 (2 marks)

List two environmental characteristics of a high-income country.

Question 4 (2 marks)

In the last decade, Country X has shown the following improvements:

- access to sanitation has improved, particularly in urban areas
- birth rates have steadily decreased
- growth of industries, particularly in the electronics and communication fields
- the introduction of social housing and a universal health scheme has been established
- increase in living standards, with very few families living on less than PPP$2.15 per day
- construction and redevelopment of major roads and rail systems.

From the information above, **identify** two social characteristics relevant to Country X.

Question 5 (2 marks)

a. **List** two social characteristics of a high-income country.
b. **Identify** two environmental characteristics of a low- or middle-income country.

More exam questions are available in your learnON title.

8.4 The concept of human development

Key knowledge	Key skill
The concept of human development	Explain the concept of human development

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by human development • specific aspects of human development.	• describe the concept of human development • make meaningful links from a range of stimuli to specific aspects of human development.

Human development is a concept that provides another way of looking at the differences and similarities between countries in addition to classifying countries as low-, middle- and high-income. Looking at the characteristics of low-, middle- and high-income countries can be useful, but many of these aspects are difficult to measure and therefore make comparison difficult. The concept of human development can give a more accurate picture of how well people are living within particular countries.

human development creating an environment in which people can develop to their full potential and lead productive, creative lives according to their needs and interests. It is about expanding people's choices and enhancing capabilities (the range of things people can be and do), having access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives (adapted from the UN Development Programme, 1990).

FIGURE 8.17 Looking only at economic indicators can hide the vast inequalities that exist within and between countries.

The Gross National Income (GNI) per capita of a country, or the average income, has historically been used to work out how well people are living and the level of human development being experienced in a country. However, although economic wealth is associated with better outcomes for people, wealth is rarely distributed equally. To look at this measure in isolation will not necessarily give an accurate indication of how well the entire population is living. The purpose of human development is to make people, not the country's income, the focus.

As defined by the United Nations, human development is about much more than income: it is about creating an environment in which people can develop to their full potential and lead productive, creative lives according to their needs and interests. It is about expanding people's choices and enhancing their capabilities (the range of things people can be and do), having access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives (adapted from the UN Development Programme, 1990).

‘The basic purpose of [human] development is to enlarge people’s choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of [human] development is to create an enabling environment for people to enjoy long, healthy and creative lives.’

Source: Mahbub ul Haq, Founder of the Human Development Report, http://www.ipc-undp.org/conference/photo/

on Resources

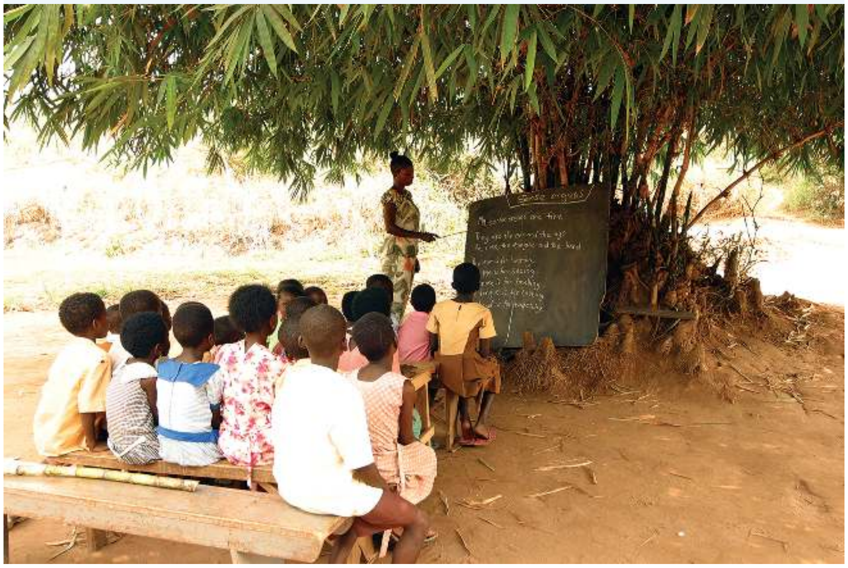
Teacher-led video What is human development? (tlvd-0266)

Human development is about having more freedom and choices, so people can lead the life they value. Human development is about providing people with opportunities, not insisting that they make use of them. Choices relate to what people value and want. Freedom of choice is central to the human development approach: someone choosing to be hungry (for example, during a religious fast) is quite different to someone who is hungry because they cannot afford to buy food.

There is no limit to the choices people can make, but a key component of human development is equity. As a result, one person’s choices should not negatively affect another person’s ability to lead the life that they value. For example, a person wanting to be married should not force someone else into wedlock against their will.

Expanding choices is about developing people’s abilities and giving them a chance to use them. Educating a girl, for example, builds her skills, but is of little use if she cannot access meaningful employment, or does not have the right skills for the local labour market. Enhancing capabilities relates to the things that people can be and do. Examples of what people can be include being well fed, sheltered and healthy. The things people can do include going to school, working, voting and participating in community life.

FIGURE 8.18 Education is a key component of human development because it expands people’s choices and capabilities.



Human development implies that people must influence and actively participate in the processes that shape their lives. Fundamentally, human development is about improving people’s lives, rather than assuming that economic growth will automatically lead to better lives for all. Economic factors are an important part of achieving this, but they are not the only part and are not the overall objective of human development.

EXAM TIP

When making links to human development, it is important to ensure that a specific aspect of human development is the focus and that enough detail is provided to explain how the aspect of human development is impacted. For example, it is true to say that 'education enhances choices and capabilities', but there is not enough detail in this link to be awarded full marks. A better response would be 'education can develop capabilities in relation to numeracy and literacy. With these skills, a person is likely to have more choice in relation to the careers they pursue in the future'.

In order to improve human development, people need to have certain choices, capabilities and freedoms. Some of the critical elements relating to these include those shown in **FIGURE 8.19**.

Without these capabilities, human development cannot progress and many opportunities remain inaccessible. It is also important that these capabilities and freedoms are able to be sustained or maintained in the long term.

FIGURE 8.19 The elements critical to human development

8.4.1 Case study in human development

Consider the following examples that illustrate how human development presents in day-to-day life for Adam and Veronica, two children growing up in Lackistan, a fictional country.

Lackistan has a high average income and the economy is growing, but the wealth is distributed unequally. The major cities are sufficiently developed, with access to public services and adequate infrastructure. As a result, those living in the major cities have access to education, health care, transport systems, adequate housing and safe water and sanitation. Those in rural areas, however, often experience food insecurity, and lack access to health care, education, safe water and sanitation.

Lackistan is typical of many countries in that the average incomes are high, but this hides the fact that not everyone is enjoying the benefits that can come with a growing economy and high incomes.

Adam lives in the capital of Lackistan with his parents. They live in a safe neighbourhood where crime rates are low and resources such as health care, safe water and adequate sanitation are readily available. Adam recently graduated from a public secondary school and has been accepted by the local university to study medicine. Adam's family belongs to the ethnic majority of Lackistan and enjoys the freedoms that the country has to offer, such as being able to vote and participate in other aspects of community life. Adam wants to finish his medical degree and then work either in general practice or a hospital, because he has always dreamed of helping people. Adam wants to have a family eventually, but is going to wait until his career is established before committing to a serious relationship.

Adam appears to be experiencing a high level of human development. He has received an education and has chosen to study medicine at university. Adam has choices in relation to his career and is focusing on working in a field that he has been interested in for some time. Adam thinks he would like to have a family, but has the freedom to wait until the time is right. He lives in a safe community where he can access the resources required for a decent standard of living, such as health care, water and sanitation. Adam enjoys freedoms such as being able to vote and participate in the life of the community in which he lives.

Veronica lives in a rural region of Lackistan with her mother. When Veronica was five years old, her father died. He was 28 years old, and died as the result of an infectious disease that could have been prevented with access to basic health care. Veronica spent a large portion of her childhood collecting water as her mother worked in the fields trying to grow enough food for Veronica and herself. Educational opportunities are limited in rural areas of Lackistan, but Veronica would not have been able to attend school because she was responsible for collecting water.

Because she is illiterate, Veronica's employment opportunities are limited to unskilled jobs in her community, which she finds physically demanding and unrewarding. Veronica belongs to an ethnic minority that is often discriminated against by other groups in relation to basic rights such as voting and participating in the life of the community. In line with cultural traditions, Veronica was married at the age of 15 to a man chosen by her uncle. In the years that followed, she had three children and now works in agriculture, trying to grow enough food to feed her family.

Although she lives in the same country, Veronica's level of human development is much lower than Adam's. Her father died at a young age from a preventable disease, which indicates that people in Veronica's community may not be able to lead long and healthy lives. Safe water is not readily available, indicating that the resources required for a decent standard of living are not universally accessible. Veronica was unable to access education and now her choices in relation to employment are limited. Veronica did not have the freedom to make decisions affecting her life in relation to when and to whom she got married.

8.4 Activity

Access the **Human development** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Human development worksheet (doc-32223)

Weblink Human development

8.4 Exercises

8.4 Quick quiz **on** | **8.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3	2, 4, 5	6, 7, 8

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Test your knowledge

1. a. Briefly explain the concept of ‘human development’.
   b. Why is using only GNI or economic growth not an adequate way of measuring human development?
2. Identify three examples of choices that people can make in life to enhance their human development.
3. Using examples, explain what is meant by ‘capabilities’.
4. Explain the difference in human development experienced by Adam and Veronica in the case study.

Apply your knowledge

5. Making reference to a range of characteristics of countries in different income groups, explain likely differences in the human development experienced in a country classified as low-income compared to a country classified as high-income.
6. Do you think the level of human development experienced in Australia is sustainable? Why or why not?
7. The *1996 Human Development Report* opens with the fundamental statement, ‘human development is the end — economic growth a means’. Explain why economic growth is a means to achieving human development.
8. ‘People are the real wealth of nations, not money.’ Do you agree with this statement? Why or why not?

8.4 Exam questions

Question 1 (2 marks)

Define ‘human development’.

Question 2 (3 marks)

Identify three characteristics of the United Nations’ definition of human development.

Question 3 (2 marks)

Having access to health care is a key component of human development. **Describe** how having access to health care enables human development to be achieved.

Question 4 (2 marks)

Having access to knowledge is a key component of human development. **Outline** two ways in which a strategy focusing on education in a developing country can promote human development.

More exam questions are available in your learnON title.

8.5 The advantages and limitations of the Human Development Index

Key knowledge	Key skill
Advantages and limitations of the Human Development Index	Explain the Human Development Index and evaluate its usefulness in measuring human development in different countries

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what the Human Development Index is and how it is measured • advantages and limitations of the Human Development Index.	• describe the Human Development Index and the dimensions and indicators used to measure it • discuss the advantages and limitations of the Human Development Index • evaluate the effectiveness of the Human Development Index in terms of measuring the level of human development experienced.

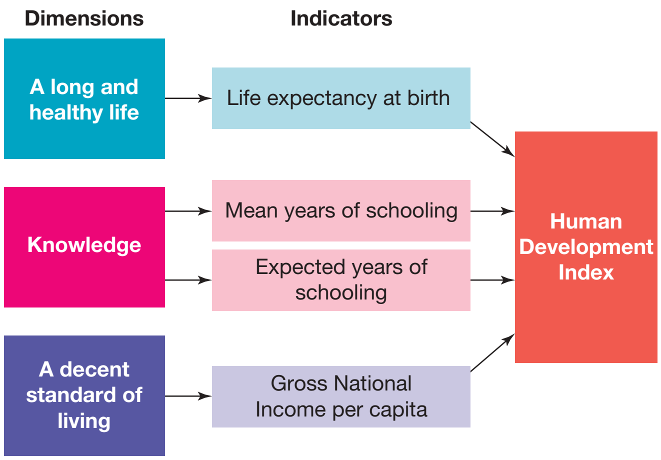
on Resources

Teacher-led video Human Development Index (tlvd-0267)

Measuring the total level of human development of a country is impossible. There are many aspects of people's lives that need to be taken into account, and to collect all of this information on a global scale is not practical. The United Nations has, however, developed a measurement system that attempts to reflect the level of human development being experienced in different countries and regions. It is known as the **Human Development Index (HDI)** and it uses three dimensions and four indicators to create an index that estimates the level of human development experienced in different countries (see **FIGURE 8.20**).

Human Development Index (HDI) a tool developed by the United Nations to measure and rank countries' levels of social and economic development. It provides a single statistic based on three dimensions (a long and healthy life, knowledge and a decent standard of living) and four indicators (life expectancy at birth, mean years of schooling, expected years of schooling and Gross National Income per capita).

FIGURE 8.20 The Human Development Index is based on three dimensions and four indicators.



The dimensions relate to broad concepts that make up a part of the UN's interpretation of human development, whereas the indicators are the measurable aspect of each dimension. The four indicators relate to:

- life expectancy at birth — the number of years of life, on average, remaining to an individual at a particular age if death rates do not change
- mean years of schooling — the average number of years of formal education achieved by those aged 25 years and over
- expected years of schooling — the number of years of formal education expected for a child of school-entrance age
- Gross National Income (GNI) per capita — the overall income of a country after expenses owing to other countries have been paid, divided by the population of the country.

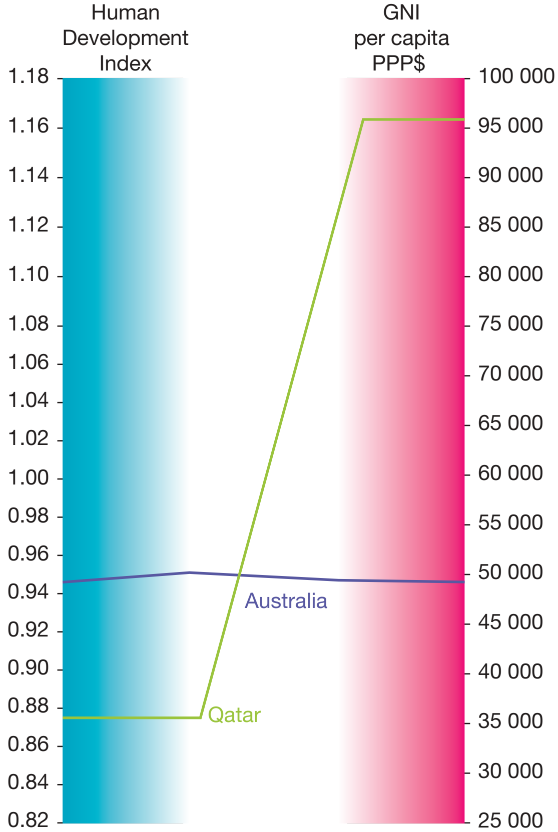
Using the four indicators, the HDI is a number between zero and one (0–1). The closer to one a country's score is, the greater the level of development experienced. Because the HDI uses more than just economic indicators, a clearer picture of the overall standard of people's lives can be seen. The HDI reflects the level of development in a country, allows comparisons to be made between countries and regions, and allows improvements made over time to be monitored.

The United Nations (2022) classifies countries by dividing them into one of four groups according to their HDI:

- very high human development
- high human development
- medium human development
- low human development.

For many countries, higher average incomes correlate to a higher HDI. But high average incomes do not necessarily relate to greater opportunities for education and health, so this pattern is not observed for all countries (see **FIGURE 8.21**).

FIGURE 8.21 The Human Development Index gives a more complete picture than just income.



Source: http://hdr.undp.org/en/content/download-data

EXAM TIP

When answering questions related to the HDI, make sure you read the question carefully. If you are asked to link to indicators of the HDI, you will need to link to life expectancy at birth, mean and expected years of schooling and GNI per capita. If you are asked to link to dimensions, you will need to link to a long and healthy life, knowledge and a decent standard of living.

The Human Development Indices of selected countries are shown in **TABLE 8.2**.

TABLE 8.2 The Human Development Indices of selected countries in 2022

Human Development Index classification	Country	Human Development Index	Rank
Very high human development	Switzerland	0.967	1
	Australia	0.946	10
	United Kingdom	0.940	15
	Malaysia	0.807	63
High human development	China	0.788	75
	Mexico	0.781	77
	Iran	0.780	78
	Jamaica	0.706	115
Medium human development	Iraq	0.673	128
	India	0.644	134
	Cambodia	0.600	148
	Papua New Guinea	0.568	154
Low human development	Pakistan	0.540	164
	Afghanistan	0.462	182
	Mozambique	0.461	183
	Niger	0.394	189

Source: © 2024 United Nations Development Programme.

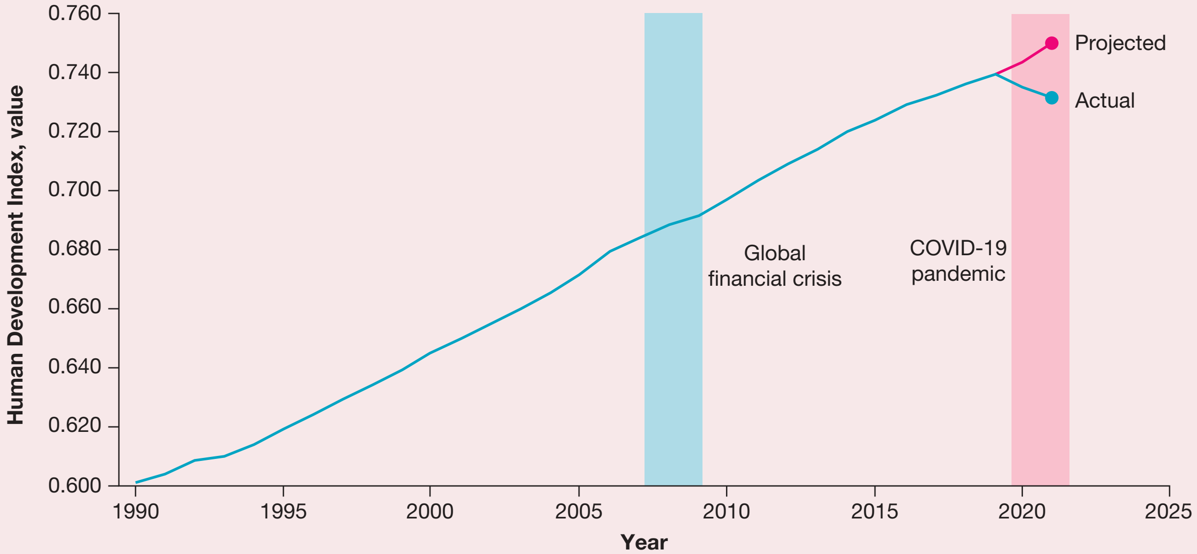
In order for human development to continually improve, the initiatives, policies and strategies employed must be able to be maintained over a long period of time. If this cannot occur, the current level of human development may decrease over future generations.

CASE STUDY

Declines in the HDI

Globally, the HDI had experienced improvements for almost three decades due to sustained improvements in relation to reduced poverty, extended life expectancy and increased access to education. However, in 2020 and 2021, the HDI decreased in 9 out of 10 countries and the global average decreased for the first time since the first report was launched in 1990 (see **FIGURE 8.22**). The decreases were largely the result of the COVID-19 pandemic, global conflict and the impacts associated with climate change.

FIGURE 8.22 The value of the Human Development Index from 1990–2022



Note: *The period of the global financial crisis is indicative*.

Source: HDRO calculations based on data from UNDESA (2022a) and (2022b), UNESCO Institute for Statistics (2022), United Nations Statistics Division (2022), World Bank (2022), Barro and Lee (2018) and IMF (2021) and (2022).

CASE STUDY REVIEW

1. Making reference to the four indicators, explain how issues such as COVID-19, conflict and the impacts of climate change may have contributed to a decrease in the global HDI.
2. Explain how these issues may have impacted human development globally.

8.5.1 Advantages of the HDI

The HDI has a number of advantages for exploring the level of human development experienced globally, as explained here.

- The HDI takes more than just average incomes into account, so it provides a more comprehensive representation of the level of human development experienced:
  - It provides an indication of opportunities for education, which reflects access to knowledge and the ability to enhance choices and capabilities.
  - Average income reflects the ability to access the resources required for a decent standard of living.
  - Life expectancy reflects the ability to lead a long and healthy life.
- The HDI is a composite statistic and, as a result, provides a single statistic relating to the three dimensions and four indicators. This makes comparison easier, because numerous statistics do not have to be sorted through and compared.
- The HDI is effective for analysing progress that is made by countries over time. The four indicators may experience differing rates of progress, but monitoring the overall HDI is useful for analysing the overall progress achieved over time.
- The HDI has captured the attention of the media, policy makers, communities and individuals and, as a result, has raised awareness of the importance of human development. It helps people question and revise current policy choices.

8.5.2 Limitations of the HDI

Although the HDI is a useful and innovative measure, it does have some limitations, as described below.

- Human development is a complex concept and encompasses many aspects of human lives. The HDI only reflects selected aspects of human development and therefore does not capture the richness and depth of human development. Aspects of human development that are not measured by the HDI include gender equality; freedom of speech; freedom of employment; levels of discrimination; empowerment; access to resources such as water, social security and public housing; social inclusion; and political participation.
- The HDI, although moving beyond economic indicators, is still based on averages and, therefore, does not provide an indication of the inequalities that exist within countries. Those from cultural minorities, females, those with disabilities and those in rural areas often experience lower levels of human development than the rest of the population.
- No survey data are collected for the HDI, so people's feelings about their lives and the issues facing communities are not reflected, including social, emotional, mental and spiritual health and wellbeing, and feelings about physical safety, which are important aspects of peoples' lives.
- Collecting data is complex and the reliability of data for measuring human development remains a challenge. Comparisons between countries are often difficult because of the different definitions and methods used in measuring key components of the HDI. Comparisons within countries are often difficult because data are often only collected at a national level.
- In some situations, the concept of human development has been equated with the three dimensions of the HDI, which neglects key aspects of human development including freedom, choices and capabilities.

8.5 Exercises

8.5 Quick quiz on

8.5 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3	2, 4, 5	6, 7

Test your knowledge

1. Identify the measure the UN uses to report on the level of human development experienced in different countries.
2. a. What dimensions are used to assess the HDI of each country?
   b. Explain the indicators that relate to each dimension.
   c. What other factors could be included when calculating the HDI of a country? Explain.
   d. Identify why it might be difficult to include other factors when calculating the HDI.
3. Complete the following table.

Strengths of the HDI	Limitations of the HDI

Apply your knowledge

4. Outline two reasons that might account for Australia having a higher HDI than China.
5. Using your knowledge of the HDI, explain why Australia has a higher Human Development Index than Qatar, even though Qatar has a higher average income (see **FIGURE 8.21**).

6. Explain two likely differences in human development between Australia and Niger based on their respective Human Development Indices (see **TABLE 8.2**).
7. The HDI provides an accurate indication of the level of human development experienced in a country. Discuss.

8.5 Exam questions

Question 1 (4 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.3.a,b*; © VCAA

Country	Human Development Index (HDI) (2021)	Rank
Philippines	0.699	116
Cambodia	0.593	146

Data: adapted from United Nations Development Programme 2022, 'Human Development Reports', <hdr.undp.org/data-center/country-insights#/ranks>

a. The Philippines and Cambodia are both middle-income countries. Refer to two indicators of the Human Development Index (HDI) to **explain** possible reasons for the difference in HDI between the two countries. **2 marks**

b. **Outline** one advantage and one limitation of the Human Development Index. **2 marks**

Question 2 (2 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.8.b*; © VCAA

Country	Human Development Index (HDI) (2019)*	Life expectancy at birth (years) (2019)*	Under-5 mortality rate (per 1000 live births)† (2019)	Maternal mortality ratio (per 100 000 live births) (2015)‡	Deaths due to ischaemic heart disease (% of total deaths) (2019)§
Australia	0.944	83.4	3.6	6	15.59
Sierra Leone	0.452	54.7	109.2	1360	5.6

Source: *United Nations Development Programme (UNDP), *Human Development Report 2020: The Next Frontier: Human Development and the Anthropocene*, UNDP, 2020, New York, pp. 343 and 345; †United Nations Children's Fund (UNICEF), UNICEF Data, <https://data.unicef.org/country/aus/> and <https://data.unicef.org/country/sle/>; ‡M Roser and H Ritchie, 'Maternal Mortality', 2013, published online at OurWorldInData.org, <https://ourworldindata.org/maternal-mortality>; §Institute for Health Metrics and Evaluation, GBD Compare, Viz Hub, https://vizhub.healthdata.org/gbd-compare/

Describe the HDI with reference to each dimension and indicator.

Question 3 (3 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.6;* © VCAA

According to the United Nations Development Programme's Human Development Report, in 2017 Australia had a Human Development Index (HDI) of 0.939, while Papua New Guinea had an HDI of 0.544. The World Bank classifies Australia as a high-income country and Papua New Guinea as a middle-income country.

Use two indicators of human development to **explain** the differences in HDI between Australia and Papua New Guinea.

Question 4 (3 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.9.c;* © VCAA

Indicators of health status for a range of countries

Country	Human Development Index* (2013)	Life expectancy at birth* (2013)	Under-five mortality rate (per 1000 live births)* (2013)	Maternal mortality ration (deaths per 100 000 live births)† (2013)	Births attended by skilled personnel (%)‡**
Australia	0.933	82.5	5	6	99.1
Turkey	0.759	75.3	14	20	91.3
Chad	0.372	51.2	150	980	16.6

Data: *United Nations Development Programme, 'Human Development Reports'
†The World Bank, maternal mortality ratio data
‡World Health Organization, 'Global Health Observatory Data Repository'
**Australia 2009, Turkey 2008, Chad 2010

Turkey's Human Development Index (HDI) increased from 0.496 to 0.759 between 1980 and 2013. In the same period, the average life expectancy rose by 16.6 years.

List three other HDI indicators that may have also increased.

Question 5 (3 marks)

Source: Adapted from *VCE 2014, Health & Human Development Exam, Q.15.a;* © VCAA

Describe the HDI.

More exam questions are available in your learnON title.

8.6 Similarities and differences in health status and human development in low-, middle- and high-income countries

Key knowledge	Key skill
Similarities and differences in health status and human development in low-, middle- and high-income countries, including Australia	Evaluate data to analyse similarities and differences between countries in relation to health status and human development

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• similarities and differences in health status between the different income groups • similarities and differences in human development between the different income groups.	• explain similarities and differences in relation to specific health status indicators between the income groups • explain similarities and differences in relation to specific aspects of human development between the income groups.

Key indicators such as life expectancy, mortality, morbidity and burden of disease provide valuable data that can help people make detailed judgements about the level of health status and human development experienced in different countries.

There are more than 200 countries in the world and health status and human development vary considerably between them. All graphs and tables in this subtopic will show the data relating to the global average, Australia and the World Bank income groups (including upper and lower middle-income countries where possible). When exploring data relating to each type of country, remember that there are variations within and between countries in each income group.

EXAM TIP

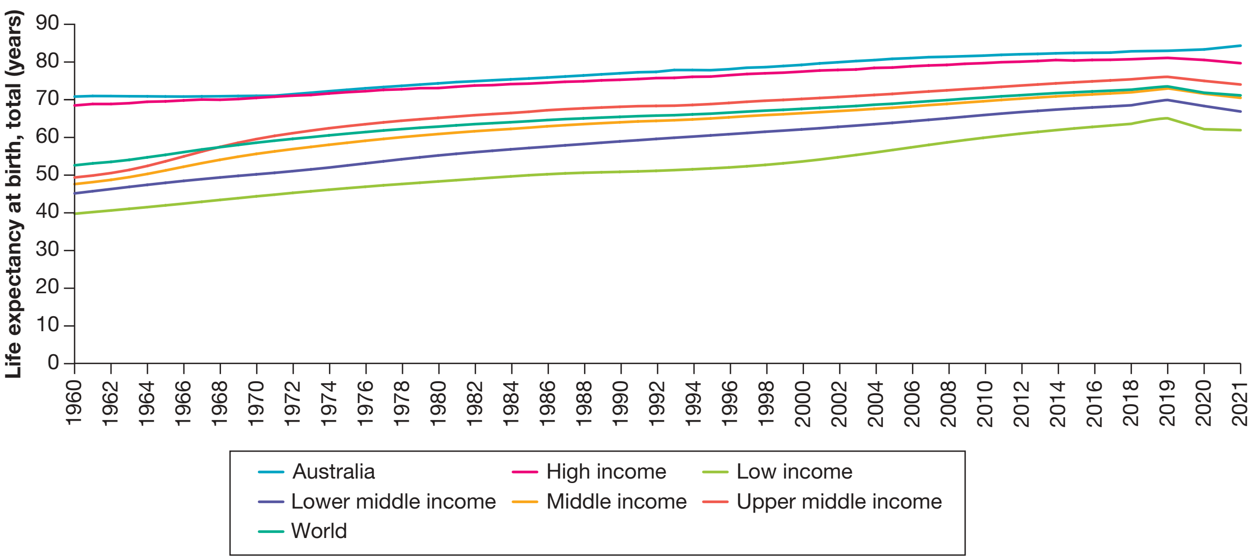
It is important to take note of both similarities and differences when exploring health status and human development in low-, middle- and high-income countries. The differences are often obvious and are reflected in variations in life expectancy and rates of communicable diseases, mortality and DALY. Similarities may be less obvious but include similarities in relation to increasing life expectancy, decreasing under-5 and maternal mortality rates and increasing rates of obesity and associated conditions in many countries.

8.6.1 Life expectancy

Life expectancy has increased in most countries over time (see **FIGURE 8.23**). Globally, life expectancy has more than doubled since 1900, with the most significant gains being achieved since 2000. As well as contributing to similarities and differences in health status, improvements in life expectancy contributed to the increase in the Human Development Index (HDI) experienced by most countries up until 2019. The COVID-19 pandemic caused life expectancy to decrease in many countries in 2020 and 2021, which correlates with the decrease in the HDI experienced by most countries over the same period of time.

However, there are occasionally fluctuations in life expectancy within countries. For example, war, conflict and the spread of infectious diseases can have a significant impact on life expectancy in a relatively short period of time. Low- and middle-income countries are more susceptible to such issues and generally experience more severe fluctuations in life expectancy than high-income countries such as Australia. Many African countries, for example, experienced a significant decrease in life expectancy in the 1990s due to the AIDS epidemic.

FIGURE 8.23 Life expectancy at birth over time, globally, in Australia and in the World Bank income groups



Source: Adapted from http://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=XD&view=chart

The life expectancy and health-adjusted life expectancy (HALE) of the World Bank income groups in 2019 are shown in **FIGURE 8.24**. It can be seen that the lower the average income of the country, the lower the life expectancy and HALE. Although life expectancy and HALE decrease with level of income, a similarity in life expectancy across high-, middle- and low-income countries is that female life expectancy and HALE are higher than those of males. On average, women live longer than men in every country in the world. Overall, female life expectancy is 75.6 years and male life expectancy is 70.5 years. Globally, female life expectancy at birth passed male life expectancy at birth in the 1970s, and in 2019, the difference reached around five years.

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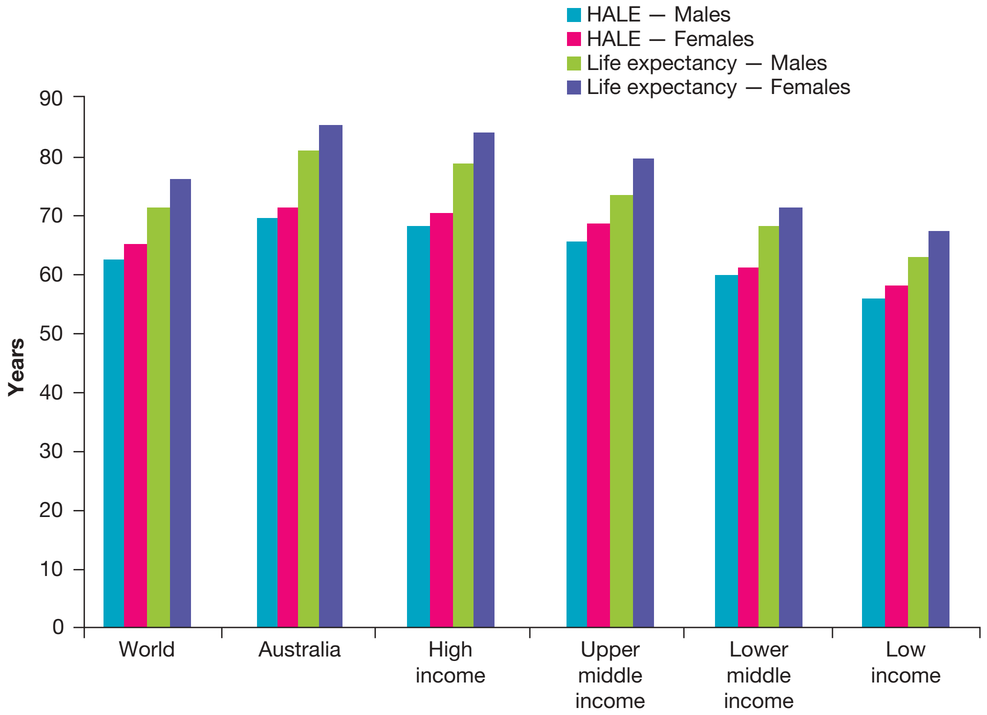
FIGURE 8.24 Health-adjusted life expectancy (HALE) and life expectancy for males and females, globally, in Australia and in the World Bank income groups, 2019



Source: https://vizhub.healthdata.org/gbd-compare/, 2024

8.6.2 Mortality and morbidity

There are huge differences in mortality rates between countries with different income levels. Many factors account for these differences and these will be discussed in detail later. Mortality and morbidity rates give valuable information not only about the causes of death and illness, but about the resources that might be employed to close the gap between high-, middle- and low-income countries.

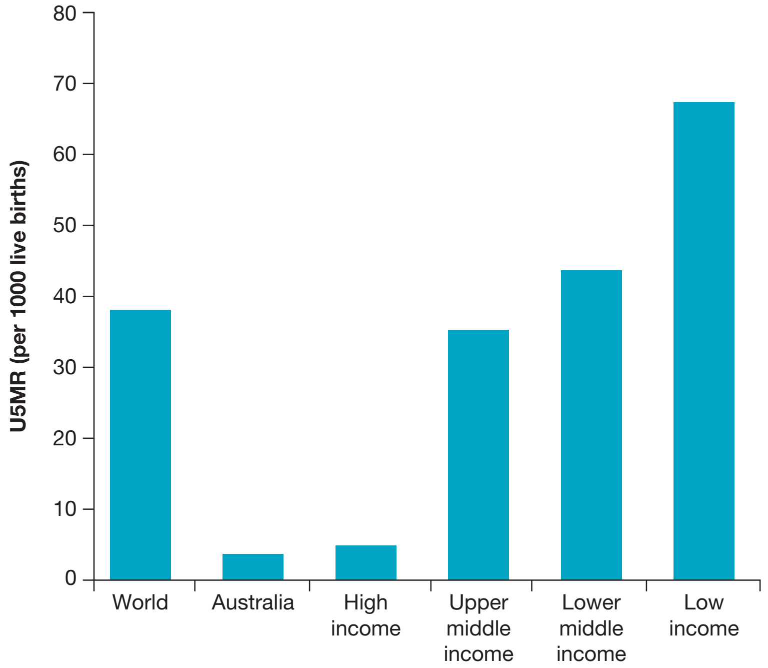
Child mortality and morbidity

The under-5 mortality rate (U5MR) is one of the most important indicators of the level of health and wellbeing experienced in a country. The survival of a child is reliant on numerous factors. U5MR reports the number of deaths that occur in children under five years of age (per 1000 live births), and is a reflection of the:

- nutritional and health status of mothers
- health literacy of mothers
- level of immunisation available
- availability of maternal and child health services
- income and food availability in the family
- availability of clean water and safe sanitation
- overall safety of the child's environment.

The U5MR varies considerably around the world but has improved in most countries over time. Low-income — and, to a lesser extent, middle-income — countries experience a higher U5MR than that in high-income countries like Australia (see **FIGURE 8.25**).

FIGURE 8.25 Under-5 mortality rate (U5MR), globally, in Australia and in the World Bank income groups, 2021



Source: Adapted from http://data.worldbank.org/indicator/SH.DYN.MORT?page=4

Undernutrition is an underlying factor contributing to the high rates of morbidity and mortality experienced in low- and middle-income countries. Children who are undernourished have an underdeveloped immune system and struggle to fight off disease as effectively as those who are adequately nourished. As a result, **communicable diseases** (such as diarrhoeal diseases, **malaria**, **human immunodeficiency virus (HIV)**) and **acquired immune deficiency syndrome (AIDS)**, which cause few deaths in Australia, have a huge impact on mortality figures in low- and middle-income countries (see **TABLE 8.3**).

Australian children are more likely to experience mortality and morbidity due to congenital malformations, premature births and accidental causes such as injuries and poisoning.

communicable diseases infectious diseases that are transmitted from the environment, including through air, water, food and other infected organisms (including other humans)

malaria a communicable disease that is transmitted via infected mosquitoes

human immunodeficiency virus (HIV) an infection that results in the gradual depletion and weakening of the immune system, resulting in increased susceptibility to other infections such as pneumonia and tuberculosis

acquired immune deficiency syndrome (AIDS) the most advanced stage of HIV infection

FIGURE 8.26 Deaths due to diseases like malaria are uncommon in Australia because of adequate health care and good nutrition. Children contracting infectious disease in low- and middle-income countries are not always as fortunate.

TABLE 8.3 Under-5 mortality rates for selected conditions, per 100 000, 2019

	Diarrhoeal	HIV/AIDS	Malaria	Injuries	Prematurity	Birth asphyxia and birth trauma	Congenital malformations
World	75.5	7.38	53.8	31.5	100.1	85.5	71.5
Australia	0.28	0.042	0	6.1	12.6	10.7	18.7
High income	0.48	0.17	0	9.3	21.2	6.7	24.5
Upper middle income	6.7	3.0	0.45	23.0	46.1	22.5	51.7
Lower middle income	95.7	6.6	49.2	31.6	129.6	112.4	76.0
Low income	168.7	20.7	181.0	57.2	135.0	152.3	115.8

Source: https://vizhub.healthdata.org/gbd-compare/, 2024

Since 1990, the global rate and number of child deaths have been reduced by more than half. Despite this progress, an estimated 4.9 million children under the age of five died in 2022, equivalent to almost 10 every minute. Around 99 per cent of these deaths occurred in low- and middle-income countries. As a result, the causes of childhood deaths in these countries are prominent when examining global figures.

Adult mortality and morbidity

Child mortality and morbidity patterns provide a valuable indicator of the overall health and wellbeing of a country. However, some countries experience low child mortality but high levels of adult mortality. This can be due to the impact of lifestyle factors such as tobacco smoking, excessive alcohol consumption and unsafe practices leading to HIV/AIDS, such as engaging in unprotected sex and illicit drug use involving sharing needles. To ignore adult mortality and morbidity figures would be to ignore an aspect of health status that requires attention in many low-, middle- and high-income countries.

Premature mortality among adults generally increases as average incomes decrease. **FIGURE 8.27** shows the proportion of people who can expect to live to age 65 globally, in Australia and in each of the four income groups. As with child mortality and morbidity, the causes of mortality and morbidity for adults differ depending on the level of income.

Although communicable diseases such as HIV/AIDS, tuberculosis, COVID-19 and influenza contribute to significant differences in morbidity and mortality rates between adults in high-, middle- and low-income countries, **non-communicable diseases**, such as cancer, heart disease and type 2 diabetes, are also high in countries with lower incomes (see **FIGURE 8.28**) and have increased in line with increasing life expectancies and rising rates of obesity. This creates a **double burden of disease** in many countries. It puts an added strain on the relatively basic health care available and contributes to poorer health status. When adults in a family become ill, the children may have to take care of the adults and themselves. This adds to the cycle of poverty and ill health.

non-communicable diseases conditions that are usually long-lasting and generally progress slowly. Non-communicable diseases are not spread through the environment and include cardiovascular disease, cancer, respiratory diseases and diabetes.

double burden of disease when conditions associated with both poverty and wealth, such as undernuitrition and obesity, exist side-by-side in one community

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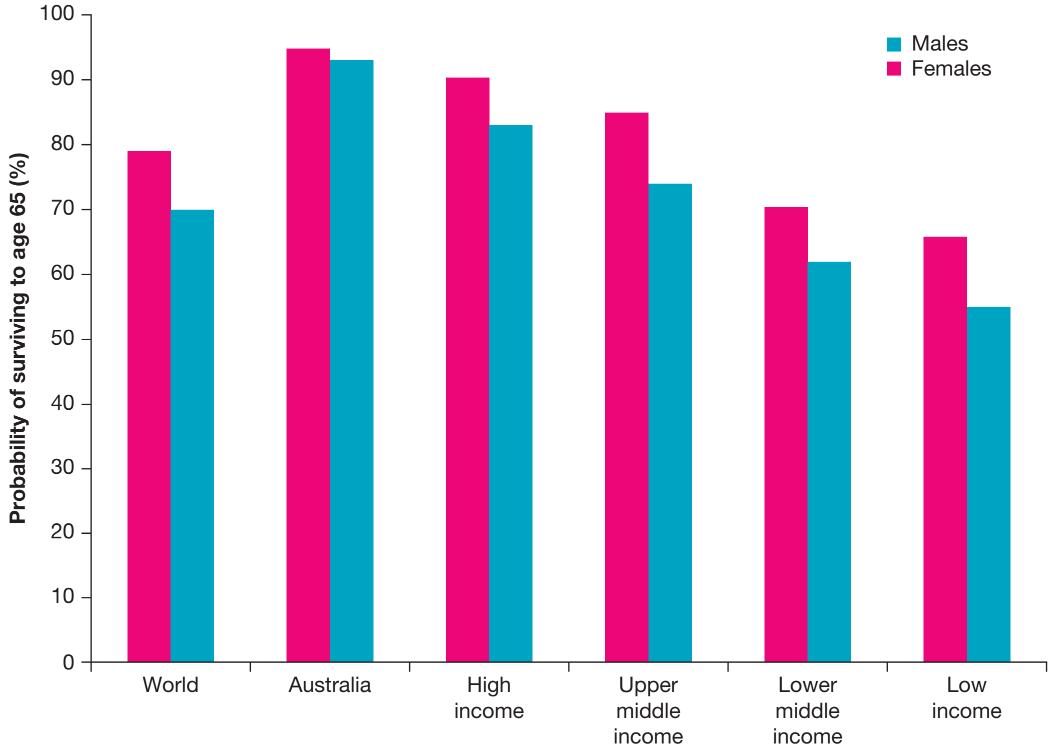
FIGURE 8.27 Proportion of the population that can expect to live to age 65 (%), males and females, 2021



Source: Adapted from http://data.worldbank.org/indicator/SP.DYN.TO65.FE.ZS?locations=XM&view=chart

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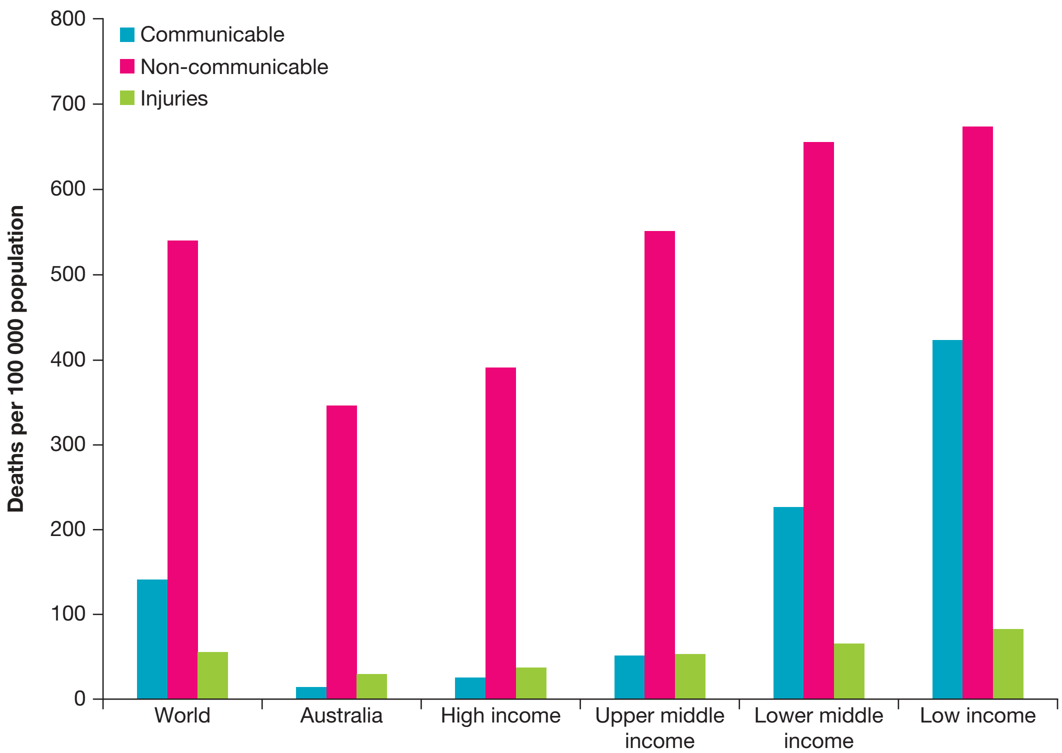
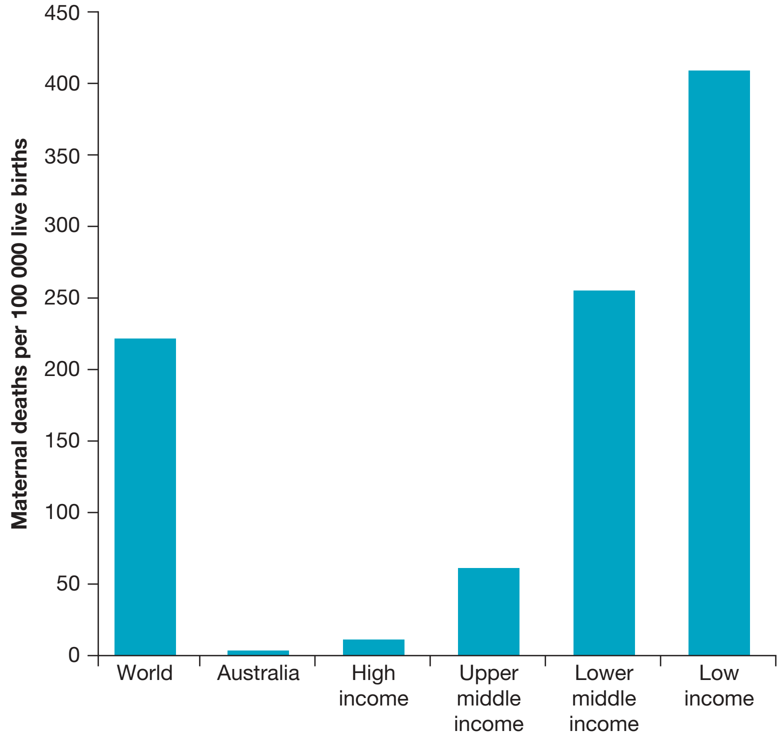
FIGURE 8.28 Mortality rates for broad disease and injury groups, — globally, in Australia and in the World Bank income groups, 2019



Source: Adapted from http://vizhub.healthdata.org/gbd-compare

Other causes of mortality and morbidity for people in low- and middle-income countries include those associated with pregnancy and childbirth, with maternal mortality rates being high compared to those in Australia (see **FIGURE 8.29**). Many of the problems that pregnant women face in low- and some middle-income countries are associated with the birthing procedure and lack of sufficient and available health care. This is a problem not often faced in Australia.

FIGURE 8.29 Maternal mortality ratio (per 100 000 live births), 2020



Source: Adapted from http://data.worldbank.org/indicator/SH.STA.MMRT?locations=RU

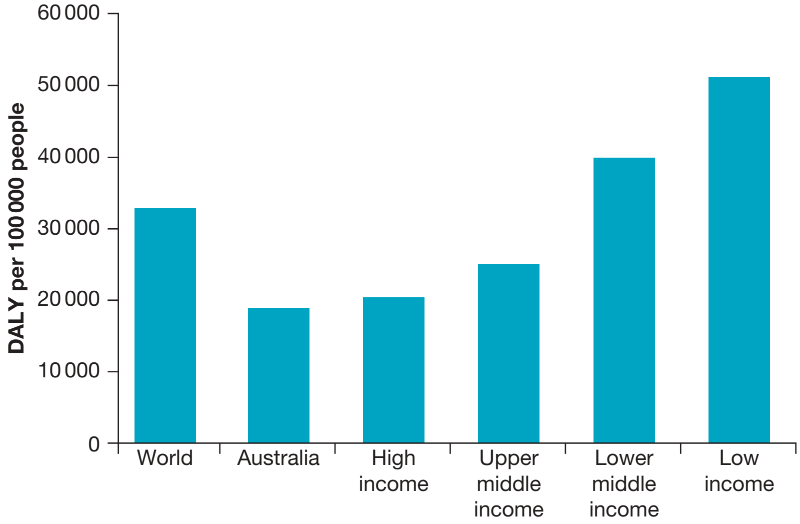
8.6.3 Burden of disease

The COVID-19 pandemic contributed to delays in data collection both nationally and globally, and as a result, some data in this section are older than would normally be expected. However, data generally change slowly, so this information is still relevant when used to make judgements about health status in Australia today.

As discussed earlier, the rates of communicable diseases, non-communicable diseases and injuries are higher in middle- and, particularly, low-income countries when compared to high-income countries like Australia, contributing to higher rates of morbidity and mortality. As a result, low- and middle-income countries experience a greater burden of disease and higher rates of DALY compared to Australia (see **FIGURE 8.30**).

Years of life lost (YLL) rates for most causes are higher in low- and middle-income countries than in high-income countries, including Australia. Australia's well-developed health system means that many conditions that can cause premature death are often effectively treated, and this can extend life expectancy and reduce the rate of YLL that otherwise might have occurred. Treatment options are often limited in low- and middle-income countries, which can increase the risk of premature death and result in a higher rate of YLL (see **FIGURE 8.31**).

FIGURE 8.30 DALY per 100 000 people, 2019



Source: Adapted from http://vizhub.healthdata.org/gbd-compare

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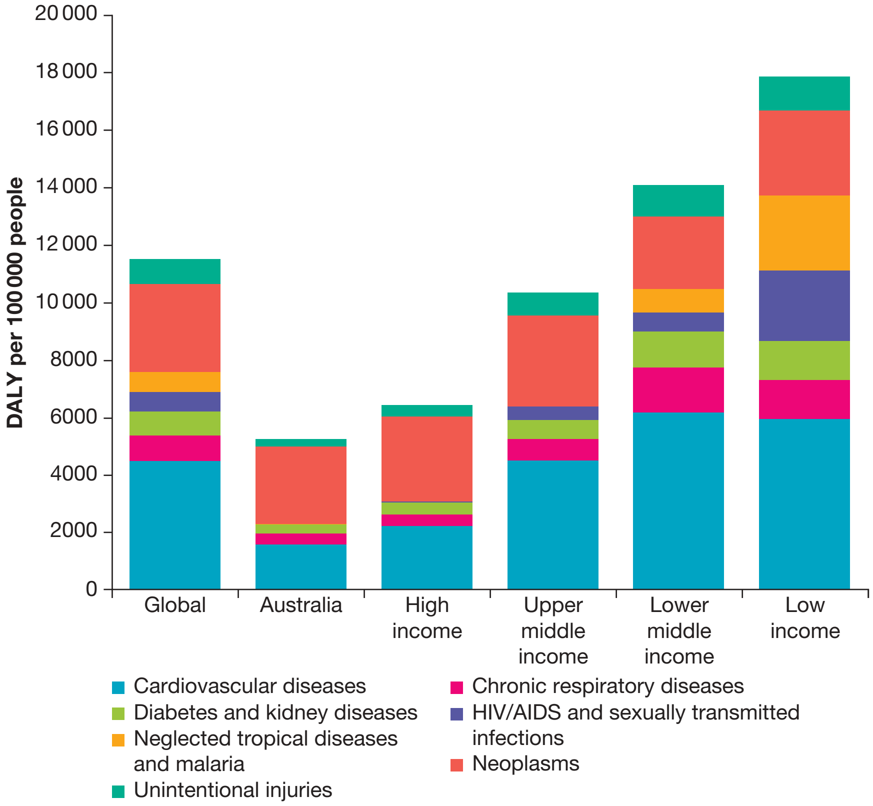
FIGURE 8.31 YLL rate in selected groups and Australia due to selected causes, 2019



Source: https://vizhub.healthdata.org/gbd-compare/

When examining the proportion of total YLL contributed by non-communicable diseases such as cancer and cardiovascular disease, it can be seen that these conditions cause a higher proportion of YLL in Australia than in low-income countries (see **FIGURE 8.32**). It is important to remember, however, that overall YLL rates are significantly higher in low- and middle-income countries. As a result, most low- and middle-income countries still experience greater rates of YLL due to non-communicable diseases than Australia, but communicable diseases contribute even more YLL and therefore represent a greater proportion of the total.

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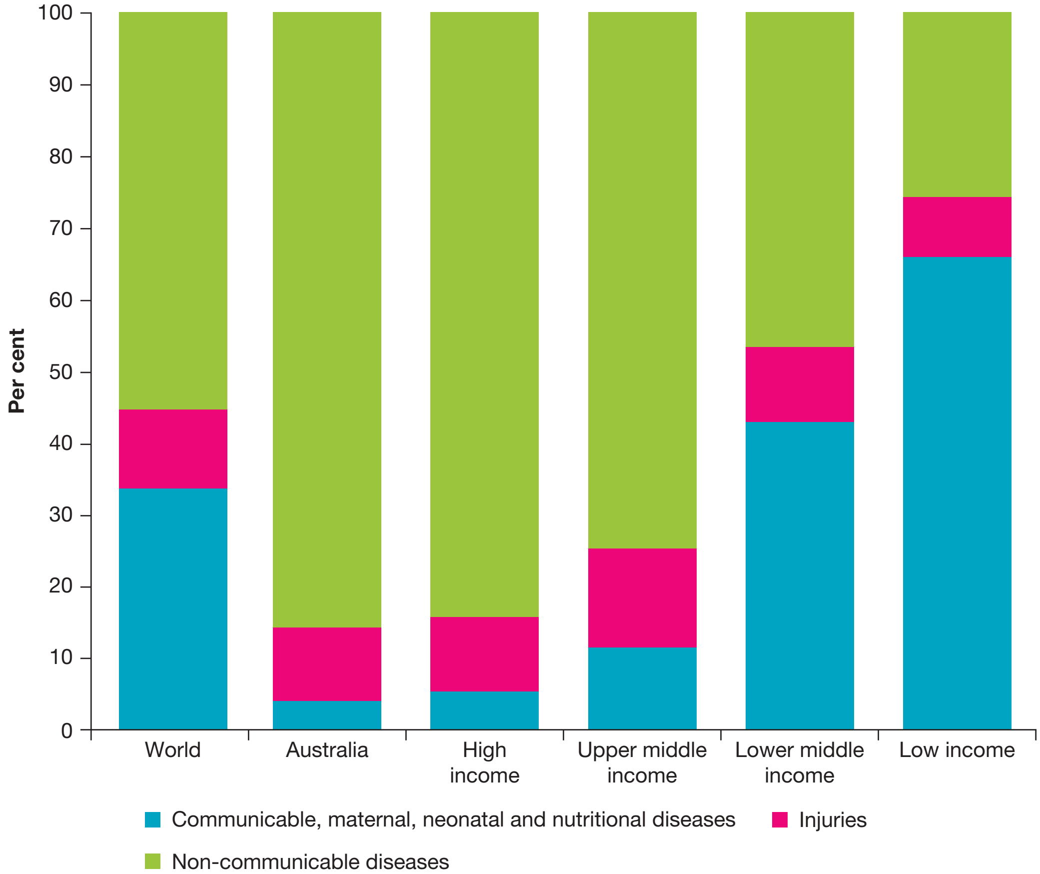
FIGURE 8.32 Years of life lost to certain conditions as a percentage of the total years of life lost, 2019



Source: https://vizhub.healthdata.org/gbd-compare/

Being able to treat many conditions in Australia can reduce the rate of YLL but often increases the rate of years lived with disability (YLD) as people live with a range of diseases for long periods. In low- and middle-income countries, diseases are more likely to cause death, and this contributes to the higher rate of YLL in these countries compared to Australia.

The rate of YLD generally increases with life expectancy. When people live longer, they are more likely to experience chronic non-communicable conditions such as cardiovascular disease, cancer, musculoskeletal conditions including arthritis and osteoporosis, respiratory diseases, and neurological conditions such as dementia. As a result of this relationship, the rate of non-communicable diseases has increased in many low- and middle-income countries over time, but has not yet reached the level experienced in Australia because there is still a significant gap in life expectancy between the three types of countries.

FIGURE 8.33 shows the rate of YLD in Australia compared to countries in selected income groups.

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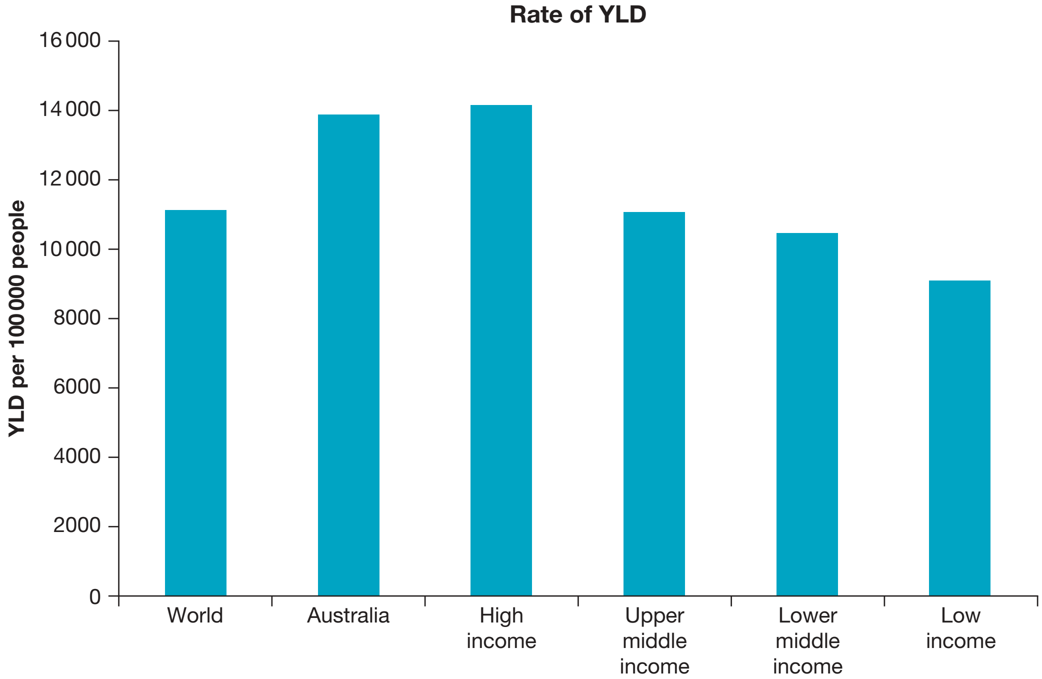
FIGURE 8.33 YLD rate in selected groups and Australia, 2019



Source: https://vizhub.healthdata.org/gbd-compare/

8.6.4 Human development

The level of human development experienced increased in most countries between 1990 and 2019. Events such as conflict, the COVID-19 pandemic and the impacts of climate change have reduced this progress in many countries over recent years. The decreases in human development have generally been smaller in high-income countries compared to low-income countries and differences in the actual level of human development have been higher in high-income countries over time.

The differences in health status between the different income groups also contribute to variations in the level of human development experienced. For example:

- Higher under-5 mortality rates in low-income countries mean that people do not have the same opportunity to lead long and healthy lives as those in high-income countries.
- Higher rates of infectious diseases can decrease the ability of children to expand their choices and capabilities in relation to numeracy and literacy by attending school.
- Higher adult mortality rates in low-income countries can leave children orphaned. Without parents to provide care, these children are less likely to access the resources required for a decent standard of living, such as housing, safe water and nutritious food.

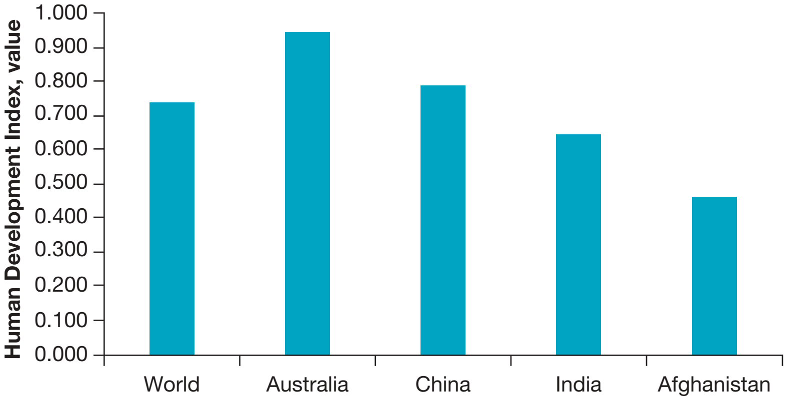
Exploring differences in the HDI between income groups also provides an opportunity to analyse variations in the level of human development experienced. Data are not available for the HDI in relation to the World Bank income groups, but using one country from each group can allow for data to be compared. In this section, the countries compared will be:

Income group	Country	HDI
High income	Australia	0.946 (Very high)
Upper middle income	China	0.788 (High)
Lower middle income	India	0.644 (Medium)
Low income	Afghanistan	0.462 (Low)

Human Development Index

The Human Development Index generally decreases from high-income to middle-income and from middle-income to low-income as shown in **FIGURE 8.34**.

FIGURE 8.34 The HDI of the selected countries, 2022



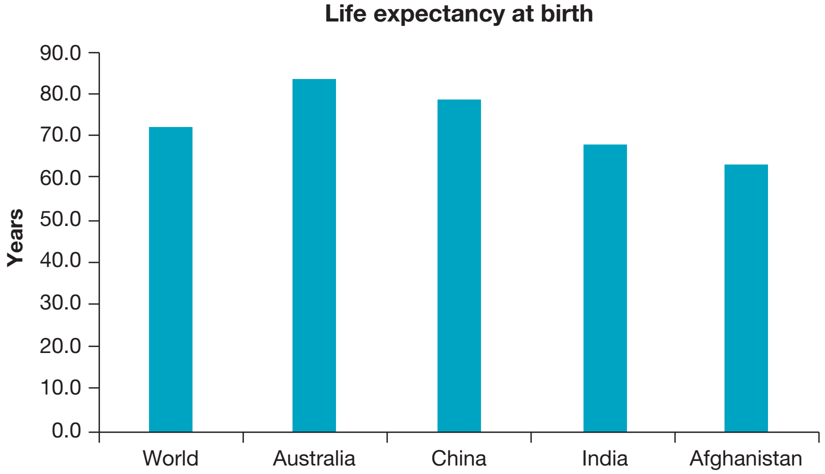
Source: Adapted from https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

Although all four indicators will usually follow the same pattern as the HDI (i.e. decreasing between each income group), sometimes a country will have poorer levels of one or more indicators, but will still have a higher HDI than another country. This can be the result of a more significant difference in the other indicators.

Life expectancy at birth

Life expectancy at birth over time is explored for the income groups in **FIGURE 8.35** and the data shows the same pattern for the four selected countries.

FIGURE 8.35 Life expectancy at birth in the selected countries, 2022



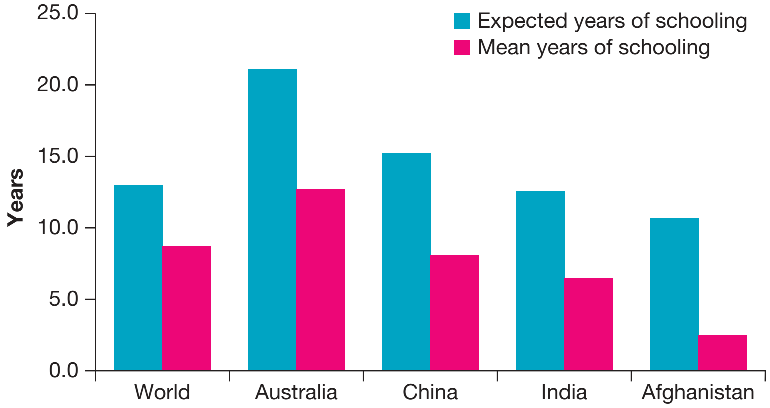
Source: Adapted from https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

Although life expectancy at birth increased for most countries between 1990 and 2019, there is still a significant difference in the number of years a person can expect to live across the four income groups. This reflects a difference in the ability of people to lead a long and healthy life, a key component of human development.

Mean and expected years of schooling

Mean and expected years of schooling reflect the ability of people to access knowledge and are generally higher in higher income countries.

FIGURE 8.36 Mean and expected years of schooling in the selected countries, 2022



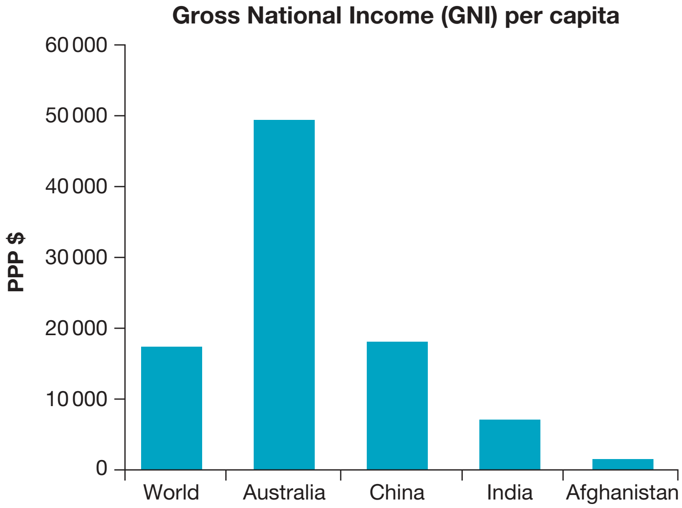
Source: Adapted from https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

Lack of access to education can also limit the ability of children to develop their capabilities in relation to skills that will allow them to gain meaningful and well-paid employment in later life. As a result, those in lower income countries are less likely to have choices in relation to their employment and the ability to afford the resources required for a decent standard of living such as health care and leisure activities.

GNI per capita

As would be expected, as income group decreases, so does the GNI per capita, as shown in **FIGURE 8.37**.

FIGURE 8.37 Gross National Income (GNI) per capita in the selected countries, 2022



Source: Adapted from https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

The impact of a lower GNI per capita contributes to many differences in the level of human development experienced. For example, low income means:

- People are less able to afford education for their children, decreasing access to knowledge.
- Accessing resources such as adequate housing and food may be more challenging, decreasing the ability of people to lead lives according to their needs and interests.
- People are less able to afford health care, which can prevent them from leading long and healthy lives.
- Families may struggle to care for all of their children. This can contribute to higher rates of child marriages because this means one less mouth to feed. This decreases the ability of people to participate in the decision affecting their lives.
- People are often forced into laborious jobs that don't pay well. This can mean that people spend more time working to support themselves, which can reduce their ability to participate in the life of the community such as attending community events and joining social groups.

EXAM TIP

When comparing health status or human development of two income groups, it is important to mention both groups in your response. Making reference to only one group does not demonstrate a comparison and will not receive full marks.

As explored in this subtopic, there are many similarities and differences that exist between income groups and these are summarised in **TABLE 8.4**.

TABLE 8.4 Similarities and differences in low-, middle- and high-income countries

Similarities	Differences
Considerable variations exist within each country, regardless of income group.	Life expectancy generally fluctuates more in low- and middle-income countries compared to high-income countries.
Life expectancy increased in most countries between 1990 and 2019. In 2020 and 2021, COVID-19 caused decreases in life expectancy for many countries from each income group.	Life expectancy is considerably higher in high-income countries compared to low-income countries (and to a lesser extent, middle-income countries).
Infant, under-5 and maternal mortality rates are decreasing in all income groups.	Mortality rates (including infant, under-5 and maternal) increase as average income decreases.
Non-communicable diseases (including cancer and cardiovascular disease) account for the greatest proportion of deaths in all countries.	Mortality rates due to infectious diseases (including HIV, malaria, tuberculosis and waterborne diseases) are considerably higher in low-income countries.
Rates of obesity and associated conditions are increasing in all income groups.	Many middle-income countries and some low-income countries experience a double burden of disease, in which conditions associated with under- and over-nutrition occur simultaneously.
The HDI and levels of human development increased in all income groups between 1990 and 2019.	The rate of YLD increases as average income increases.
All income groups experienced a decrease in the HDI and levels of human development in 2020 and 2021.	The rate of DALY and YLL increase as average income decreases.
	The HDI decreases as average income decreases, as does the level of human development experienced.

8.6 Activities

1. Access the **HIV/AIDS** weblink and worksheet in the Resources tab and then complete the worksheet.
2. Access the **Malaria** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital documents HIV/AIDS worksheet (doc-32222)
Malaria worksheet (doc-32216)

Weblinks HIV/AIDS
Malaria

8.6 Exercises

8.6 Quick quiz on | **8.6 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 4, 5	3, 6, 7, 8, 12, 13, 15	9, 10, 11, 14, 16

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Test your knowledge

1. Using data, outline the general global trend in life expectancy since 1900.
2. Identify one similarity and one difference in life expectancy among the income groups shown in **FIGURE 8.23**.
3. Compare Australia's life expectancy and health-adjusted life expectancy to low- and middle-income countries.
4. Using data, outline the trend among the income groups evident in **FIGURE 8.25**.
5. What are the leading causes of mortality in low- and middle-income countries compared to Australia?
6. Explain why undernutrition is an underlying factor in many causes of mortality and morbidity in low- and middle-income countries.
7. Identify one difference and one similarity in mortality rates from non-communicable diseases between Australia and low-income countries from **FIGURE 8.28**.

Apply your knowledge

8. Suggest two reasons for the differences in U5MR experienced by low- and middle-income countries when compared to Australia.
9. Why do you think non-communicable diseases don't receive a lot of attention in low-income countries, where rates are often higher than in Australia?
10. Suggest reasons why communicable diseases are more common and often spread further in low- and middle-income countries compared with Australia.
11. a. Outline the relationship between average income and rate of DALY as shown in **FIGURE 8.30**.
    b. Explain two reasons for why this relationship exists.
12. Discuss differences in rates of YLL between Australia and low- and middle-income countries shown in **FIGURE 8.31**.
13. Identify one similarity and one difference between Australia and low-income countries, as shown in **FIGURE 8.32**.
14. Explain why the rate of YLD may be lower in low-income countries compared to Australia, as shown in **FIGURE 8.33**.
15. Explain three likely differences in the level of human development experienced between high- and low-income countries.
16. a. Outline the similarity between high- and low-income countries in relation to human development between 1990 and 2019.
    b. Outline the similarity between all income groups in relation to human development in 2020 and 2021.

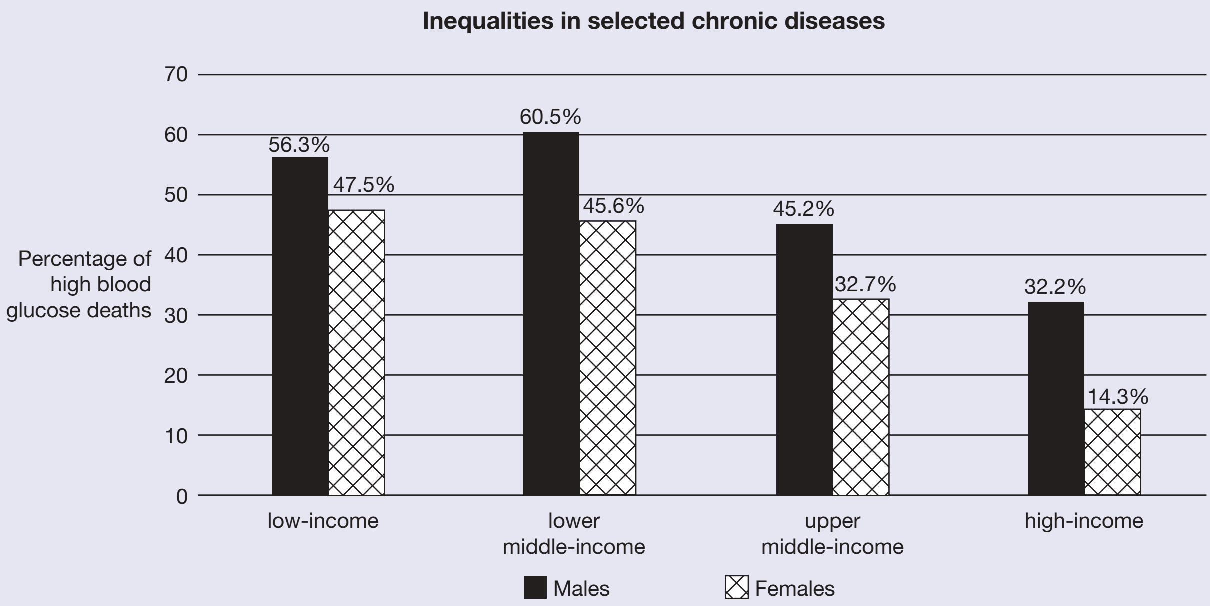
8.6 Exam questions

Question 1 (1 mark)

Source: Adapted from *VCE 2017, Health and Human Development Exam, Q.9.a;* © VCAA

The graph shows the percentage of deaths that were attributed to high blood glucose levels for males and females aged 20–69 years according to country income group in 2012.

In **which** country income group is the percentage of high blood glucose deaths the highest for males?



Source: World Health Organization, *Global Report on Diabetes*, Geneva, 2016, p. 23

Question 2 (2 marks)

Source: *VCE 2015, Health and Human Development Exam, Q.9.a;* © VCAA

Indicators of health status for a range of countries

Country	Human Development Index* (2013)	Life expectancy at birth* (2013)	Under-5 mortality rate (per 1000 live births)* (2013)	Maternal mortality ratio (deaths per 100 000 live births)† (2013)	Births attended by skilled personnel (%)‡**
Australia	0.933	82.5	5	6	99.1
Turkey	0.759	75.3	14	20	91.3
Chad	0.375	51.2	150	980	16.6

Data: *United Nations Development Programme, 'Human Development Reports'
† The World Bank, maternal mortality ratio data
‡ World Health Organization, 'Global Health Observatory Data Repository'
** Australia 2009, Turkey 2008, Chad 2010

Using data from the table, **describe** the health status of Australia compared to Chad.

Question 3 (4 marks)

Comparison of key indicators for high-, middle- and low-income countries

Country	Income classification	Life expectancy at birth (years) (2015)	Adult mortality rate per 1000 (2012)	Under-5 mortality rate per 1000 (2015)
Australia	High-income country	83	59	4
China	Upper middle-income country	75	85	13
Papua New Guinea	Lower middle-income country	62	275	61
Zimbabwe	Low-income country	58	336	89

Source: Adapted from: www.who.int

Using data from the table, **describe** two differences in health status between a low-income country and a high-income country.

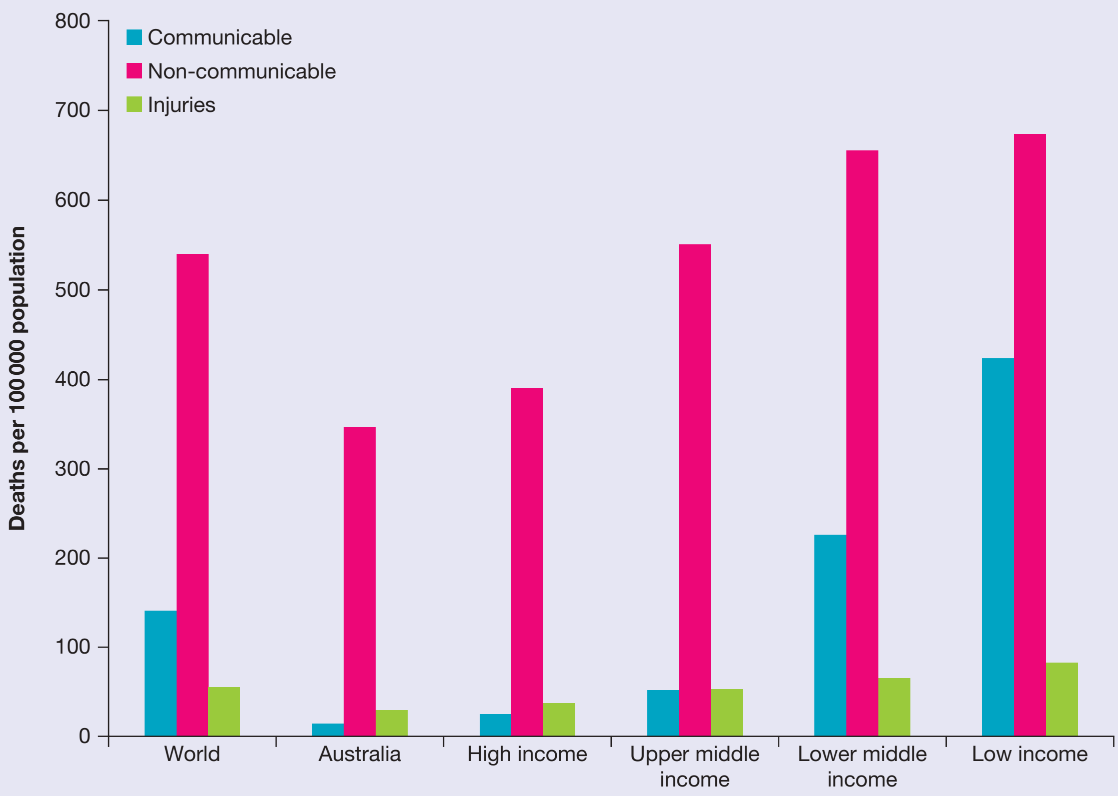
Question 4 (2 marks)

Give two reasons **why** the under-5 mortality rate in Australia is low.

Question 5 (2 marks)

Identify two similarities in mortality rates between low-, middle- and high-income countries.

Mortality rates for selected countries – globally, in Australia and in the World Bank income groups, 2015



Source: Adapted from http://vizhub.healthdata.org/gbd-compare

More exam questions are available in your learnON title.

8.7 Access to safe water and sanitation as factors affecting health status and human development

Key knowledge	Key skills
Factors that contribute to similarities and differences in health status and human development: – access to safe water – sanitation	• Analyse factors that contribute to health status and human development in different countries • Compare health data and other information to analyse reasons for health inequalities within and between countries

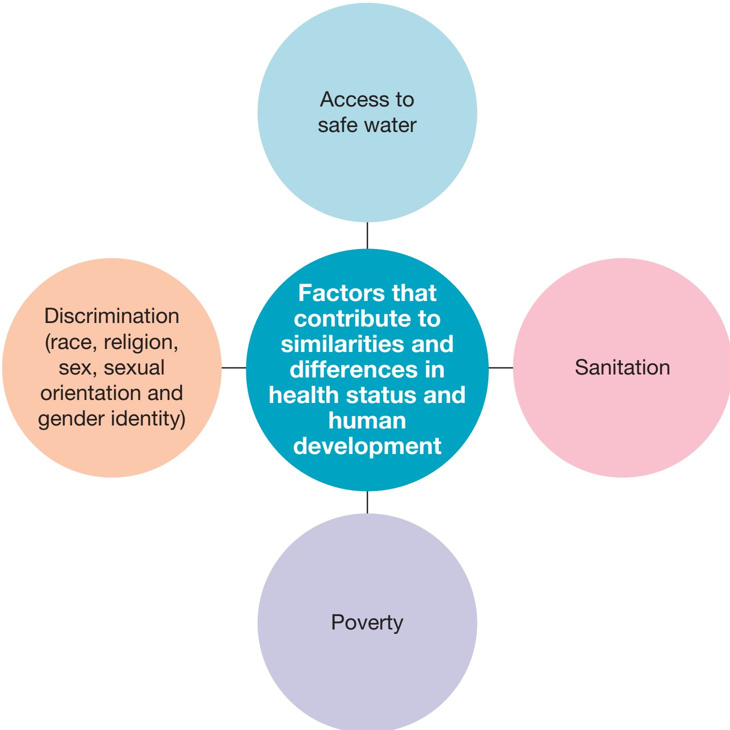
Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by safe water and sanitation • how water and sanitation contribute to similarities and differences in health status and human development within and between the income groups.	• use data and other information to identify health inequalities relating to safe water and sanitation and analyse why they occur • make meaningful links from water and sanitation to specific differences in relation to health status and human development within and between the income groups.

There are many factors that contribute to the similarities and differences in health status and human development experienced in low-, middle- and high-income countries. An understanding of these factors is essential in reducing the inequalities that exist globally.

Although each factor will be considered separately, it is often a combination of factors that impacts on health status and human development. The factors shown in **FIGURE 8.38** will be examined in the rest of this topic. Safe water and sanitation data are often considered together, but the impact of each of these factors will be explored separately where possible.

FIGURE 8.38 Factors that contribute to similarities and differences in health status and burden of disease globally



Unfortunately, many communities that lack access to safe water also suffer from lack of sanitation systems, and this contributes to lower health status and levels of human development. People living in rural and remote areas are often more likely to experience lack of access to safe water and sanitation because the infrastructure required to provide these resources is often unavailable.

8.7.1 Access to safe water

Sometimes referred to as 'clean water', safe water refers to water that is not contaminated with disease-causing pathogens such as bacteria and viruses, or chemicals such as lead and mercury. Safe water is required for a number of purposes, including:

- consumption — the human body is 55–75 per cent water. Water is a significant component of many body tissues and is essential for the optimal functioning of every cell in the body. The average adult loses around 2.5–3 litres of water per day and, because the body can't store water for later use, it must be consumed regularly to ensure survival.
- food preparation and cooking — clean water is essential to wash food products and remove harmful pathogens that could otherwise lead to illness. Cooking often requires clean water to ensure food items are safe for human consumption.
- washing and hygiene — clean water is required to maintain high levels of personal hygiene and prevents infection through handwashing, bathing and showering.
- agriculture and production — clean water is required for the production of food and other products such as clothing and electricity.

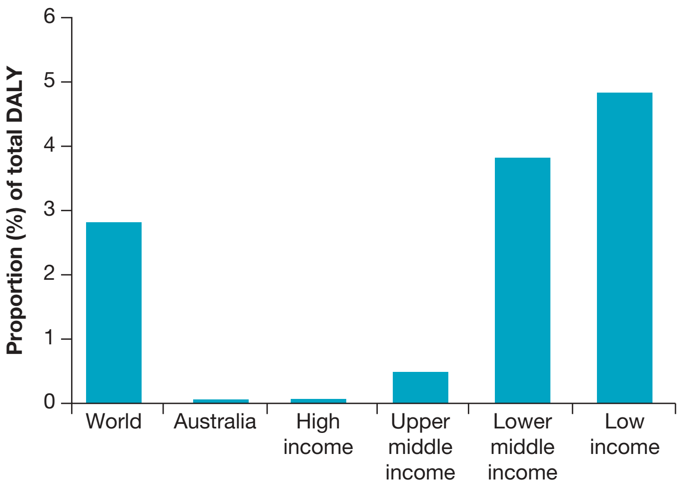
FIGURE 8.39 Safe water is essential for human survival.

How safe water affects health status

The average person requires a minimum of around 50 litres of safe water per day to survive, so a reliable and clean source of water is essential for every human.

In 2022, 2.2 billion, or one in three, people globally, did not have access to clean water that was free from contamination and available when needed in their home. This deficit is responsible for around 3 per cent of total global DALY and just over 1.2 million deaths. A vast majority of the impact is experienced in low- and lower middle-income countries (see **FIGURE 8.40**).

FIGURE 8.40 Proportion of total DALY attributable to lack of access to safe water



Source: Adapted from http://vizhub.healthdata.org/gbd-compare

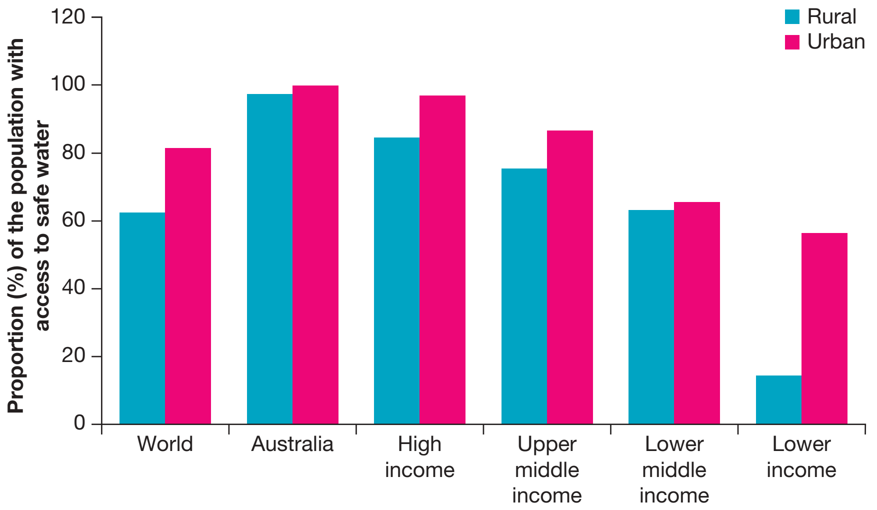
Australian cities have a well-established and reliable water supply. Some rural and remote areas in Australia do not possess the same quality of infrastructure and water quality can suffer as a result, especially in remote Aboriginal and Torres Strait Islander communities. Interruptions to safe water can also occur as a result of natural disasters such as floods, however, emergency provisions can generally be supplied in Australia when clean tap water is unavailable.

People in low- and middle-countries are at greater risk of the effects of unsafe water because they are less likely to have the infrastructure to supply clean drinking water effectively, especially if they live in rural and remote areas (see **FIGURE 8.41**). Governments of these countries often lack strict controls on water quality and monitoring, or the money to provide clean water to those who need it.

Many diseases, including gastroenteritis, diarrhoea, dysentery and cholera, are waterborne and transmitted easily from the water source to the individual. Children are particularly susceptible to the impacts of unsafe water because they are likely to experience repeated infection and account for a high proportion of total deaths from water-related causes, including:

- diarrhoea, which causes 1.1 million preventable child deaths per year, nearly all in low- and middle-income countries. Diarrhoea can be caused by drinking unsafe water. Bacteria and other microbes present in the water cause disease and illness such as cholera and dysentery. As the body dehydrates because of the diarrhoea, more water is consumed to relieve thirst, creating an often deadly cycle.
- undernutrition, which causes 450 000 preventable child deaths per year, with most of these occurring in low- and middle-income countries. Many cases of undernutrition are compounded by repeated bouts of diarrhoea and infections. This reduces the efficient functioning of the immune system, making the individual more susceptible to secondary infections and, in many cases, death.

FIGURE 8.41 Proportion of urban and rural populations with access to safe water (%), 2022



Source: Adapted from http://data.worldbank.org/indicator/SH.H2O.SAFE.UR.ZS and https://waterfutures.anu.edu.au/

Stagnant water (i.e. water without a current or flow) is required for malaria-carrying mosquitoes and many disease-causing bacteria to breed. Uncontrolled watercourses such as swamps and dams can provide perfect conditions for these organisms to reproduce. These conditions are also significant contributors to the differences in health status between low-, middle- and high-income countries.

When safe water is not readily available, people often have to trek long distances to collect water. This contributes significantly to the development of physical ailments such as musculoskeletal conditions and increases their incidence in low- and middle-income countries.

FIGURE 8.42 Unsafe water is a leading cause of death globally, but is not a significant issue in most high-income countries, including Australia.

How safe water affects human development

Lack of access to safe water contributes to hundreds of millions of missed school days each year through a combination of ill health and time spent collecting water. This reduces levels of education and the ability of children to enhance their choices and capabilities in relation to future employment. In turn, this impacts the potential to earn a decent income in the future and access the resources required for a decent standard of living. This contributes to a cycle of poverty that is responsible for many of the differences in humans between low-, middle- and high-income countries.

In communities where water is not available, it is often women who have to trek long distances to collect water and then carry it back. They may have to make this trip many times in one day. This reduces their ability to participate in the life of the community by pursuing education or paid employment. According to the World Health Organization, women and children spend 125 million hours every day collecting water, which translates to $24 billion in lost economic benefits each year. This contributes to the difference in human development in low- and middle-income countries by affecting the economy and reducing the capacity of governments to provide resources required for a decent standard of living, such as health care.

8.7.2 Access to sanitation

Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces, but can also refer to the maintenance of hygienic conditions through services such as garbage collection and wastewater disposal. Adequate sanitation requires a flushing toilet or covered **latrine** and the hygienic removal or containment of the waste products.

latrine a simple communal toilet facility, often a trench dug in the ground or a pit

Globally, more than 2 billion, or one in four, people lack access to basic sanitation. Almost 700 million of these people defecate in the open, for example in street gutters, behind bushes or into open bodies of water. This waste often seeps into water sources and contaminates the water that people will eventually consume.

FIGURE 8.43 People queue to use a toilet in Nigeria.

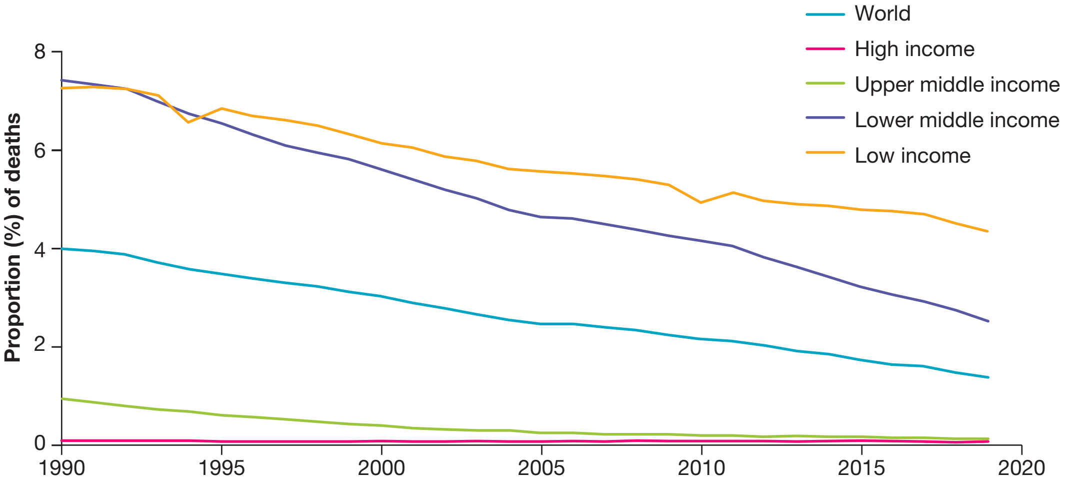
How sanitation affects health status

In 2019, lack of sanitation contributed to more than 750 000 deaths (around 2 per cent) globally (see **FIGURE 8.45**).

Inadequate sanitation is one of the main causes of contaminated water supplies in low- and middle-income countries and leads to an increased rate of DALY from infectious diseases such as diarrhoea, cholera and typhoid. As many as one in three people globally are infected with intestinal worms, including hookworm, roundworm and whipworm, which occurs as a result of soil contaminated with faeces. Adequate sanitation could entirely prevent this cause of death.

FIGURE 8.44 Many people lack access to adequate sanitation and are forced to relieve themselves into water courses, which can contaminate drinking water supplies.

FIGURE 8.45 Proportion of total deaths attributable to lack of adequate sanitation



Source: Adapted from http://vizhub.healthdata.org/gbd-compare

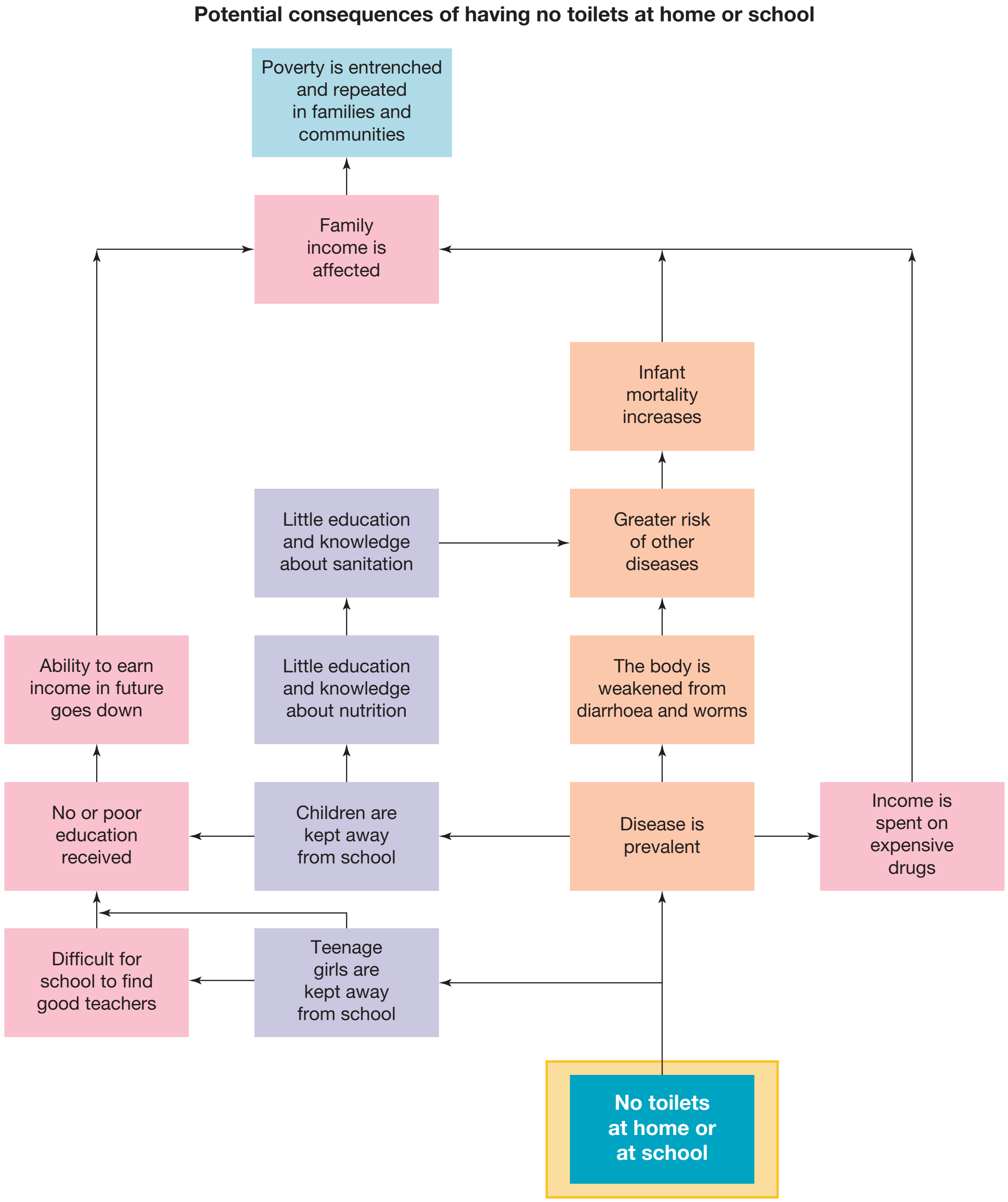
How sanitation affects human development

Because few schools in low- and middle-income countries have adequate toilet facilities, girls often don't attend, especially when they are menstruating. Sometimes schools have toilets but they are not segregated, and this also acts as a barrier to girls attending school. The majority of the 121 million children and youth currently not enrolled in school worldwide are female, with inadequate sanitation contributing to this trend. This contributes to poorer access to knowledge and the associated impacts on human development. These include an inability to afford resources required for a decent standard of living and reduced capacity to participate in decisions affecting their lives, such as if they get married or what they do for a job.

Without private toilets, many cultures expect girls to wait until it is dark before they can relieve themselves. This exposes them to the danger of harassment, assault, animal attacks, discomfort, loss of dignity and sometimes illness, reducing their ability to live according to their needs and interests. According to WaterAid, women and girls living without a toilet spend 266 million hours each day finding a place to relieve themselves. Nearly all of them live in low- and middle-income countries. This reduces their ability to receive an education or meaningful employment, driving them further into poverty and contributing to many differences in human development between low-, middle- and high-income countries.

Repeated infections caused by inadequate sanitation require medical treatment. If treatment is available, the associated costs are often the responsibility of the individual or their family in low- and middle-income countries. These costs drain the family income further and make it more difficult to break the poverty cycle, contributing to lower levels of human development.

FIGURE 8.46 The many impacts of inadequate sanitation



Source: Adapted from WaterAid, *The state of the world's toilets 2007: report 2*.

EXAM TIP

When making links from specific factors to health status or human development, it can be useful to visualise your response because a comprehensive answer for these questions contains a number of identifiable elements. A flow chart can be used to ensure that all elements are included. For example a link to health status should include:

A reference to the factor	A statement that clarifies the similarity or difference	How the factor contributes to disease or injury	A specific link to an aspect of health status
Lack of access to safe water	is more common in low-income countries compared to high-income countries.	This means that people are more likely to consume contaminated water and contract conditions such as cholera.	This increases the risk of premature mortality and contributes to lower life expectancy in low-income countries.

The same process can be followed to establish links between the factor and similarities or differences in human development. For example:

A reference to the factor	A statement that clarifies the similarity or difference	How the factor can affect peoples' lives	A specific link to an aspect of human development
Lack of access to sanitation	is more common in low-income countries compared to high-income countries.	A lack of girls' toilets in schools can mean that many girls do not attend when they are menstruating because they are unable to effectively manage their period in a private setting.	This decreases access to knowledge, which can also mean that girls are unable to participate in decisions affecting their lives by choosing which career they pursue.

8.7 Activities

1. Access the **Water** weblink and worksheet in the Resources tab and then complete the worksheet.
2. Access the **Sanitation in India** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital documents Water worksheet (doc-32217)
Sanitation in India worksheet (doc-32218)

Weblinks Water
Sanitation in India

8.7 Exercises

8.7 Quick quiz on | **8.7 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 5, 6, 7	2, 3, 4, 10, 11, 13	8, 9, 12

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Test your knowledge

1. a. What is meant by 'safe water'?
   b. Explain three reasons why safe water is essential for human life.
2. Discuss reasons why lack of clean water is generally not an issue in Australia.
3. Explain why children are particularly susceptible to the impacts of unsafe water.
4. Explain how lack of safe water contributes to poverty in low- and middle-income countries.
5. a. What is sanitation?
   b. Explain why a lack of sanitation often has greater impacts on females compared to males.
6. How can unregulated watercourses lead to increased rates of malaria infection?
7. List five conditions that can be caused by unsafe water and sanitation.

Apply your knowledge

8. Discuss how access to safe water contributes to similarities and/or differences in human development between low-, middle- and high-income countries.
9. Explain how lack of access to sanitation contributes to similarities and/or differences in health status between low-, middle- and high-income countries.
10. Using data, discuss the difference in the proportion of deaths attributable to lack of sanitation between low-, middle- and high-income countries.
11. Discuss two ways that inadequate sanitation might influence the Human Development Index of a low-income country.
12. Explain how having access to clean water can enhance the lives of those who currently lack it.
13. Complete the following tables in relation to:
    a. impacts of safe water on health status

A reference to the factor	A statement that clarifies the similarity or difference	How the factor contributes to disease or injury	A specific link to an aspect of health status

    b. impacts of safe water on human development

A reference to the factor	A statement that clarifies the similarity or difference	How the factor can affect peoples' lives	A specific link to an aspect of human development

    c. impacts of sanitation on health status

A reference to the factor	A statement that clarifies the similarity or difference	How the factor contributes to disease or injury	A specific link to an aspect of health status

d. impacts of sanitation on human development.

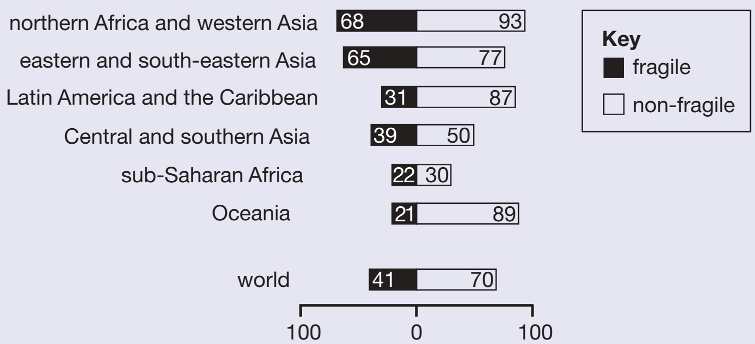
A reference to the factor	A statement that clarifies the similarity or difference	How the factor can affect peoples' lives	A specific link to an aspect of human development

8.7 Exam questions

Question 1 (7 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.12;* © VCAA

Proportion of the population using basic sanitation services in fragile and non-fragile states, 2015 (percentage)



Source: adapted from United Nations, *The Sustainable Development Goals Report 2018*, United Nations, New York, 2018, p. 19; © 2018 United Nations

The World Bank classifies countries as fragile or non-fragile. A fragile state is a country that experiences conflict, violence and instability.

a. **Describe** sanitation. **1 mark**

b. Using information from the graph, **compare** the use of basic sanitation services in fragile and non-fragile states. **2 marks**

c. **Explain** how the use of basic sanitation services contributes to differences in both health status and human development. **4 marks**

Question 2 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.15.a;* © VCAA

Describe what is meant by 'safe water and sanitation'.

Question 3 (2 marks)

Source: *VCE 2010, Health and Human Development Exam, Section B, Q.4.a;* © VCAA

In developing regions most of the burden of collecting drinking water falls on women and girls.

Explain how this burden may impact on human development.

Question 4 (3 marks)

Comparison of key indicators for low-, middle- and high-income countries, 2015

Income classification	Life expectancy at birth (year)	Maternal mortality rate per 100 000	Under-5 mortality rate per 1000	Population with access to safe water (%)	Population access to adequate sanitation (%)
High-income countries	81	10	6	100	99
Upper middle-income countries	75	54	19	95	80
Lower middle-income countries	68	251	53	89	52
Lower income countries	62	496	76	66	28

Source: Adapted from http://data.worldbank.org/

Using data from the table, **explain** how access to adequate sanitation could contribute to differences in health status between high- and low-income countries.

Question 5 (2 marks)

Outline two reasons why a lack of access to safe water might impact the ability of children to attend school.

More exam questions are available in your learnON title.

8.8 Poverty as a factor affecting health status and human development

Key knowledge	Key skills
Factors that contribute to similarities and differences in health status and human development: – poverty	• Analyse factors that contribute to health status and human development in different countries • Compare health data and other information to analyse reasons for health inequalities within and between countries

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by poverty • how poverty contributes to similarities and differences in health status and human development within and between the income groups.	• use data and other information to identify health inequalities relating to poverty and analyse why they occur • make meaningful links from poverty to specific differences in relation to health status and human development within and between the income groups.

Poverty refers to deprivation. This deprivation often stems from lack of income but presents as a lack of material resources such as food, shelter, clean water and health care, as well as intangible resources such as social inclusion, and opportunities for education and decision-making.

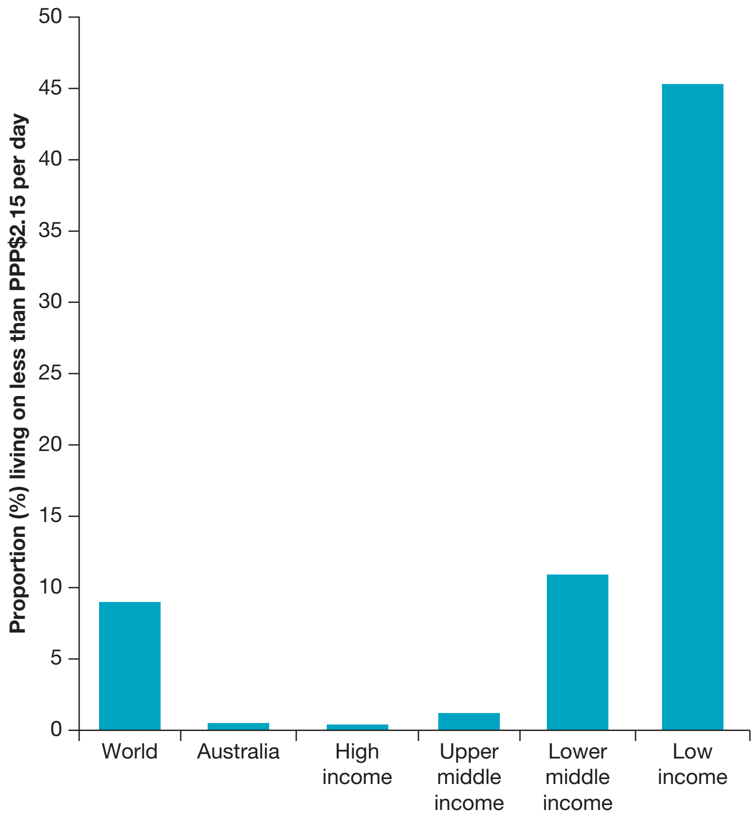
8.8.1 What is poverty?

From an individual perspective, poverty is generally defined in terms of income and is measured in a number of different ways:

- those living on less than a certain amount (often PPP$2.15) per day, which is referred to as absolute poverty or extreme poverty (see **FIGURE 8.47**)
- those living on less than 50 per cent of their country's average income, which is referred to as **relative poverty**.

relative poverty refers to those living on less than 50 per cent of the country's average income

FIGURE 8.47 Proportion living on less than PPP$2.15 per day, most recent year available* (% of population)



* year of data range from 2018 to 2021
Source: World Bank, 2024.

Although rates of extreme poverty are low in Australia, there are a number of people living in relative poverty, particularly those in low socioeconomic groups. The variations in health status that differences in income contribute to are explored in subtopic 4.3.

8.8.2 How poverty affects health status and human development

However it is measured, poverty contributes to differences in health status and human development by reducing access to a range of resources (see **FIGURE 8.48**). As a result, the impacts on health status and human development will be explored in the context of these resources.

Poverty and government services, social protection measures and infrastructure

Recall that Gross National Income (GNI) is the total value of goods and services a country's citizens produce, including the value of income earned by citizens who may be working in an overseas country. It is a reflection of the wealth of a country and indicates how much money the government is able to spend on services and infrastructure that can enhance the quality of life of its citizens, promoting human development.

The level of GNI affects the government's ability to provide access to clean water, sanitation, health services, public education and social protection measures (such as pensions, welfare and disability payments). The more money the government generates through taxation and investment, the greater the opportunity it has to provide these resources to its citizens, promoting access to knowledge, a long and healthy life and a decent standard of living.

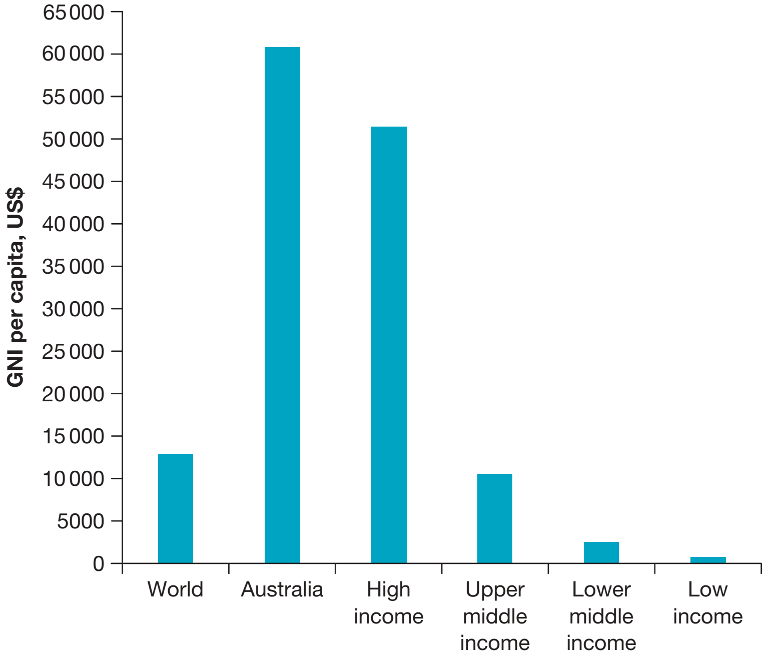
However, the GNI of a country does not determine how the wealth is distributed. In many countries, it is common for a few people to control most of the wealth, leaving the majority of the country with living standards well below the wealthy few. This divide in wealth means that low- and middle-income countries experience the concerns associated with poverty, such as high rates of communicable diseases and higher rates of child and adult mortality, which most high-income countries do not experience. However, they are also likely to experience issues and diseases associated with wealth that are also common in high-income countries, such as obesity, diabetes and cardiovascular disease. Experiencing issues and diseases associated with both poverty and wealth in one country is referred to as a 'double burden of disease'.

FIGURE 8.48 Poverty reduces access to a range of resources that contribute to differences in burden of disease between low-, middle- and high-income countries.

In high-income countries like Australia, higher average incomes mean that the variation in how wealth is distributed has a smaller impact than in low- and middle-income countries.

GNI per capita (or per person), in Australia and the World Bank income groups, is shown in **FIGURE 8.49**.

FIGURE 8.49 GNI per capita, (current US$), 2022



Source: https://data.worldbank.org/indicator/NY.GNP.PCAP.CD

EXAM TIP

It is important to use the correct unit of measurement when referring to data.

You will note that the proportion living in poverty in **FIGURE 8.47** uses PPP, whereas the data on GNI per capita in **FIGURE 8.49** is measured in United States (US) dollars. Leaving out the reference to these units will mean that at least one mark is sacrificed.

Poverty and nutritious food

Undernutrition is often the result of an inability to afford nutritious foods. Undernutrition decreases immune function, which increases the risk of infection and premature death, especially among children. Pregnant women who cannot access nutritious foods are more likely to die as a result of their pregnancy and have babies who are more susceptible to premature mortality due to underdeveloped body systems, reducing their ability to lead long and healthy lives.

Undernutrition can also lead to low levels of energy, reducing people's ability to participate in activities they enjoy, which can mean they are unable to live according to their needs and interests.

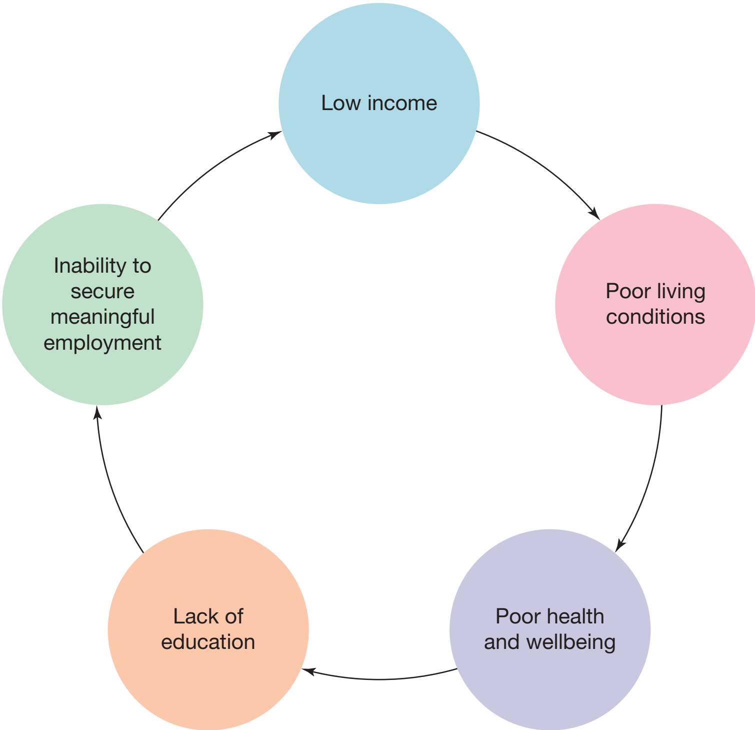
Poverty and access to clean water and sanitation

Poverty also restricts the ability of governments to provide resources such as clean water and sanitation. This further increases the risk of infectious diseases, including diarrhoeal disease, which is a leading cause of death among children in low- and middle-income countries. It also contributes to variations in human development as discussed in subtopic 8.7.

Poverty and education

Reduced access to education results in lower literacy rates. This reduces opportunities for employment, perpetuating the cycle of poverty and the associated impacts, such as limited access to food, water and health care, which contributes to higher rates of morbidity, premature mortality and lower levels of human development. Lower literacy rates result in lower levels of health literacy, which is a risk factor for ill health and premature mortality from conditions associated with poverty, such as HIV/AIDS. In low- and middle-income countries, many governments do not have the funds available to provide education for their people, reducing access to knowledge. This means it is often only the wealthy who can afford to pay for their children to be educated. As a result, employment prospects are lower, and the cycle of poverty and poor health and wellbeing is likely to continue (see **FIGURE 8.50**).

FIGURE 8.50 The cycle of poverty can be broken with education, but education often requires payment.



It is compulsory for all Australian children between the ages of six and 15 or 16 (depending on the state or territory) to be enrolled in school. Many of the expenses required to run the education system are met by the government through tax revenue. This allows people from all socioeconomic status groups the opportunity to educate their children, contributing to higher health status and human development in Australia.

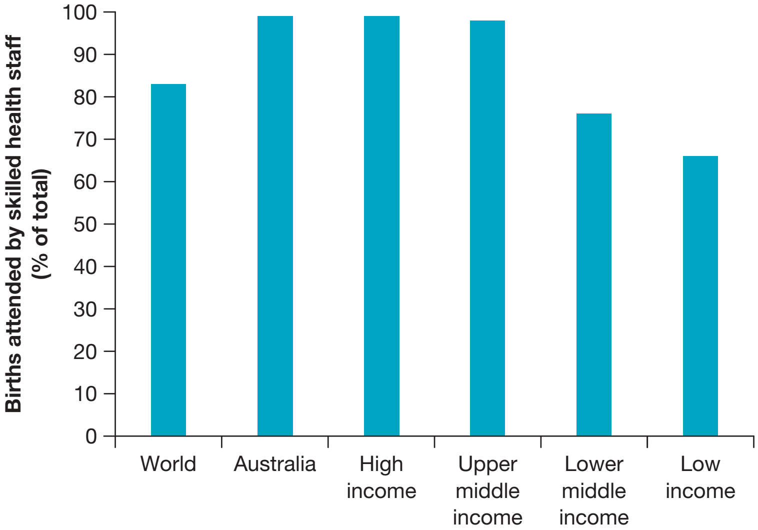
Poverty and health care

Poverty usually results in the inability of individuals, including children and pregnant women, to afford health care. Medicare and the Pharmaceutical Benefits Scheme (PBS) ensures all Australians have access to a range of health professionals and services, such as doctors, hospitals and essential medicines. Few countries have a universal healthcare scheme such as Medicare, so only those who can afford to pay for health care can receive treatment. As a result, children in low- and middle-income countries are much more likely to die from conditions that are often easily treatable in high-income countries like Australia, reducing their ability to lead a long and healthy life.

FIGURE 8.51 Australia's health system, including Medicare and public hospitals, increase access to health services regardless of an individual's ability to pay.

According to the World Health Organization (WHO), more than 280 000 women die each year from preventable complications during pregnancy or childbirth, and most of these deaths occur in low- and middle-income countries. In Australia, most women can access maternal health care through Medicare, regardless of their ability to pay (see **FIGURE 8.52**).

FIGURE 8.52 Percentage of births attended by skilled health personnel, 2019



Source: Adapted from https://data.worldbank.org/indicator/SH.STA.BRTC.ZS ?view=chart

Poverty and housing

For many people, more time is spent in the home than anywhere else. In many populations, especially in low- and middle-income countries, poverty means that many people live in inadequate housing, which contributes to ill health.

Many houses rely on solid fuels such as coal and wood for indoor heating but do not have adequate ventilation, such as chimneys, and therefore have high levels of indoor air pollution. As a result, the WHO has listed indoor air pollution as the eighth most important risk factor and says it is responsible for 2.7 per cent of the global burden of disease. Indoor air pollution has been shown to increase the risk of pneumonia among children under five years, and chronic respiratory disease and lung cancer among adults over 30. Women and children are often most at risk of indoor pollution because they are exposed to it for longer periods of time. People in high-income countries generally rely on cleaner methods of energy production and therefore experience lower levels of illness and death due to indoor pollution, increasing their ability to lead long and healthy lives in accordance with their needs and interests.

Adequate housing can reduce the risk of infectious diseases such as malaria by reducing exposure to the mosquitoes that spread it through features such as windows and fly screens. Low-income countries often lack adequate protection from such risks compared to high-income countries. Less infectious disease increases their ability to attend school and gain access to knowledge. It also works to enhance their ability to participate in decisions affecting their lives in relation to the career they pursue.

FIGURE 8.53 Cooking indoors without adequate ventilation contributes to indoor air pollution but is the only option for millions of people living in poverty.

A reliable electricity supply increases the ability of families to promote health and wellbeing and break the cycle of poverty by increasing opportunities for education, healthy food intake, access to technology and temperature control.

Many communities live in areas that are subject to extreme temperatures. If there is a lack of insulation and/or heating and cooling, there is an increased risk of death from pre-existing conditions (such as heart conditions) as the body attempts to maintain body temperature. The type of heating (such as solid fuels) can also increase the risk of respiratory diseases. Studies suggest that just over 5 million deaths occur annually as a result of extreme heat or cold, with most of these occurring in low- and middle-income countries.

8.8 Activity

Access the **Poverty** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Poverty worksheet (doc-32219)

Weblink Poverty

8.8 Exercises

8.8 Quick quiz on | **8.8 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 4	3, 5, 9	6, 7, 8

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Test your knowledge

1. a. What is meant by ‘poverty’?
   b. Explain two ways that poverty can be measured.
2. Explain how housing contributes to variations in human development between Australia and low-income countries.
3. Briefly explain how adequate housing can promote health status.
4. Briefly explain the cycle of poverty.
5. Outline two ways that education can impact health status.

Apply your knowledge

6. a. Using **FIGURE 8.47**, discuss the difference in the levels of poverty between high-, middle- and low-income countries.
   b. Explain three ways this difference can contribute to differences in human development.
7. Explain two ways that poverty can increase the risk of infectious diseases such as malaria, HIV/AIDS and/or diarrhoeal disease.
8. Explain how reducing poverty might promote two dimensions of health and wellbeing.
9. Complete the following tables in relation to:
   a. impacts of poverty on health status

A reference to the factor	A statement that clarifies the similarity or difference	How the factor contributes to disease or injury	A specific link to an aspect of health status

b. impacts of poverty on human development.

A reference to the factor	A statement that clarifies the similarity or difference	How the factor can affect peoples' lives	A specific link to an aspect of human development

8.8 Exam questions

Question 1 (3 marks)

Source: Adapted from *VCE 2020, Health and Human Development Exam, Q.10.c;* © VCAA

Discuss how poverty could have an impact on health status and health and wellbeing.

Question 2 (2 marks)

Source: *VCE 2011, Health and Human Development Exam, Section A, Q.5;* © VCAA

In low-income countries, the leading cause of death is pneumonia, followed by heart disease, diarrhoea, HIV/AIDS and stroke. In high-income countries, the leading cause of death is heart disease, followed by stroke, lung cancer, pneumonia and asthma.

Briefly **explain** how income may influence differences in the causes of death between low-income and high-income countries.

Question 3 (2 marks)

Source: Adapted from *VCE 2005, Health and Human Development Exam, Q.3.ii;* © VCAA

> Infectious and parasitic diseases in the World Health Organization Africa Region (which includes Zimbabwe) contribute 56% of the DALYs. In the World Health Organization Western Pacific Region (which includes Australia) the relevant figure is 1.9%.
>
> ***Source:*** Adapted from Annex Table 3, Burden of Disease in DALYs by cause, sex and mortality stratum in WHO regions, estimates for 2002 in WHO, World Health Report 2003, WHO, Geneva

Explain how low levels of income may cause the differences in the contribution of infectious and parasitic diseases to total DALYs in Zimbabwe and Australia.

Question 4 (3 marks)

Comparison indicators for low-, middle- and high-income countries

Country	Income classification of country	Life expectancy at birth (years) (2015)	Gross national income per captia (PPP$) (2015)	Adult morality rate per 1000 (2012)	Government expenditure on health per capita US$ (2014)	Under-5 morality rate per 1000 (2015)
Australia	High-income	83	45 320	59	6031	4
China	Upper-middle income	75	14 320	85	420	13
Papua New Guinea	Lower-middle income	62	2 800	275	92	61
Zimbabwe	Low-income	58	1 710	336	58	89

Sources: www.who.int/whosis/en/index.html and http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD

Using information from the table, **outline** the relationship between income and life expectancy.

More exam questions are available in your learnON title.

8.9 Discrimination as a factor affecting health status and human development

Key knowledge	Key skills
Factors that contribute to similarities and differences in health status and human development: – discrimination (race, religion, sex, sexual orientation and gender identity)	• Analyse factors that contribute to health status and human development in different countries • Compare health data and other information to analyse reasons for health inequalities within and between countries

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what is meant by discrimination and examples of this relating to race, religion, sex, sexual orientation and gender identity • how discrimination contributes to similarities and differences in health status and human development within and between the income groups.	• use data and other information to identify health inequalities relating to discrimination and analyse why they occur • make meaningful links from discrimination to specific differences in relation to health status and human development within and between the income groups.

Equality and freedom from **discrimination** are basic human rights. According to the United Nations Universal Declaration of Human Rights:

- All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.
- Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

discrimination when a person or group of people is treated differently than other people, often a result of factors such as race, religion, sex, sexual orientation and gender identity

Unfortunately, not all people have their human rights upheld, and discrimination against specific groups contributes to inequalities in health status and human development compared to other population groups.

As average incomes and living conditions have improved, so too have health status and human development. However, this increase in income and living conditions has not occurred universally among all countries or between all population groups within countries.

Inequality in health status and human development often occurs as a result of an inability to access resources such as education, employment and health care. Quite often, discrimination is the reason these resources remain out of reach for many. Groups who are discriminated against experience inequality in relation to a range of outcomes, including:

- having higher rates of depression and anxiety, impacting their ability to live according to their needs and interests
- having higher rates of premature death, including under-5 mortality, reducing the ability to lead long and healthy lives
- being more likely to be the victim of intentional violence.

FIGURE 8.54 Human rights are universal, meaning every person is entitled to certain conditions and treatment. Unfortunately, not everyone has their rights upheld.

Although many countries, including Australia, have implemented laws to make discrimination illegal, many minority groups still experience discrimination and inequalities in health status around the world, including:

- those from minority racial groups, including indigenous peoples and migrants
- those from minority religious groups
- females
- people in the LGBTQIA+ community
- those who identify as a gender different from the sex assigned to them at birth.

8.9.1 Race and its affect on health status

According to the Australia Human Rights Commission, 'racial discrimination is when a person is treated less favourably than another person in a similar situation because of their race, colour, descent, national or ethnic origin or immigrant status'.

FIGURE 8.55 Discrimination contributes significantly to the poorer health status experienced by indigenous populations worldwide, including in Australia.

Indigenous peoples and ethnic minorities are two groups who are often discriminated against due to their race. According to the WHO, 'in almost every country in the world, minorities and indigenous peoples are among the poorest and most vulnerable of groups, suffer greater ill health and receive poorer quality healthcare than other segments of the population. More often than not, this ill health and poorer healthcare are the result of poverty and discrimination'.

According to the *State of the World's Indigenous Peoples* (UN, 2009):

- Indigenous people suffer higher rates of ill health and disability, and have dramatically shorter life expectancy than other groups living in the same countries.
- Discrimination, racism and a lack of cultural understanding and sensitivity prevent access to health care for many indigenous people. Many health systems do not reflect the social and cultural practices and beliefs of indigenous peoples.

FIGURE 8.56 Displaced persons often have no choice but to live in refugee camps where they rely on others for the provision of basic resources such as food and water.

According to DeLaet et al. (2015), racial minorities experience worse physical and mental health and wellbeing in terms of morbidity and mortality in all geographic regions in which such comparative data are available. According to Donna Ah Chee, from the Central Australian Aboriginal Congress (CAAC), 'as a life stressor, racism directly and negatively affects the cardiovascular system, causing high blood pressure/hypertension and heart disease. It seriously affects mental health and well being, causing depression, anxiety and other psychological and psychiatric disorders and racism contributes to low birth weight of newborns, as well as premature birth'.

Race and its affect on human development

Racial discrimination occurs around the world and often results in social exclusion, preventing millions of people from participating in the life of their community in relation to education, access to health care, community participation, employment and housing.

The world's 370 million indigenous peoples are among the world's most marginalised people, and are often isolated politically and socially within the countries where they live by the geographical location of their communities, and their separate histories, cultures, languages and traditions. This reduces the ability of people to live according to their needs and interests.

Indigenous peoples are often among the poorest in the world, and the poverty gap between indigenous and non-indigenous groups is increasing in many countries. This influences indigenous peoples' quality of life and the level of human development experienced.

In some cases, victims of racial discrimination become displaced from their homes as they are forced to flee and live in foreign countries as refugees or become displaced in their own country. Displacement has a flow-on effect because this new living environment might lack the resources required for a decent standard of living, such as food and water, educational opportunities for children, employment opportunities for adults, and health care. The number of people displaced from their homes has increased dramatically in recent years, contributing to higher rates of illness and premature death among these groups.

8.9.2 Religion and its affect on health status

Every day, many members of religious or belief communities face discrimination based on their religion or belief. In extreme cases, some people are arrested or killed due to their religious beliefs, contributing to increased mortality rates and lower life expectancy.

According to VicHealth, religious discrimination has been shown to contribute to increased rates of:

- anxiety
- depression
- psychiatric disorders
- stress
- decreased life satisfaction
- self-rated poor health status
- tobacco smoking
- alcohol abuse
- drug use.

These outcomes and risk factors contribute to the poorer health status experienced by those who are victims of religious discrimination across the world.

FIGURE 8.57 Globally, millions of people experience discrimination due to their religious beliefs.

Religion and its affect on human development

Religious discrimination often results in an inability for people to realise their human rights and participate in the community in which they live in terms of accessing public education, health services and employment, which acts to decrease human development.

As in many other countries, religious minorities have faced discrimination in Australia. Muslim and Jewish Australians have been particularly targeted by acts of discrimination, including being sworn at, spat on, told they do not 'belong' in Australia and denied jobs. This reduces their ability to live according to their needs and interests and access resources required for a decent standard of living.

8.9.3 Sex and its affect on health status

Sex refers to the physiological characteristics, including the DNA and sex organs, present in an individual at birth. In most cases, people are born as either male or female, although some people are born with a combination of both male and female characteristics, referred to as 'intersex'.

When women have the same power and control over their lives as men do, their health status improves. In a global context, however, females often have less power and less control over resources than males. This in turn typically leads to disadvantages in the economic, political, social, educational and health domains. Women in Australia generally have the same opportunities for education, employment and community participation as men do, which increases the health status experienced by women in Australia.

FIGURE 8.58 Females are often responsible for laborious jobs, such as collecting water, which can increase the incidence of back and neck injuries.

There are also differences between the sexes that negatively affect men, such as the higher levels of risk-taking, higher rates of smoking and higher levels of violence. On a global scale, however, sex inequalities impact women's health status more severely than they do men's.

Women who are educated are more likely to have healthier children. They are also more likely to adopt health-promoting behaviours such as having their children immunised and implementing methods to reduce the transmission of infectious diseases such as malaria and diarrhoeal disease.

FIGURE 8.59 Educated girls have a greater ability to escape poverty.

In many countries, women are expected to abide by their father's or husband's decisions. Violence may result if the woman challenges the man's authority. It may be socially acceptable for a man to have more than one sexual partner and he may not use protection with any of them. His wife may face an increased risk of contracting sexually transmissible infections (including HIV/AIDS) but not be in a position to protect herself. Women may also be the last fed and so may not receive enough nutrients, leading to malnourishment. Adequate nourishment is a basic need to prevent ill health and premature mortality.

Of the 280 000 women who die each year from complications during pregnancy, 99 per cent are in low- and middle-income countries. Women are often neglected with regard to health care and other services and essential supplies, and this increases mortality rates.

Sex and its affect on human development

When women have access to education, they tend to have fewer children. This means that the children they do have generally have greater opportunities and better access to resources such as education, food and health care, contributing to higher levels of human development.

Globally, females have less say in decisions affecting their lives than males. Societal norms in many countries make men the sole decision makers. This can affect the role that women play in society and the level of human development experienced. For example, one study on the impact of a cyclone in Bangladesh noted that many women perished with their children at home because they had to wait for their husbands to return and make an evacuation decision, reducing their ability to lead long and healthy lives.

When financial resources are limited, they are often allocated to areas deemed to be of the greatest importance. The lower status of women in many low- and middle-income countries can mean they often miss out on opportunities for education and employment, reducing their ability to expand their capabilities and choices and lead lives according to their needs and interests. This helps explain the fact that two-thirds of the 775 million people in the world who lack basic literacy skills are female (UN, 2020). Consequently, many women work in jobs that are often badly paid, dangerous and laborious, which reduces the level of human development experienced. Sex work is an example of this; many women are forced into this industry, which reflects the fact that they are not able to participate in decisions affecting their lives.

Globally, women earn 24 per cent less than men, and up to 75 per cent of female employees work in informal jobs that are not protected under law in low- and middle-income countries, reducing their ability to access the resources required for a decent standard of living.

Women also lack influence on a national scale in many countries. Women hold an average 3 per cent of seats in national parliaments in Pacific Island countries, and an average of 10 per cent of seats in western Asia. The lack of input that women have in governments can contribute to women having little say in the issues that affect lives, such as male perpetrated violence.

CASE STUDY

Violence against women in PNG an 'emergency', says Human Rights Watch

The Papua New Guinea government is failing to protect victims of family violence, according to a new report by Human Rights Watch.

The report, titled Bashed Up: Family Violence in PNG, found that women are left unprotected, even when they have gone to great lengths to seek help.

It accused the government of neglecting survivors' needs for safety, services and justice, and found women often had no choice but to live with abusive partners.

More than two thirds of PNG women have experienced family violence. In some parts of the country, 80 per cent of men admit they have been responsible for sexual violence against their partner.

Two years ago the PNG government passed the Family Protection Act which set new penalties for family violence and was designed to protect and assist victims.

But Human Rights Watch (HRW) Australia director Elaine Pearson says the situation on the ground is still dire.

'We spoke to woman after woman who told us really harrowing accounts of how they'd been attacked by their husbands, sometimes with knives (or) burnt with hot sticks,' she told Pacific Beat.

'After these attacks they'd gone to the police, but there were remarkably similar stories from women about the lack of responsiveness of police.

'Too often police were simply ignoring their claims or telling them they should go back to their husbands because there really weren't any other options.'

Women told to 'solve it at home'

The report found that police and prosecutors rarely pursue criminal charges against perpetrators, even in the most serious cases of rape or murder.

We spoke to woman after woman who told us really harrowing accounts... Too often police were simply ignoring their claims or telling them they should go back to their husbands.

One woman interviewed for the HRW report suffered multiple broken bones and went to police 17 times asking for the arrest of her husband, but they refused.

Monica Paulus, co-founder of the Highlands Women Human Rights Defenders movement, says women often encounter resistance from police, especially if the offender is a powerful member of the local community.

'Police will tell them "go back and solve it at home",' she said.

'Most times if it's a very senior person then that's what the response will be. They look at the status of the man who is involved as the perpetrator.'

Ms Paulus said women trying to escape violence were also battling poverty, traditions that tie them to their husband's families, and a lack of safe houses.

She said women who wanted to pursue their cases in village courts also had to pay several fees and were often saddled with paying for medical reports documenting their injuries. Often cases dragged on for so long, women gave up.

Accusations of sorcery could be raised against a woman, particularly if the husband wanted to remarry, said Ms Paulus.

'Sorcery accusations all too often become a form of family violence, with abusive husbands threatening or using sorcery accusations to silence and control women,' the report said.

More support services needed

In recent years there has been more training for police and 14 family and sexual violence units have been set up in police stations, partly-funded by the Australian government.

But Ms Pearson said more needs to be done.

'We hope the government takes this report seriously and the government will implement regulations for the Family Protection Act,' she said.

'We would like police officers to start issuing protection orders as a matter of course rather than as an exception.'

She also called for Port Moresby to fund more support services for women fleeing domestic violence.

Source: 'Violence against women in PNG an "emergency", says Human Rights Watch', Jemima Garrett, ABC News, https://www.abc.net.au/news/2018-01-08/violence-against-women-in-png-an-emergency-watchdog/9283286

CASE STUDY REVIEW

1. Outline reasons for women staying with abusive partners in Papua New Guinea.
2. In 2019, there were no women in the government of Papua New Guinea. Explain how having women represented in the government could improve health status and human development among women in Papua New Guinea.
3. Explain how inequality and discrimination based on sex contributes to poverty in countries like Papua New Guinea.

The next sections explore the impact of two particularly significant issues for females in low- and middle-income countries: forced marriage and female genital mutilation.

Forced marriage

Forced marriage occurs when one or both of the parties is married against his or her will. Forced marriage is considered a violation of human rights and viewed by some as a form of slavery.

Although outlawed in many countries, forced marriage still occurs and can have devastating consequences for those involved, particularly females. More than 13 million girls under the age of 18 are estimated to be forced into marriage each year, quite often with much older men.

When girls are forced into marriage, they are often withdrawn from school and regularly become pregnant before their bodies are adequately developed to deal with pregnancy and childbirth. As a result, pregnant girls are more likely to experience conditions such as obstetric fistula (see the following boxed text on this condition) and other complications, such as excessive bleeding, due to their pregnancy. Although not as common in high-income countries, maternal mortality is a leading cause of death for females aged 15–19 in low- and middle-income countries.

> Obstetric fistula is caused by prolonged obstructed labour when a female will spend days in labour without any medical help or pain relief. If the female survives this ordeal, the baby will be stillborn and the internal injuries sustained by the mother can cause internal holes in the vaginal walls, bladder and rectum. This causes the female to develop urinary incontinence and sometimes bowel incontinence as well.
>
> Many fistula survivors are abandoned by their husbands, rejected by their society and forced to live a life of shame and despair. They may spend the rest of their lives as destitute outcasts unless they can access health care to repair the damage.

Child brides face a higher risk of contracting HIV/AIDS because they often marry older men with greater sexual experience. For example, girls aged 15–19 are two to six times more likely to contract HIV/AIDS than boys of the same age in sub-Saharan Africa.

Child brides are less likely to be educated and more likely to live in poverty, further lowering the level of human development experienced by reducing the ability of girls to live according to their needs and interests.

Female genital mutilation

Female genital mutilation (FGM) describes procedures that intentionally alter or cause injury to the female genital organs for non-medical reasons. Knives, scissors, scalpels, pieces of glass or razor blades are used to cut or remove tissue such as the clitoris from the genitals. FGM is carried out in more than 25 countries around the world on girls between infancy and the age of 15. In some countries, such as Somalia, Egypt and Gambia, up to 90 per cent of females have been subjected to FGM.

FGM is often carried out in the name of culture or religion, but no religion specifies that this procedure should occur.

UNICEF estimates that more than 200 million females live with FGM and up to 3 million girls are thought to be subjected to this practice each year. Having no benefit for women or girls, FGM can cause severe pain, excessive bleeding (haemorrhage), infections, shock, psychological problems and death.

8.9.4 Sexual orientation and its affect on health status

Sexual orientation describes the sex that an individual is sexually and romantically attracted to. It is also associated with discrimination and inequality around the world.

Classifications of sexual orientation include heterosexual (those attracted to members of the opposite sex); homosexual — usually described as gay (males who are attracted to males) or lesbian (females who are attracted to females); bisexual (attracted to both sexes); or asexual (not attracted to either sex).

Those who do not identify as heterosexual are often subjected to discrimination, including being subjected to sexual assault, physical beatings and the death penalty (see **FIGURE 8.60**). This increases the incidence of injuries and mortality rates, as well as the prevalence of mental health disorders such as depression and anxiety.

Discrimination based on sexual orientation also contributes to the significantly higher rates of risk-taking behaviour. The AIHW (2020) reported that gay, lesbian and bisexual Australians were:

- 1.5 times as likely to smoke daily as people who are heterosexual
- 1.5 times more likely to exceed health guidelines relating to alcohol consumption compared to those who identify as heterosexual
- twice as likely to use illicit drugs compared to heterosexual people.

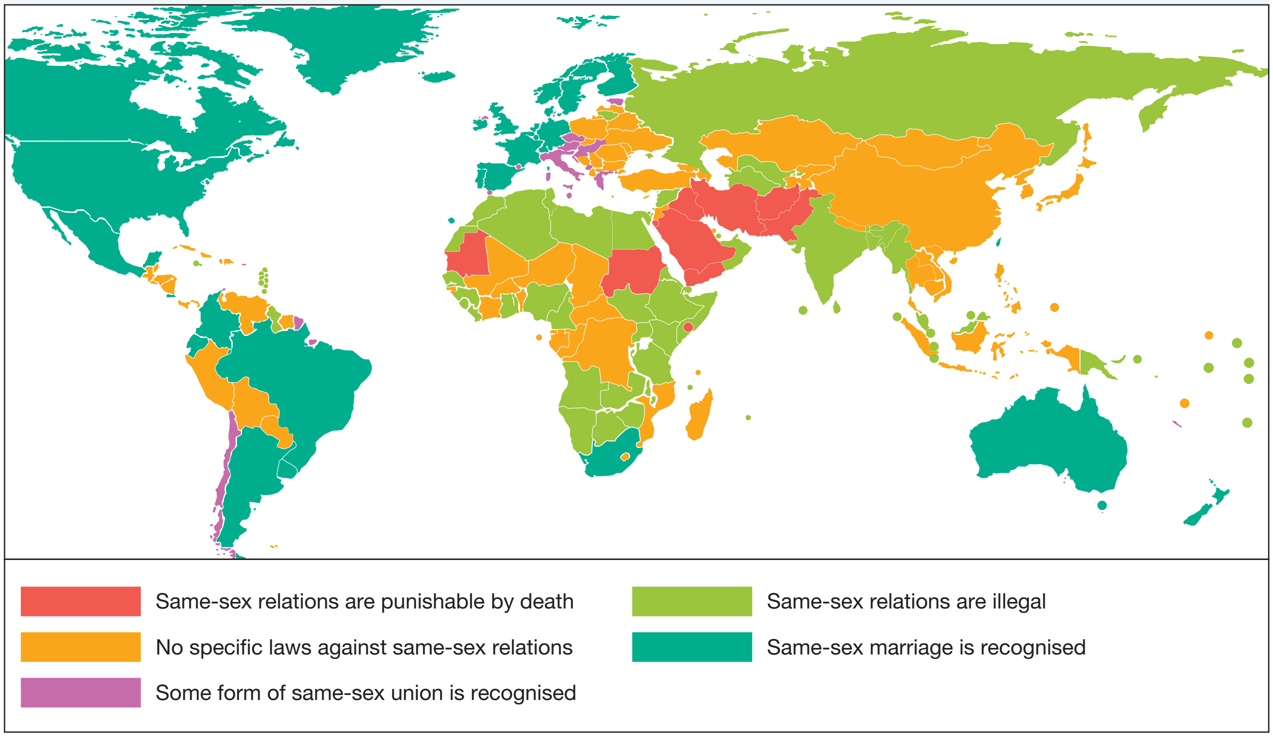
These differences can increase morbidity and mortality associated with some cancers, cardiovascular disease, respiratory diseases and injuries.

Sexual orientation and its affect on human development

The level of human development experienced by people who do not identify as heterosexual can be influenced by a number of factors, including being:

- refused jobs — Unemployment limits the ability of people to earn an income and afford the resources required for a decent standard of living such as nutritious food and adequate shelter.
- refused opportunities for education — This reduces people's access to knowledge and decreases their ability to participate in decisions affecting their lives such as the career they pursue.
- refused health care — Not being able to access health care can mean that common health conditions are not treated effectively, reducing the ability of people to lead long and healthy lives.
- subjected to criminal proceedings — This can contribute to people not feeling valued and reduces their ability to lead lives they value.

FIGURE 8.60 Legal status relating to sexual orientation and acts



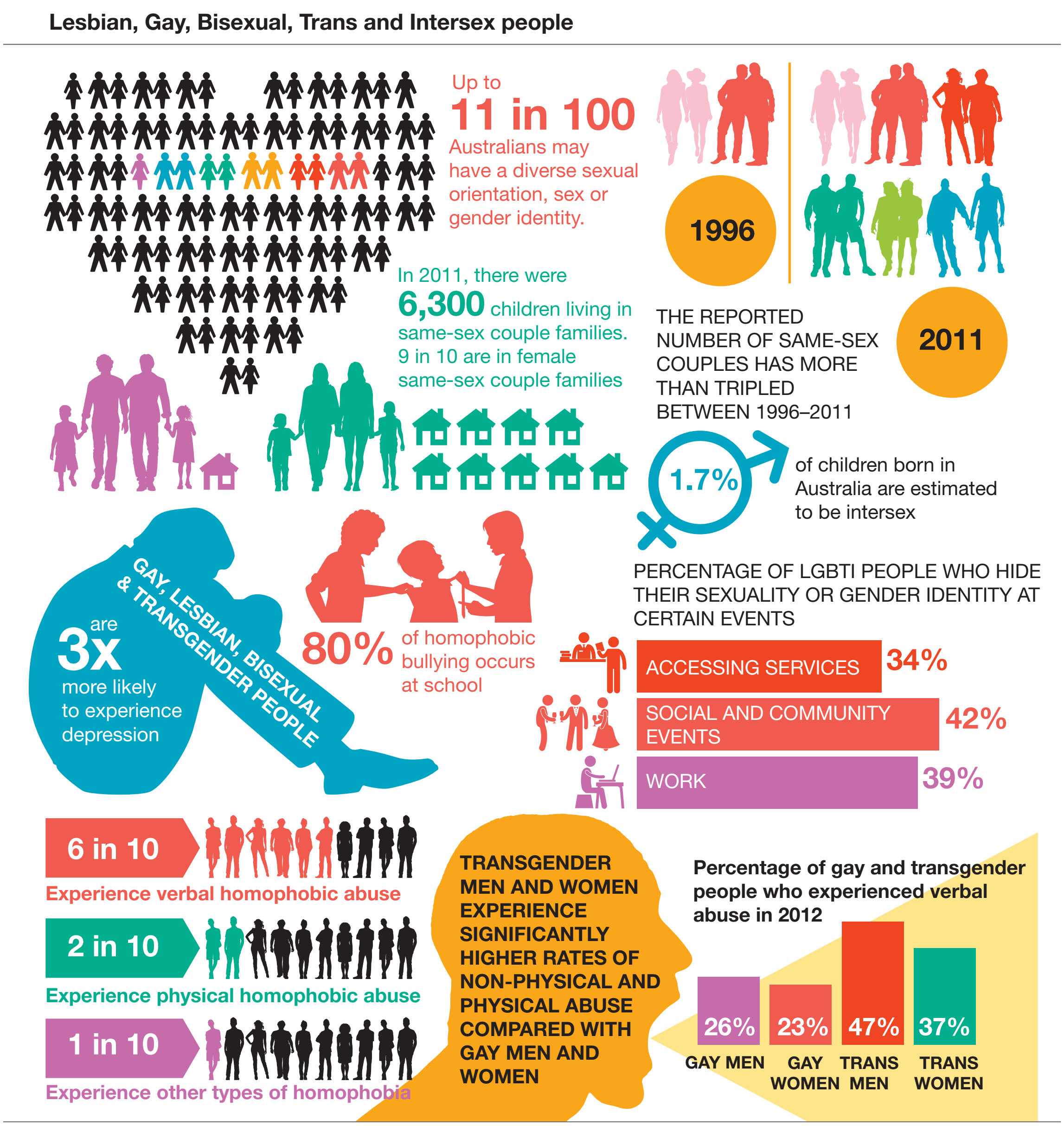
Source: Data source from International Lesbian, Gay, Bisexual, Trans and Intersex Association (ILGA) 2019, *State sponsored homophobia 2019: a world survey of sexual orientation laws: criminalisation, protection and recognition*.

8.9.5 Gender identity and its affect on health status

Gender identity describes how individuals perceive themselves as male, female, a blend of both, or neither. A person's gender identity can be the same or different from the sex assigned at birth. People can be cisgender (a person whose gender identity is consistent with the sex assigned to them at birth), transgender (a person who identifies with the opposite sex to that assigned to them at birth) or gender non-conforming (people who do not identify as either gender, or identify with a combination of both male and female genders).

Gender identity should not be confused with sexual orientation. Sexual orientation refers to the sex that an individual is sexually and romantically attracted to, while gender identity describes how individuals perceive themselves.

FIGURE 8.61 Infographic relating to sexual orientation and gender identity



Source: © Australian Human Rights Commission 2019.

Individuals who are transgender or gender non-conforming are at higher risk of discrimination in most societies and experience:

- higher rates of mental disorders
- higher rates of physical and sexual assault
- increased rates of self-harm, including suicide.

Gender identity and its affect on human development

Individuals who are transgender or gender non-conforming are often denied the same opportunities as cisgender people, impacting human development in a number of ways. For example:

- Verbal and physical abuse can lead to feelings of worthlessness, decreasing the ability of people to live according to their needs and interests.
- Being denied access to education decreases access to knowledge and means people are less likely to develop their capabilities.
- Not being given opportunities for employment means that people are less able to participate in the decisions affecting their lives, such as what they do for a job.

8.9 Activity

Access the **Girl effect** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Girl effect worksheet (doc-32220)

Weblink Girl effect

8.9 Exercises

8.9 Quick quiz on | **8.9 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 4, 6	3, 5, 7, 8, 12	9, 10, 11

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Test your knowledge

1. Briefly explain the difference between 'discrimination' and 'inequalities in health status'.
2. a. What is meant by 'human rights'?
   b. Identify four groups that experience discrimination globally.
3. a. Explain what is meant by 'racial discrimination'.
   b. Discuss how racial discrimination can impact human development.
4. Explain what is meant by 'displacement'.
5. Outline the impacts that religious discrimination can have on human development and health status.
6. Explain the difference between sexual orientation and gender identity.
7. Explain how gender equality impacts the level of human development experienced in Australia compared to low-income countries.
8. Use **FIGURE 8.61** to answer the following questions.
   a. What proportion of Australians are thought to be of diverse sexual orientation or gender identity?
   b. What change was there in the number of same-sex couples between 1996 and 2011?

c. What proportion of LGBTI (lesbian, gay, bisexual, transgender and intersex) people had hidden their sexuality or gender identity when accessing services? How could this impact health and wellbeing?
d. How much more likely are gay, lesbian, bisexual and transgender people to experience depression?
e. What types and rates of abuse are experienced by those with diverse sexual orientation or gender identity?

Apply your knowledge

9. Explain two ways that displacement of people from their homes can impact:
   a. human development
   b. health status
10. Do you think the status of women in Australia is the same as it is for men? Explain.
11. Explain how sexual orientation and gender identity can contribute to variations in health status within countries.
12. Complete the following tables in relation to:
    a. impacts of inequality and discrimination on health status

A reference to the factor	A statement that clarifies the similarity or difference	How the factor contributes to disease or injury	A specific link to an aspect of health status

    b. impacts of inequality and discrimination on human development.

A reference to the factor	A statement that clarifies the similarity or difference	How the factor can affect peoples' lives	A specific link to an aspect of human development

8.9 Exam questions

Question 1 (4 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.8.c;* © VCAA

Country	Human Development Index (HDI) (2019)*	Life expectancy at birth (years) (2019)*	Under-5 mortality rate (per 1000 live births)† (2019)	Maternal mortality ratio (per 100 000 live births) (2015)‡	Deaths due to ischaemic heart disease (% of total deaths) (2019)§
Australia	0.944	83.4	3.6	6	15.59
Sierra Leone	0.452	54.7	109.2	1360	5.6

Source: *United Nations Development Programme (UNDP), *Human Development Report 2020: The Next Frontier: Human Development and the Anthropocene*, UNDP, 2020, New York, pp. 343 and 345; †United Nations Children's Fund (UNICEF), UNICEF Data, <https://data.unicef.org/country/aus/> and <https://data.unicef.org/country/sle/>; ‡M Roser and H Ritchie, 'Maternal Mortality', 2013, published online at OurWorldInData.org, <https://ourworldindata.org/maternal-mortality>; §Institute for Health Metrics and Evaluation, GBD Compare, Viz Hub, <https://vizhub.healthdata.org/gbd-compare/>

From the table [above], select one difference in health status that is evident between Sierra Leone and Australia, and **analyse** the reasons for this difference.

Question 2 (4 marks)

Source: Adapted from *VCE 2018, Health and Human Development Exam, Q.9;* © VCAA

a. **Explain** the term 'discrimination'. **2 marks**

b. **Explain** how discrimination might contribute to differences in health status and human development. **2 marks**

Question 3 (2 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.8.b;* © VCAA

In many developing countries, women are less likely than men to be fully employed. **Identify** two reasons why this might occur.

Question 4 (2 marks)

Source: Adapted from *VCE 2007, Health and Human Development Exam, Q.7.d;* © VCAA

> The World Food Programme (WFP) is the food aid part of the United Nations. Food aid is one way to promote food security, which is defined as access of all people at all times to the food needed for an active and healthy life. One of the core policies for the World Food Programme is
>
> - to improve the nutrition and quality of life of the most vulnerable people at critical times in their lives.
>
> In January 2002, the World Food Programme and the government of Sudan launched a five-year program to improve maternal and child nutrition. The World Food Programme recognises that women are the first and fastest solution to reducing poor nutrition. Experience shows that in the hands of women, food aid is far more likely to reach children. Seven out of ten of the world's hungry are women and girls. The World Food Programme seeks to give over half its food aid to females.
>
> ***Source:*** Adapted from: World Health Organization, World Food Programme http://www.wfp.org/english. Accessed March 2007

Describe how inequality and discrimination may impact on the access to food by women in Sudan.

Question 5 (3 marks)

Read the following text.

In 2005, Mozambique signed a new law that gave women equal rights as members of a household. Women finally received the legal right to divorce, create pre-nuptial agreements and inherit property.

The Family Law legally redefined the status of women and overhauled marriage laws. The law also limited marriage to women of 18 years of age and older. Men were now no longer the defacto head of household, and women are able to work outside the home without acquiring permission and can buy and manage financial assets.

Source: http://endpoverty2015.org/goals/genderequity

Describe how the above changes might improve the health of Mozambique's women.

More exam questions are available in your learnON title.

8.10 KEY SKILLS

8.10.1 Describe characteristics of low-, middle- and high-income countries

tlvd-11385

KEY SKILL Describe characteristics of low-, middle- and high-income countries

Tell me

In order to describe characteristics of low-, middle- and high-income countries, a range of factors relating to each characteristic (economic, social and environmental) should be known.

It is important to remember that there are variations within and between countries in each income group, so making definite statements should be avoided. For example, it is incorrect to say: 'People in low-income countries are not educated, whereas those in high-income countries are.' Although differences in education are a social characteristic of low-, middle- and high-income countries, this statement implies that no-one in low-income countries is educated and everyone in high-income countries is, which is not true.

A more accurate statement would be: 'People in low-income countries are less likely to be educated than those in high-income countries.' As a general rule, phrases such as 'more (or less) likely to', 'higher (or lower) levels of', and 'experience higher (or lower) rates of' ensure that the statement is not applied to every person within an income group.

Further, the characteristic should be phrased in relation to the focus of the question. For example, if the question asks for a social characteristic of a low-income country, simply using the term 'education' does not provide the context required to be considered a correct answer. 'Lower levels of education' would be appropriate in this instance. For high-income countries, 'high levels of education' would be acceptable. If a comparison between two types of countries is required, both countries should be referenced in the answer.

Show me

Each characteristic should be understood in enough detail to describe what it relates to. In the following example, gender equality is described and the differences in gender equality between low-, middle- and high-income countries are discussed.

Gender equality exists when both males and females experience the same opportunities in the society in which they live.[1] This relates to education, employment, income and decision-making that affects them. In high-income countries like Australia, women generally have the same opportunities as males and have greater choice in aspects of their life such as education and employment. In many middle- and low-income countries, however, females do not have the same opportunities as males in society.[2] Females may have limited opportunities for education and often work in fields tending crops and/or spend significant time collecting water and preparing meals.[3]

[1] Gender equality is described.

[2] A comparison between Australia and low- and middle-income countries is made.

[3] Specific effects of gender inequality are provided.

Practise the key skill

1. Describe one economic and one environmental characteristic common among high-income countries.

8.10.2 Explain the concept of human development

tlvd-11386

KEY SKILL Explain the concept of human development

Tell me

This key skill requires you to explain what human development relates to, according to the United Nations. It is important to remember that the United Nations' interpretation of human development is different to the concept of human development that you may have studied in Unit 1 and 2 because it does not focus on the physical, social, emotional and intellectual changes that occur. Rather, the UN refers to human development in relation to how well people are living. It includes creating an environment where people can lead long, healthy and creative lives in accordance with their needs and interests. It is about enhancing people's capabilities and choices in life and allowing them to participate in the decisions affecting their lives.

You will also be required to make meaningful links from a range of stimuli to aspects of human development.

Show me

In the following example, the concept of human development is explained and potential impacts on human development as a result of increasing incomes are discussed.

Human development is about creating an environment where people can[4] lead productive and creative lives. It is about allowing people to lead lives they value by having more choice and freedom. Human development includes being able to access knowledge, health and a decent standard of living.[5] With increasing incomes, people have a greater ability to afford resources such as education for their children, which increases access to knowledge.[6] This works to enhance their capabilities in terms of work-related skills,, which can give them greater choice in terms of the career they choose. Educated people are more likely to obtain well-paid employment, which increases their ability to afford resources required for a decent standard of living such as food, shelter and health care.[7]

[4] Although the definition of human development does not have to be memorised word for word, this is a common way to start an explanation of what human development relates to.
[5] Key terms associated with human development are included to show a greater level of understanding.
[6] A meaningful link is made between increasing incomes and a specific aspect of human development.
[7] Further links are made between income and aspects of human development. Note that the links to specific aspects of human development are explained and not simply stated.

Practise the key skill

2. Briefly explain the difference between health and wellbeing and human development.
3. Explain why the UN developed the concept of human development.
4. Explain how reducing the transmission of HIV can promote human development.

8.10.3 Explain the Human Development Index and evaluate its usefulness in measuring human development in different countries

tlvd-1926

KEY SKILL Explain the Human Development Index and evaluate its usefulness in measuring human development in different countries

Tell me

For this skill, it is necessary to be familiar with the Human Development Index (HDI), which measures levels of social and economic development within a country and enables comparisons between countries. The three dimensions and four indicators that are used to determine the HDI of a country should also be understood. The dimensions and indicators are:

- a long and healthy life: life expectancy at birth
- knowledge:
  - mean years of schooling
  - expected years of schooling
- a decent standard of living: Gross National Income per capita.

It is important to know what the HDI rating means; for instance, what does an HDI of 0.700 mean compared to an HDI of 0.500? This skill also requires an evaluation of the use of the HDI in relation to its usefulness in measuring human development. To assist in evaluation, a range of advantages and limitations of the HDI should be known.

Show me

In the following example, the reasons for the difference in HDI between Australia (0.946) and Indonesia (0.713) are discussed and the usefulness of the HDI in measuring human development is explained.

Australia has a higher HDI than Indonesia, which indicates a higher level of social and economic development in Australia.[8] This may be due to higher life expectancy at birth, mean years of schooling, expected years of schooling and/or Gross National Income per capita in Australia.[9]

The HDI is useful as a tool for reflecting the level of human development experienced because it moves beyond using only economic indicators. Economic indicators are useful statistics, but a high average income does not provide information relating to how well people are living. The HDI takes a broader approach and includes factors that relate to other aspects of wellbeing such as health and educational outcomes.[10]

Although the HDI includes a range of indicators relating to human development, it is based on average data and therefore does not provide an indication of the inequalities experienced within countries. Many population groups face specific challenges in promoting their human development and the HDI does not reflect this.[11]

[8] A key aspect of the HDI is identified.

[9] The specific reasons that may account for the difference between Australia and Indonesia are stated.

[10] An advantage of the HDI is explained.

[11] A limitation of the HDI is explained.

Practise the key skill

5. Briefly explain the HDI.
6. Discuss the degree to which the HDI reflects the level of human development experienced in a country.
7. New Zealand has a higher life expectancy than the USA, but the USA has a higher HDI. Explain possible reasons for this.
8. Explain why the HDI is often used as an indication of wellbeing instead of average income.

8.10.4 Evaluate data to analyse similarities and differences between countries in relation to health status and human development

tlvd-11387

KEY SKILL Evaluate data to analyse similarities and differences between countries in relation to health status and human development

Tell me

Data analysis and evaluation is the focus of this key skill. Data may come in the form of tables, maps, charts, infographics and other graphs. As well as being able to use and interpret the data, it is important to be able to make statements about health status and human development and the similarities and differences that occur between Australia and middle- and low-income countries. In order to do this effectively, it is necessary to have a thorough knowledge of the concepts of health status and human development (including knowledge of the differences that occur in health status and human development within and between countries).

Refer to the key skill 'Use data to evaluate the health status of Australians' in section 2.6.2 for an explanation of interpreting data and evaluating the health status of Australians.

Once the data are evaluated and statements made, possible reasons for the similarities and differences can be explored.

Show me

TABLE 8.5 shows selected indicators for Australia, Canada and Eritrea. By using the data presented in this table, it is possible to describe the health status and level of human development experienced in Australia compared with Canada and Eritrea and explain possible reasons for a similarity and difference as shown in the data.

TABLE 8.5 Selected health indicators for Australia, Canada and Eritrea

		Life expectancy				% of total DALY attributable to:		
	Income group	Males	Females	Under-5 mortality rate, per 1000 live births, 2021	Adult literacy rate	Communicable diseases	Injuries	Non-communicable diseases
Australia	High	81.3	85.4	3.7	99*	3.34	5.74	90.92
Canada	High	80.6	84.7	5	99*	4.3	9.21	86.48
Eritrea	Low	64.3	68.7	38.1	76.6	52.63	10.3	37.07

* Presumed rate

Source: WHO, World Bank and IHME data.

A suggested approach is as follows:

In both Australia and Canada, the presumed adult literacy rate is 99 per cent, indicating that most people have access to knowledge, a key component of human development. [12] Levels of poverty may contribute to this difference.[13] As high-income countries, levels of poverty in Australia and Canada are low and average incomes are relatively high. This enables governments to collect more taxation revenue, which can be invested in resources such as public education. As a result, most people are able to attend school and learn skills such as literacy, contributing to this similarity.[14]

[12] A similarity in human development is identified with supporting evidence from the table included.
[13] A possible reason for the similarity is identified.
[14] Possible similarities in relation to levels of poverty is used to explain the similarity in literacy rates.

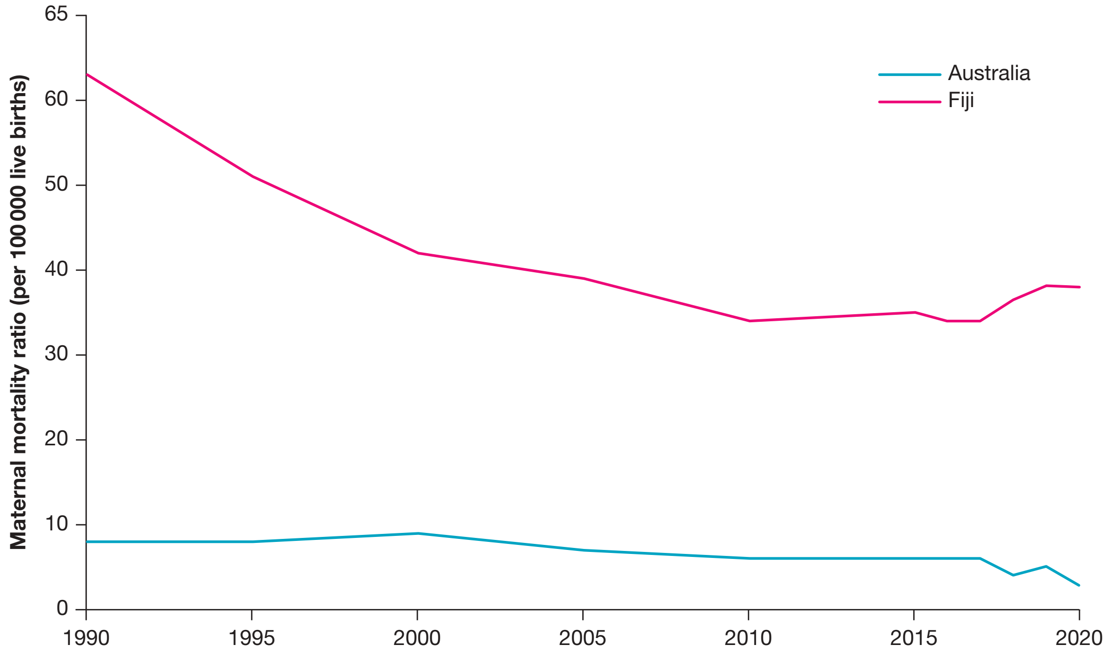
Health status in Australia is better than that in Eritrea according to the data presented in **TABLE 8.5**. The under-5 mortality rate is lower in Australia than Eritrea at 3.7 and 38.1 deaths per 1000 live births respectively.[15] Safe water and sanitation may be more readily available for those in Australia compared to those in Eritrea, which may contribute to this difference.[16] Children are often the most susceptible to conditions such as cholera and dysentery, which can occur when clean water and sanitation are not readily available. These conditions can cause death and may contribute to the difference in the under-5 mortality rate between the two countries.[17]

[15] A specific difference in health status is identified, with evidence from the table used to support the statement. Use specific figures where appropriate.
[16] A possible reason for the difference is identified.
[17] Possible differences in water and sanitation are used to explain the difference in the under-5 mortality rate.

Practise the key skill

9. **FIGURE 8.62** shows the maternal mortality ratio over time in Australia and Fiji, an upper middle-income country. Using data from the graph, outline one similarity and one difference between Australia and Fiji.

FIGURE 8.62 Maternal mortality ratio (per 100 000 live births) in Australia and Fiji from 1990 to 2020



Source: Adapted from World Bank Data, 2024

8.10.5 Analyse factors that contribute to health status and human development in different countries

tlvd-11388

KEY SKILL Analyse factors that contribute to health status and human development in different countries

Tell me

The factors set out in the study design are the ones that should form the focus of this key skill. They are:

- access to safe water
- sanitation
- poverty
- discrimination (race, religion, sex, sexual orientation and gender identity).

In addition to familiarity with these factors, it is necessary to be able to explain key aspects of each factor and how they contribute to health status and human development. In particular, it is important to understand how these factors contribute to the differences and similarities in health status and human development in Australia when compared with low- and middle-income countries.

Show me

In the following example, poverty is first described, then it is discussed in relation to its impact on health status and human development in low-income countries compared to Australia.

Poverty relates to deprivation of resources and often occurs as a result of low income.[18] Poverty can be measured using extreme poverty, which is a measure of the proportion of the population living on less than PPP$2.15 per day. It can also be measured using relative poverty, which is a measure of the proportion of a population living on less than 50 per cent of the average income of the country in which they reside.[19]

Poverty in low-income countries is more prevalent than in high-income countries like Australia. This means that those in low-income countries are less able to afford products that can enhance health status, including food, safe water and health care.[20] As a result, those in low-income countries are more susceptible to conditions such as diarrhoeal disease, which contribute significantly more DALY in low-income countries from under-5 and maternal mortality[21] compared to Australia, where the ability to access these resources is greater, due to higher average incomes.

From a human development perspective, poverty can mean that families do not have enough food to eat. This can lead to not having enough energy to complete daily tasks such as going to school, which reduces access to knowledge, and lowers levels of human development in low-income countries compared to Australia.[22]

If individuals are not able to participate in activities such as education, employment and recreation due to poverty, they may feel that they are not leading lives they value in accordance with their needs and interests, which also contributes to lower levels of human development in low-income countries compared to Australia.[23]

18 The meaning of poverty is stated.

19 Two measures of poverty are identified and explained.

20 Factors that link poverty to health status are identified to make the eventual link to burden of disease more meaningful.

21 Specific links to health status and burden of disease are provided.

22 A link is made from an aspect of poverty to an aspect of human development and a comparison made between Australia and low-income countries.

23 A second link is made from an aspect of poverty to an aspect of human development and a comparison made between Australia and low-income countries.

Practise the key skill

10. Explain what is meant by 'sanitation'.
11. Explain how sanitation can contribute to variations in health status and human development between low-income countries and Australia.
12. Explain how sanitation can promote health status and human development of females globally.

8.10.6 Compare health data and other information to analyse reasons for health inequalities within and between countries

tlvd-1924

KEY SKILL Compare health data and other information to analyse reasons for health inequalities within and between countries

Tell me

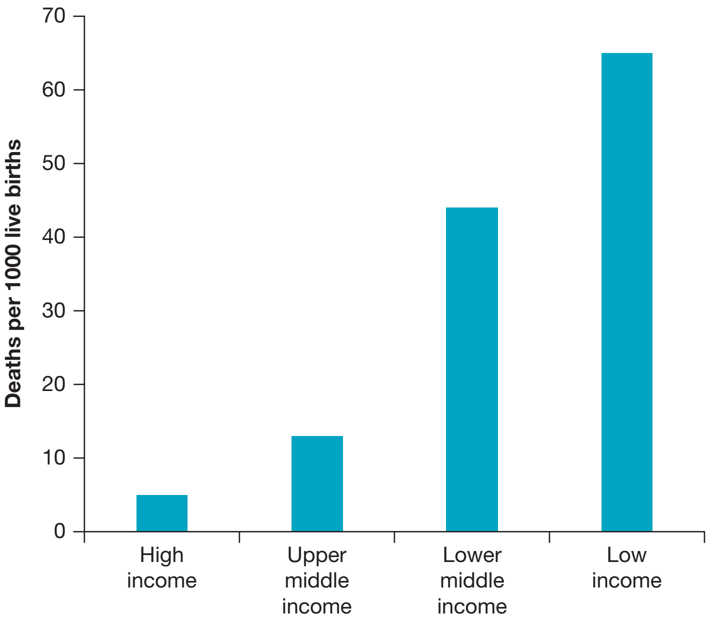
This skill requires the interpretation of information. The information can come in the form of data or other formats such as case studies.

The information will provide stimuli that can be used to analyse reasons for health inequalities within and between countries. The information may relate to health outcomes, such as life expectancy, or factors that contribute to differences, such as discrimination and access to safe water.

Show me

The following discussion uses data in **FIGURE 8.63** to explain the relationship between average income and under-5 mortality, and then discusses reasons for the relationship.

FIGURE 8.63 Under-5 mortality rate (per 1000 live births) in World Bank income groups, 2022



Source: Adapted from https://data.worldbank.org/indicator/SH.DYN.MORT

As average income decreases, the rate of under-5 deaths increases.[24] For high-income countries, the under-5 mortality rate is around 5 per 1000 live births. This increases to around 13 per 1000 live births for upper middle-income countries, 44 per 1000 live births for lower middle-income countries and 65 per 1000 live births for low-income countries.[25]

[24] The relationship between average income and under-5 morality is stated.
[25] Data with the correct unit are used to clarify the relationship.

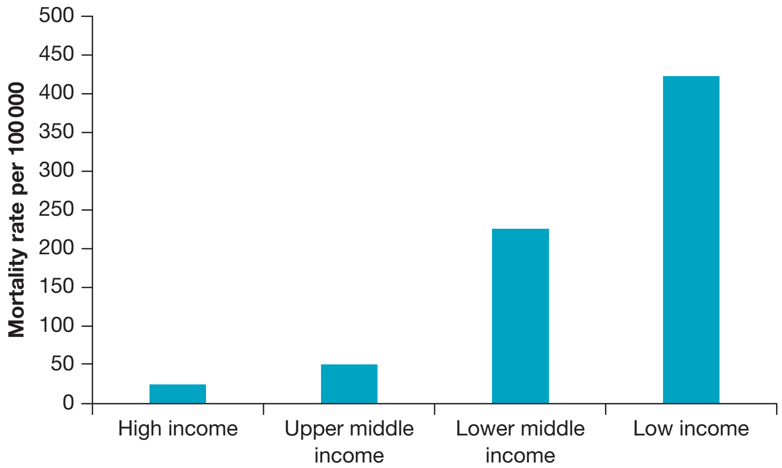
Higher average incomes in high-income countries increase the capacity of people to afford resources such as food.[26] Adequate food promotes immune system function and assists in fighting off infectious diseases, which are a leading cause of death for children aged under five globally.[27] In low-income countries, low average incomes prevent many people from accessing these resources, which contributes to the higher rates of mortality for those aged under five.[28] Compared to those in high-income countries, governments in low-income countries are less able to afford installing infrastructure such as safe water and sanitation systems.[29] As a result, many children are forced to drink unsafe water, increasing their risk of diseases including diarrhoeal diseases, which are leading causes of deaths in children under five.[30]

26 A link between average income and food availability is established.
27 The relationship between food intake and under-5 mortality is described.
28 A comparison between low- and high-income countries is presented.
29 The relationship between average income and the provision of infrastructure is stated.
30 Infrastructure and, specifically, access to water and sanitation, are used to provide a reason for the relationship stated at the beginning of the response.

Practise the key skill

13. **FIGURE 8.64** shows the mortality rate for communicable (infectious) diseases in the World Bank income groups.
  a. Using data, outline the difference in mortality rates due to communicable diseases between low- and high-income countries.
  b. Identify two factors and explain how each may contribute to the difference outlined in **part a**.

FIGURE 8.64 Mortality rate due to communicable diseases (per 100 000) World Bank income groups, 2019



Source: Adapted from: http://vizhub.healthdata.org/gbd-compare

14. Rates of depression are higher for transgender people compared to cisgender people. Discuss possible reasons for this difference.

8.11 EXTENDED RESPONSE — Build your exam skills

tlvd-2883

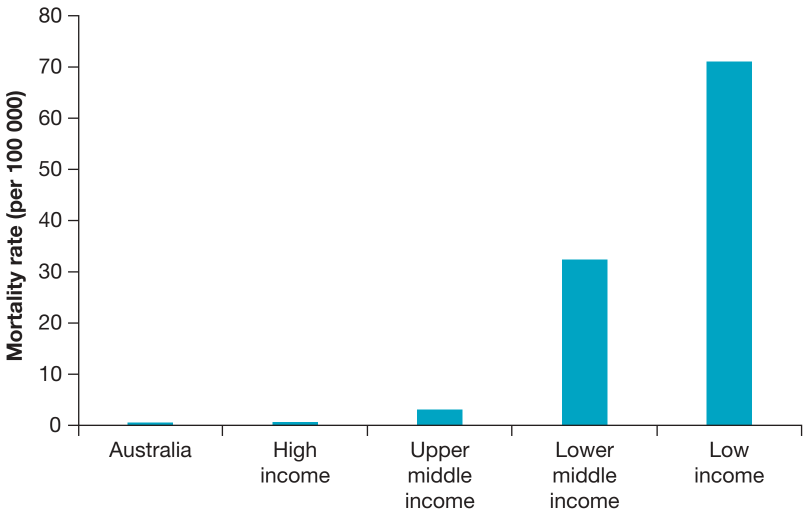
The following sources relate to tuberculosis (TB), an infectious disease.

Source 1

- TB is a contagious bacterial disease that especially affects the lungs, causing fever-like symptoms and destruction of tissue. It can also spread to many other parts of the body, causing secondary problems and often death if not treated.
- TB spreads through the air from one person to another. The bacteria can be released into the air when a person with the bacteria in their lungs or throat coughs, speaks or sings. People nearby may breathe in these bacteria and become infected.
- TB is NOT spread by shaking someone's hand, sharing food or drink, touching bed linens or toilet seats, sharing toothbrushes or kissing.
- TB can be prevented through a range of interventions, including vaccination.
- TB can be effectively treated with appropriate medical care.

Source 2

The following graph shows age-standardised mortality rates (per 100 000) due to TB in Australia and the World Bank income groups in 2019.



Source: Adapted from IHME, 2021.

Source 3

According to the AIHW, in Australia:

- at the beginning of the twentieth century, TB was a major cause of death, ranking second among males and first among females
- deaths from TB were virtually eliminated by the 1980s. In 1907, the death rates were 121 and 93 deaths per 100 000 population for males and females respectively; by 2000 they were less than 1 per 100 000.
- those with a healthy immune system may be able to avoid clinical illness even if infected, but in those with a weakened immune system the chances of becoming ill are greater
- instances of TB still occur in migrant populations and in persons with immunity-depressing conditions such as HIV/AIDS.

Source: AIHW 2005. *Mortality over the twentieth century in Australia: Trends and patterns in major causes of death*. Mortality Surveillance Series no. 4. AIHW cat. no. PHE73. Canberra: AIHW.

Use the information provided and your own knowledge to analyse reasons that might account for the change in health status relating to TB in Australia over time and the variations in health status and the level of human development experienced due to TB that exist between Australia and low-income countries. **15 marks**

TIPS

- First, break the question down into parts.
- Once the question is broken down, remember to incorporate your own knowledge relating to reasons for changes in health status in Australia over time. Old public health and biomedical interventions are particularly relevant in this instance. Your understanding of low-income countries should also be used to discuss why the improvements experienced in Australia are not universal.
- When using data, ensure you use the correct units and approximate the values the data presents.
- Colour-coding should be used to ensure all elements of the question are addressed. Citing the relevant sources in the response will help to ensure that all are included at some stage in the response.

8.12 Review

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8.12.1 Topic summary

8.2 Economic characteristics of low-, middle- and high-income countries

- Countries can be classified as low-, middle- and high-income.
- There are many characteristics common to low-, middle- and high-income countries, including economic, social and environmental characteristics.
- Most of the world's population live in low- and middle-income countries.
- Economic characteristics of high-income countries include low levels of poverty, a wide range of industries, opportunities for global trade and high average incomes.

8.3 Social and environmental characteristics of low-, middle- and high-income countries

- Social characteristics of high-income countries include higher levels of gender equality, low birth rates and population growth, high levels of employment, high levels of education, developed social security systems, developed health systems, access to technology and developed legal systems.
- Environmental characteristics of high-income countries include access to safe water and sanitation, food security, adequate housing, adequate infrastructure and high levels of carbon dioxide emissions.

8.4 The concept of human development

- Human development refers to creating an environment in which people can develop to their full potential and lead productive, creative lives according to their needs and interests.
- It is about expanding people's choices and enhancing capabilities (the range of things people can be and do); having access to knowledge, health and a decent standard of living; and participating in the life of their community and decisions affecting their lives.

8.5 The advantages and limitations of the Human Development Index

- The Human Development Index (HDI) ranks the development of countries based on more than economic wealth. It takes three dimensions (a long and healthy life, knowledge and a decent standard of living) and four indicators (life expectancy at birth, mean years of schooling, expected years of schooling and Gross National Income per capita) into account.
- Advantages of the HDI include that it:
  - takes more than just average incomes into account, and so provides a more comprehensive representation of the level of human development experienced
  - takes multiple factors into account and produces a single statistic, which is beneficial for comparing countries and monitoring progress over time
  - is effective for analysing progress that is made by countries over time
  - has captured the attention of many aspects of society and promotes improvements in relation to human development.
- Limitations of the HDI include that it:
  - only reflects selected aspects of human development, so it doesn't fully measure human development.
  - is based on averages and, as a result, does not provide an indication of the inequalities that exist within countries
  - doesn't collect survey data, so people's feelings about their lives and issues facing communities are not reflected, which are important considerations for human development.

- relies on data collected in hundreds of countries, which can compromise accuracy
- has been equated with the concept of human development, which neglects key aspects of human development including freedom, choices and capabilities.

8.6 Similarities and differences in health status and human development in low-, middle- and high-income countries

- Low- and middle-income countries are more susceptible to fluctuations in their health status.
- Low- and middle-income countries generally have lower life expectancy and higher death rates than high-income countries.
- Child and adult mortality rates are higher in low- and middle-income countries than they are in Australia.
- As the average income decreases, so does health status. Low-income countries, for example, experience worse health status than middle- and high-income countries.
- Low- and middle-income countries experience much higher rates of communicable disease such as HIV/AIDS and malaria.
- Many low- and middle-income countries are experiencing economic growth and have a small percentage of wealthy people. As a result, they experience a 'double burden'. This means that, while dealing with the issues of a low-income country (such as undernutrition and communicable diseases), they also have to deal with diseases of affluence that usually affect high-income countries (such as cardiovascular disease and obesity).

8.7 Access to safe water and sanitation as factors affecting health status and human development

- Clean water is required for a range of human functions. Lack of access to safe water contributes to the high rates of infectious diseases and premature death in low- and middle-income countries. It can also keep children out of school (as a result of illness or having to collect water), which can impact human development in the long term.
- Sanitation relates to the safe removal of human waste from the immediate environment. Around a third of the world's population lack access to adequate sanitation, contributing to higher rates of infectious diseases and U5MR. Lack of sanitation also impacts human development by preventing children, especially females, from accessing education.

8.8 Poverty as a factor affecting health status and human development

- Millions of people in low- and middle-income countries live on less than PPP$2.15 per day, which contributes to poor health status by limiting access to food, water, health care, education and shelter. Poverty also impacts human development by giving people fewer choices in life in relation to education, employment, living conditions and leisure activities.

8.9 Discrimination as a factor in health status and human development

- Minority population groups are often discriminated against in education, employment and social inclusion, resulting in poorer health status and human development.

on Resources

Digital document Summary (doc-41596)

8.12.2 Key terms

acquired immune deficiency syndrome (AIDS) the most advanced stage of HIV infection
communicable diseases infectious diseases that are transmitted from the environment, including through air, water, food and other infected organisms (including other humans)
discrimination when a person or group of people is treated differently than other people, often a result of factors such as race, religion, sex, sexual orientation and gender identity

double burden of disease when conditions associated with both poverty and wealth, such as undernuitrition and obesity, exist side-by-side in one community
extreme poverty living on less than PPP$2.15 per day
gender equality when males and females have equal rights, responsibilities and opportunities
Gross Domestic Product (GDP) a measure that reflects the economic state of a country; the value of all goods and services produced in a country in a 12-month period
Gross National Income (GNI) the total value of goods and services a country's citizens produce, including the value of income earned by citizens who may be working in an overseas country
human development creating an environment in which people can develop to their full potential and lead productive, creative lives according to their needs and interests. It is about expanding people's choices and enhancing capabilities (the range of things people can be and do), having access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives (adapted from the UN Development Programme, 1990).
Human Development Index (HDI) a tool developed by the United Nations to measure and rank countries' levels of social and economic development. It provides a single statistic based on three dimensions (a long and healthy life, knowledge and a decent standard of living) and four indicators (life expectancy at birth, mean years of schooling, expected years of schooling and Gross National Income per capita).
human immunodeficiency virus (HIV) an infection that results in the gradual depletion and weakening of the immune system, resulting in increased susceptibility to other infections such as pneumonia and tuberculosis
human immunodeficiency virus (HIV) an infection that results in the gradual depletion and weakening of the immune system, resulting in increased susceptibility to other infections such as pneumonia and tuberculosis
latrine a simple communal toilet facility, often a trench dug in the ground or a pit
malaria a communicable disease that is transmitted via infected mosquitoes
non-communicable diseases conditions that are usually long-lasting and generally progress slowly. Non-communicable diseases are not spread through the environment and include cardiovascular disease, cancer, respiratory diseases and diabetes.
primary production the process of producing natural products for human use, such as plants and animals
relative poverty refers to those living on less than 50 per cent of the country's average income
subsistence farming self-sufficient farming carried out by individuals to provide food for themselves and their family
urban slums a settlement, neighbourhood or region comprised of housing that does not provide the essential conditions required to live a healthy life

8.12 Exercises

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8.12 Exam questions

Question 1 (2 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.1.a;* © VCAA

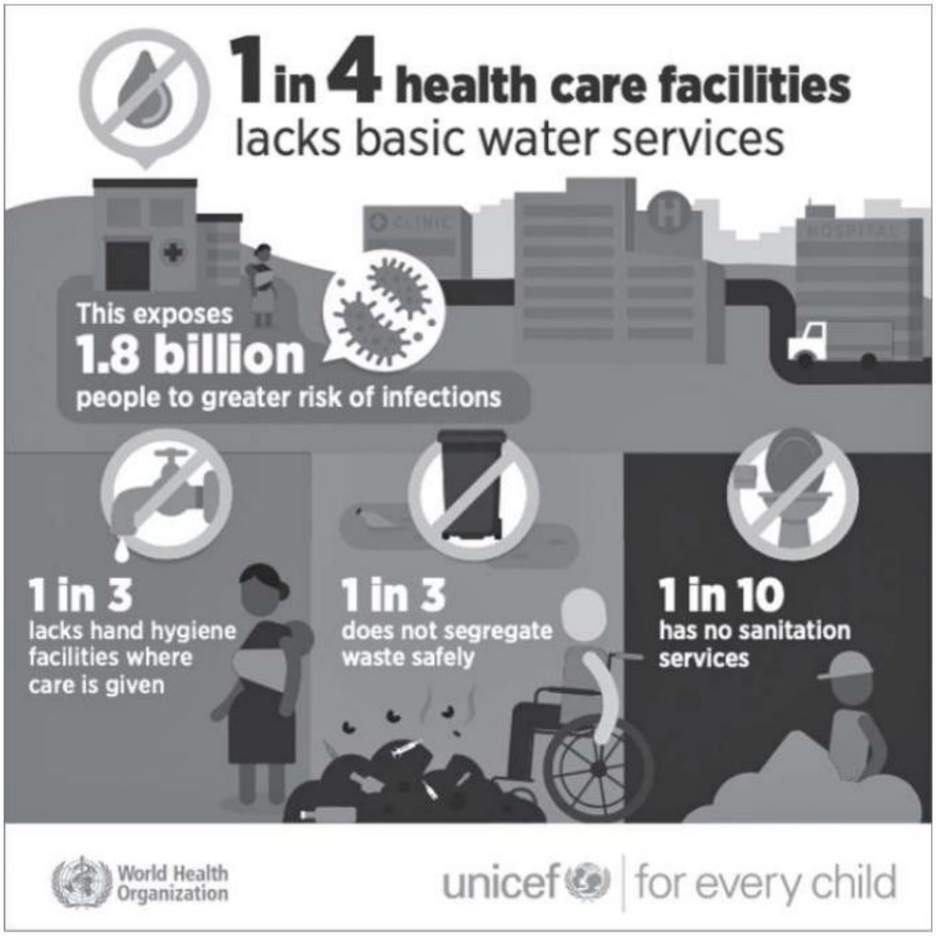
	Share of birth attended by skilled health staff (2017)	Maternal mortality ratio (no. of maternal death per 100 000 live births) (2017)
Australia	96.7%	6
Ghana	78.1%	308
Haiti	41.6%	480

Data: adapted from M Roser and H Ritchie, 'Maternal mortality', 2013, published online at https://ourworldindata.org

Haiti is classified as a low-income country. **Identify** two characteristics, other than those listed in the table above, that could be used to classify a country as low-income.

Question 2 (4 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.11.b*; © VCAA



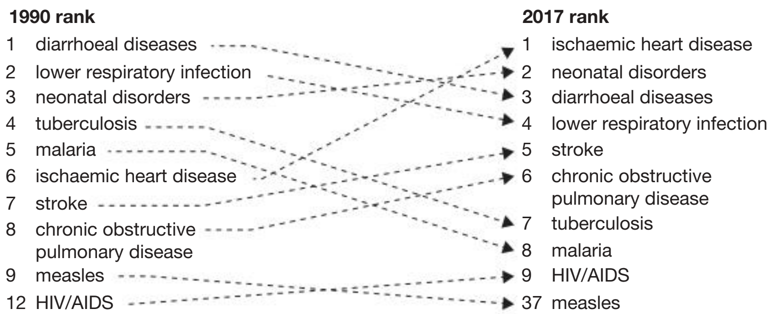
Source: World Health Organization, '1 in 4 health care facilities lacks basic water services', graphics (poster), 14 December 2020, www.who.int/multi-media/details/1-in-4-health-care-facilities-lacks-basic-water-services

Explain how a lack of basic water services in healthcare facilities could have an impact on human development.

Question 3 (6 marks)

Source: *VCE 2020, Health and Human Development Exam, Q.9.b,c;* © VCAA

Ranking of diseases in low-income countries, both sexes, all ages, per cent of total deaths



a. **Outline** two characteristics of a low-income country. **2 marks**

b. The percentage of total deaths due to tuberculosis and malaria decreased between 1990 and 2017. For either tuberculosis or malaria, **explain** how the biomedical and social models of health may have led to a reduction in the percentage of total deaths caused by your selected disease between 1990 and 2017. **4 marks**

Question 4 (11 marks)

Source: Adapted from *VCE 2020, Health and Human Development Exam, Q.10;* © VCAA

Country	Life expectancy at birth 2018	Under-5 mortality rate (death per 1000 live births)	Maternal mortality ratio 2017	Access to basic drinking water services	Access to basic sanitation services (%) 2017	Total fertility (live births per woman) 2018	GNI per capita (US$) 2018
Afghanistan	64	62	638	67	43	45.0	550
Australia	83	4	6	100	100	1.8	53 250
Mexico	75	13	33	99	91	2.1	9 180
Italy	83	3	2	99	99	1.3	33 770
Fiji	67	26	34	94	95	2.8	5 860

Sources: UNICEF, *The State of the World's Children 2019: Children, food and nutrition: Growing well in a changing world*, UNICEF, New York, 2019, pp. 192, 193, 196, 197, 200, 201, 240 and 241 (all except GNI per capita); The World Bank,GNI per capita, Atlas method (current US$), https://data.worldbank.org/indicator/NY.GNP.PCAP.CD

a. **Identify** one country that would be considered a middle-income country and use data from the table above to justify your response. **2 marks**

b. Using data from the table above, **discuss** how access to basic drinking water and basic sanitation services could have an impact on health status. **3 marks**

c. **Describe** how poverty and inequality and discrimination based on sex could have an impact on health status and human development. **6 marks**

Question 5 (3 marks)

Besides income, **outline** one economic, one social and one environmental characteristic of middle-income countries.

on Resources

Digital document Key terms glossary (doc-41595)

Interactivities Crossword (int-9242)

Definitions (int-9243)

Exam question booklet Topic 8 Exam question booklet (eqb-0252)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 8 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

8.4 Human development worksheet (doc-32223) ☐
8.6 HIV/AIDS worksheet (doc-32222) ☐
Malaria worksheet (doc-32216) ☐
8.7 Water worksheet (doc-32217) ☐
Sanitation in India worksheet (doc-32218) ☐
8.8 Poverty worksheet (doc-32219) ☐
8.9 Girl effect worksheet (doc-32220) ☐
8.12 Summary (doc-41596) ☐
Key terms glossary (doc-41595) ☐

Interactivities

8.6 Health-adjusted life expectancy (HALE) and life expectancy for males and females, globally, in Australia and in the World Bank income groups, 2019 (int-8517) ☐
Proportion of the population that can expect to live to age 65 (%), males and females, 2021 (int-8518) ☐
Mortality rates for broad disease and injury groups, — globally, in Australia and in the World Bank income groups, 2019 (int-8519) ☐
YLL rate in selected groups and Australia due to selected causes, 2019 (int-8520) ☐
Years of life lost to certain conditions as a percentage of the total years of life lost, 2019 (int-8521) ☐
YLD rate in selected groups and Australia, 2019 (int-9303) ☐
8.12 Crossword (int-9242) ☐
Definitions (int-9243) ☐

Teacher-led videos

8.4 What is human development? (tlvd-0266) ☐
8.5 Human Development Index (tlvd-0267) ☐
8.10 Key skill: Describe characteristics of high-, middle- and low-income countries (tlvd-11385) ☐
Key skill: Explain the concept of human development (tlvd-11386) ☐
Key skill: Explain the Human Development Index and evaluate its usefulness in measuring human development in different countries (tlvd-1926) ☐
Key skill: Evaluate data to analyse similarities and differences between countries in relation to health status and human development (tlvd-11387) ☐
Key skill: Analyse factors that contribute to health status and human development in different countries (tlvd-11388) ☐
Key skill: Compare health data and other information to analyse reasons for health inequalities within and between countries (tlvd-1924) ☐
8.11 Extended response: Build your exam skills (tlvd-2883) ☐

Weblinks

8.4 Human development ☐
8.6 HIV/AIDS ☐
Malaria
8.7 Water ☐
Sanitation in India
8.8 Poverty ☐
8.9 Girl effect ☐

Exam question booklet

8.12 Topic 8 Exam question booklet (eqb-0252) ☐

To access these online resources, log on to **www.jacplus.com.au**

9 Sustainability

LEARNING SEQUENCE

9.1 Overview

	Key knowledge	Key skill	Subtopic
○	The concept and dimensions of sustainability (environmental, social and economic) and its role in the promotion of health and human development	Explain sustainability (environmental, social and economic) and its importance in the promotion of health and human development in a global context	**9.2, 9.3, 9.4**

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

biodiversity

economic sustainability

environmental sustainability

non-renewable resources

renewable resources

social sustainability

sustainability

Exam terminology

Explain	Make plain, make clear (may require reasons)

on Resources

Digital document	Key terms glossary (doc-41597)
Exam question booklet	Topic 9 exam question booklet (eqb-0253)

9.2 The economic dimension of sustainability

Key knowledge	Key skill
The concept and dimensions of sustainability (economic) and its role in the promotion of health and human development	Explain sustainability (economic) and its importance in the promotion of health and human development in a global context

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

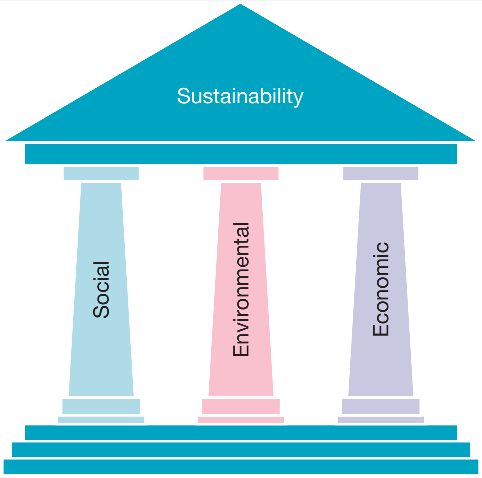
You need to know:	You need to be able to:
• what sustainability relates to • what economic sustainability relates to • how economic sustainability can influence health and wellbeing, health status and human development in a global context.	• explain what is meant by sustainability • explain what is meant by economic sustainability • make meaningful links from aspects of economic sustainability to health and wellbeing, health status and human development in a global context.

In topic 8, the inequalities in health and human development that exist between different income groups and the factors that contribute to them were explored. Addressing these factors with the goal of promoting health and human development is the goal of governments, non-government groups and individuals. Ensuring improvements in health and human development are sustainable is an important consideration in this process.

9.2.1 Sustainability

Sustainability is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. This refers to meeting today's needs and planning the country's growth without creating problems or depleting resources for future generations.

FIGURE 9.1 The three dimensions of sustainability are all important in promoting overall sustainability.



EXAM TIP

When discussing aspects of sustainability, a focus on future generations is essential. To ensure this requirement is met, responses should show that future generations have been considered. This can be achieved by including phrases such as 'can be maintained into the future', 'will allow future generations to access these resources' and 'can therefore promote health outcomes indefinitely'.

The United Nations considers three dimensions of sustainability, which are related to the three characteristics of low-, middle- and high-income countries explored in topic 8. Like the characteristics, the three dimensions of sustainability are related and influence each other. For example, sustainable access to clean water (environmental sustainability) can promote social sustainability, because girls will not have to spend time collecting water and are more likely to be able to access a decent education. A more educated population will be more innovative in relation to developing new industries (economic sustainability).

The three dimensions are often referred to as the three pillars of sustainability, because they all play a role in achieving overall sustainability (see **FIGURE 9.1**).

sustainability meeting the needs of the present without compromising the ability of future generations to meet their own needs

on Resources

Teacher-led video Concepts of sustainability (tlvd-0265)

EXAM TIP

Each dimension of sustainability has the potential to promote health and human development in countless ways, but it is not possible to explore each possible impact in this topic. It is important to practise making links between the three dimensions of sustainability and dimensions of health and wellbeing, health status indicators and aspects of human development. Provided the explanation is logical, it will be eligible for marks.

EXAM TIP

The key skill associated with this topic is 'explain sustainability and its importance in the promotion of health and human development in a global context'. This means that links will need to be made from each of the three dimensions of sustainability to specific aspects of health and wellbeing, health status and human development.

The question may also state that the discussion has to be in a 'global context'. In order to satisfy this requirement, answers must show that the links go beyond just one person or population. Using terms such as 'all people worldwide', 'globally' and 'all people in all countries' can assist in achieving this.

9.2.2 Economic sustainability

This dimension is about using resources efficiently so that economic growth continues over time. It includes creating opportunities for employment and job security, as well as achieving financial security for individuals, families, communities and nations, both now, and into the future. The economic dimension of sustainability contributes to the eradication of poverty and ensures that individuals, families, communities and nations have the resources necessary to promote health and wellbeing, now and into the future. Low- and middle-income countries often experience low levels of economic sustainability.

Economic sustainability means ensuring that average incomes in all countries are adequate to sustain a decent standard of living and continue to rise in line with inflation and living costs in the future. Adequate incomes also mean that the government receives more funds through taxation and can provide public services to promote the health and human development of its citizens. There are many ways that economic sustainability can promote health and human development. Some examples include:

economic sustainability ensuring that average incomes in all countries are adequate to sustain a decent standard of living and continue to rise in line with inflation and living costs in the future

- ensuring that all people can earn a decent income — this allows people to purchase health-promoting resources including food, shelter, education and basic health care. Adequate food intake works to promote physical health and wellbeing by providing adequate levels of energy and promoting immune system function. This promotes health status by reducing the incidence of infectious diseases and reducing mortality rates, especially the U5MR, because children are more susceptible to infectious diseases. Being able to pay for education increases access to knowledge, which promotes human development.
- increasing the capacity of governments to provide services and infrastructure — the provision of infrastructure for clean water and sanitation promotes physical health and wellbeing by reducing the risk of infectious diseases. It also promotes health status by reducing YLL associated with these conditions. Public education and transport systems promote the ability of people to earn an income in

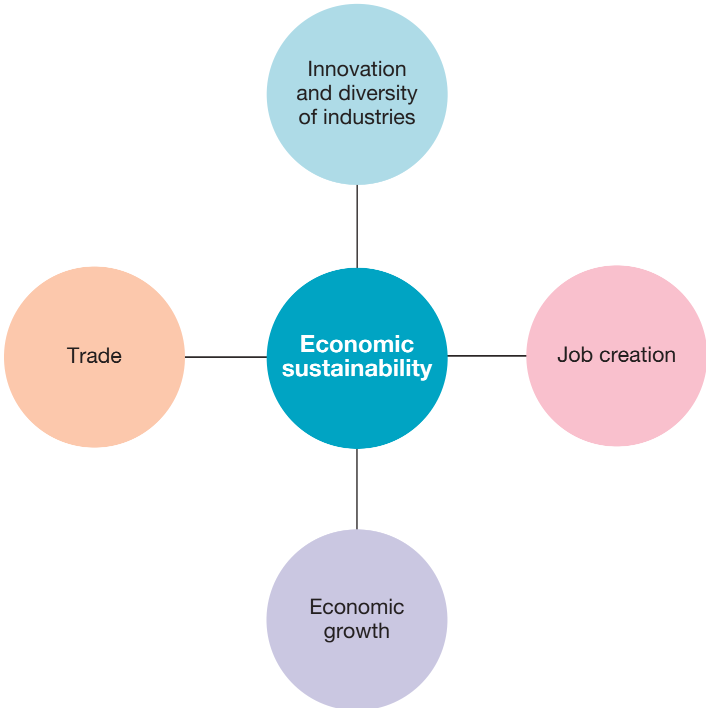
FIGURE 9.2 Economic sustainability increases governments' capacity to build and maintain infrastructure, such as roads, bridges and train lines.

the future, which increases their ability to afford the resources required for a decent standard of living, such as clothing, shelter and leisure activities.

- ensuring children can stay in school — economic sustainability means children will not be forced into labour due to poverty; instead they may remain at school, increasing their ability to lead lives they value in accordance with their needs and interests. It also promotes social interaction, which is an aspect of social health and wellbeing. Education can also increase health literacy, so people are more aware of healthy behaviours such as safe sex, which decreases the incidence of HIV, which can reduce mortality rates and increase life expectancy.

To ensure economic sustainability and the associated benefits for health and human development, consideration must be given to the factors identified in **FIGURE 9.3**.

FIGURE 9.3 Considerations for achieving economic sustainability



Innovation and diversity of industries

Countries require a range of industries to promote economic growth and stability. Many low- and middle-income countries rely on agriculture as their sole industry, which is heavily dependent on factors such as weather patterns and global markets, which are unstable and can prevent the economy from growing. A range of industries are required to ensure that interruptions to specific industries (such as a drought for the agricultural industry) will not cause economic catastrophe within a country. Research and development is required to establish industries that can provide sustainability and be a vehicle for economic growth.

FIGURE 9.4 Technological advancements, such as robotics, require high-income countries to develop new industries to maintain high average incomes.

Diversity of industry is a concern for all countries. Many of the established industries in high-income countries are undergoing significant change due to technological advancements, including robotics and automation. As a result, new and innovative industries must be developed to ensure average incomes can be maintained and improved for the next generation.

Job creation

Job creation is a particular concern in low- and middle-income countries, but all countries experience the negative impacts of unemployment. Adequate employment opportunities are a vital component of economic sustainability because people can earn a wage, avoid poverty and contribute to their country's economy. As the world's population grows, economic sustainability will mean more jobs are required so that all people of working age have the opportunity to work. Ensuring industries continue to evolve is an important part of job creation.

Economic growth

Ensuring economic sustainability requires sustained growth in Gross National Income (GNI) per capita to counter the impact of inflation, and to ensure that governments can continue to provide services, infrastructure and developments relating to industry. Although the GNI per capita is growing in most countries, if all people are to share in the benefits of a growing economy, a more equal distribution of income is required.

Achieving economic growth must not be done in a manner that decreases the ability of future generations to sustain economic growth and enjoy the associated benefits for health and human development. For example, depleting natural resources such as coal may provide economic growth for the current generation, but this resource will not be available for future generations to use for their own economic growth.

Trade

Producers in low- and middle-income countries must be able to trade their goods on the global market to increase their incomes and assist in growing their country's economy. In an attempt to keep prices low in high-income countries, producers in low- and middle-income countries have traditionally been paid less than what their products are worth. This unfair trading model has made it difficult for lower income countries to promote their economy and reduce poverty.

Unfair trade prevents poor countries adding value to their exports. Low- and middle-income countries often lack the processing capabilities to turn their raw products into something more valuable. For example, a jar of coffee costs a lot more than the cost of the beans that were required to make it. Much of this difference is due to the production process that the raw coffee beans undergo, such as roasting and packaging. If low- and middle-income countries could process the beans themselves, they could make a greater profit. The price coffee producers receive for their raw beans in low- and middle-income countries is often not sufficient to develop production industries, which perpetuates the poverty cycle.

FIGURE 9.5 Trade is an important component of economic sustainability.

Fair trade is seen as an opportunity to reverse this pattern. Fair trade is about achieving greater opportunities for international trade, decent working conditions and fair prices for producers in low- and middle-income countries. With a greater focus on fair trade, those in low- and middle-income countries have more opportunities to receive a fair price for their products, which assists in reducing poverty and achieving a more equal spread of wealth around the world. Poverty reduction is an essential component in the promotion of health and human development globally.

9.2 Exercises

9.2 Quick quiz on

9.2 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
2, 3	1, 4, 5, 6	7, 8

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Test your knowledge

1. a. Explain what is meant by 'sustainability'.
   b. Explain why sustainability is an important consideration for promoting health and human development.
2. Identify the three dimensions of sustainability.
3. Explain what is meant by 'economic sustainability'.
4. Explain why the development of new industries is important for low- and middle-income countries.
5. Explain why the development of new industries is important for economic sustainability in high-income countries.

Apply your knowledge

6. Outline the four factors that are important for economic sustainability.
7. Explain one way that each factor outlined in question 6 can promote health and human development in a global context.
8. Explain how achieving economic sustainability could assist in reducing the global maternal mortality ratio.

9.2 Exam questions

Question 1 (2 marks)

Source: *VCE 2013, Health and Human Development, Section A, Q.9;* © VCAA

How does the United Nations (UN) **define** 'sustainability'?

Question 2 (1 mark)

Define 'economic sustainability'.

Question 3 (3 marks)

Identify a characteristic of economic sustainability and **describe** how it promotes health and wellbeing.

Question 4 (2 marks)

Read the following case study.

> **Malawi Seeds of Hope**
>
> The planting of trees as a renewable resource will benefit the people of Malawi in many ways. In the short term, new trees provide food and raw materials. Long-term benefits include storage, shade and enriched soil. For example, baobab leaves are consumed as a vegetable and can be harvested just one year after planting a seedling. Within five years, the trees begin to bear fruit, which can also be eaten or sold. The bark of the tree can be harvested for use as a strong, durable fibre to make twine, rope or other building materials. The bark grows back and can be harvested every two to five years.
>
> In the subtropical climate of Malawi, the oxygen and water condensation released to the atmosphere by trees is critical for rain to protect the people and the land from drought and famine. Additionally, the tree's root systems help prevent soil degradation and erosion, while the trees themselves provide shade and protection to people and animals alike.

Explain how the concept of sustainability is reflected in the above case study.

More exam questions are available in your learnON title.

9.3 The social dimension of sustainability

Key knowledge	Key skill
The concept and dimensions of sustainability (social) and its role in the promotion of health and human development	Explain sustainability (social) and its importance in the promotion of health and human development in a global context

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

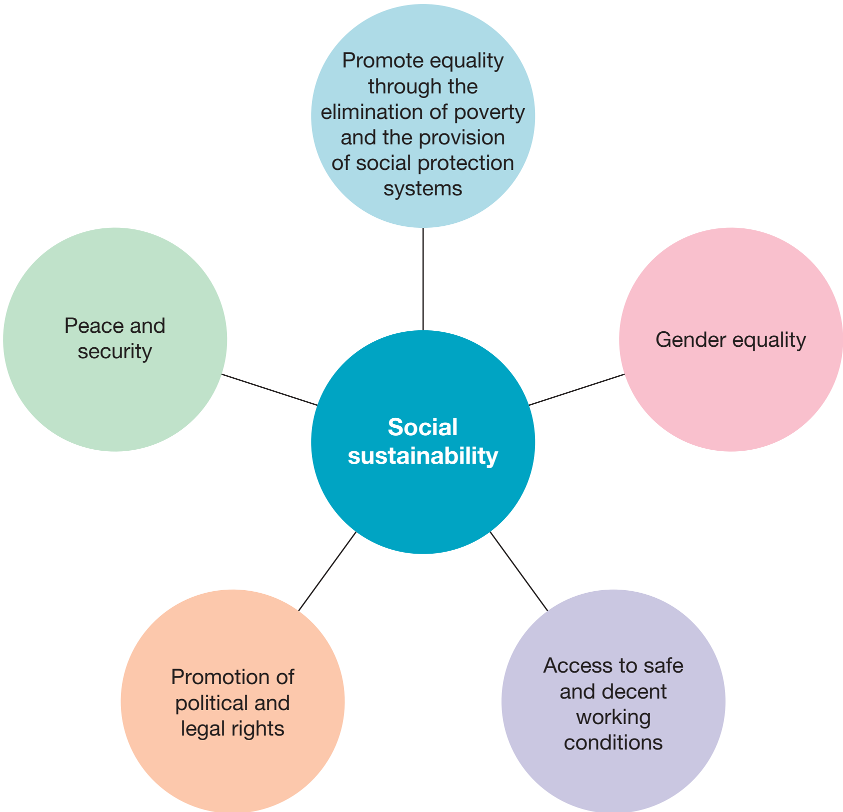
You need to know:
- what social sustainability relates to
- how social sustainability can influence health and wellbeing, health status and human development in a global context.

You need to be able to:
- explain what is meant by social sustainability
- make meaningful links from aspects of social sustainability to health and wellbeing, health status and human development in a global context.

Social sustainability is about ensuring an equitable society in which all people have access to social resources both today and in the future. It includes access to human rights, education, health care, political empowerment and connection to community. Social sustainability builds skills and capacities, improves the quality of lives and increases equity, inclusion and resilience, and is therefore essential for the health and wellbeing of individuals as well as local, national and global communities. The underlying aim of social sustainability is to ensure that all people:
- have their human rights upheld
- can participate in the society in which they live, including establishing and maintaining community connections
- can participate in the decisions that affect their lives, including political empowerment
- experience equal access to social resources such as education and health care.

social sustainability creating an equitable society where all people can access social resources, both now and into the future

FIGURE 9.6 Considerations for achieving social sustainability



To be socially sustainable, progress must lead to improvements in the health and human development of all people over time, especially those who currently experience inequality. To ensure social sustainability, a number of conditions must be available to all people (see **FIGURE 9.6**).

9.3.1 Promote equality through the elimination of poverty and the provision of social protection systems

Globally, hundreds of millions of people live in poverty, with the majority living in low- and middle-income countries. Although the economies of many countries are experiencing growth, unequal access to financial resources continues to create a divide between rich and poor. In order for improvements in health and human development to be sustainable, all people must be able to enjoy the benefits that can accompany economic growth.

Social protection systems provide support for vulnerable people who are unable to earn an income, including as the result of illness or unemployment. Social protection systems assist in providing access to essential resources such as housing, food and basic health care. In Australia, income support is available through the federal government body Centrelink. In many low- and middle-income countries, the absence of social protection systems drives vulnerable groups further into poverty.

social protection assistance provided by governments to vulnerable people to meet basic needs such as income, food and housing

If poverty is eliminated, all people can access the resources required for a decent standard of living, such as education, food, clean water, adequate housing and sanitation. This promotes health and human development by:

- reducing the risk of infectious diseases, which promotes physical health and wellbeing, as well as reducing the under-5 mortality rate and increasing the ability of people to lead long and healthy lives
- increasing mental health and wellbeing because people are less likely to experience stress and anxiety due to limited access to resources such as food and health care. Access to food and health care also works to promote health status by reducing morbidity and mortality rates from treatable conditions.

9.3.2 Gender equality

Gender equality is still a significant issue globally. The achievement of optimal health and human development is not possible if half the population is denied human rights and equal opportunities.

Women and girls must be able to access the same opportunities as men and boys in relation to education, employment, leadership and decision-making. Gender equality means more educated people working productively, which promotes economic sustainability, an essential component of overall sustainability. As well as contributing to economic growth, gender equality can promote spiritual health and wellbeing, because females feel more a part of the society in which they live if they are socially included. By having more say in their lives, females may feel more satisfied with life, which promotes human development.

FIGURE 9.7 Gender equality in education is vital for social sustainability.

Gender equality includes the elimination of all forms of discrimination and violence against women and girls. This assists in promoting health and human development in a number of ways, including:

- improved physical health and wellbeing, because women will be less likely to experience injuries as a result of violence
- decreased incidence of injuries and rates of premature death, because women will be less likely to experience the impacts of violence and discrimination
- improved human development, because females will be more empowered to make their own decisions about their lives, such as whether and whom they marry.

9.3.3 Access to safe and decent working conditions

Safe and decent working conditions ensure that all people can access meaningful employment, including women, young people and those with disabilities. Currently, billions of people are either unemployed or working in conditions that violate their basic human rights and destroy their dignity. Extreme poverty and the promise of a better life are often underlying factors in human trafficking, forced labour and child labour. The International Labour Organization (ILO) estimates that, globally, there are around 21 million people in forced labour and around 2.5 million people who have been trafficked and are being subjected to labour exploitation, including sexual exploitation.

It is estimated that 150 million children between the ages of five and 17 currently work in conditions that are considered illegal, hazardous or extremely exploitative. Large numbers of children work in commercial agriculture, fishing, manufacturing, mining and domestic service. Some children work in illicit activities such as the drug trade and prostitution, or other traumatic activities, such as serving as child soldiers.

FIGURE 9.8 Child labour must be eliminated to achieve social sustainability.

Access to safe and decent working conditions would see an end to child labour and forced and unsafe conditions, and assist in reducing poverty. This would have a range of benefits for health and human development, including:

- children would be able to stay in school and socialise with their peers, which promotes social health and wellbeing and access to knowledge
- fewer people would be forced into prostitution, which reduces their risk of contracting HIV and other STIs, reducing mortality and morbidity rates
- people working in safe and decent jobs are more likely to experience positive emotions, including pride and satisfaction, which promotes emotional health and wellbeing
- people experiencing safe and decent working conditions will feel safe at work and earn a reliable income, which can improve the ability to afford the resources required for a decent standard of living such as food and shelter
- safe and decent work allows people to participate in the life of their community.

9.3.4 Promotion of political and legal rights

The opportunities available in a society must be equitable for all people. Women, indigenous populations and ethnic minorities are often under-represented in governments, and often do not have their rights upheld. According to the United Nations, in 2023, only 26 per cent of all national parliamentarians were women, up from 11 per cent in 1995. In 23 countries, women numbered less than 10 per cent of parliamentarians, and in six governments there were no women at all. Under-representation of indigenous people and ethnic minorities is still a problem for governments in many low-, middle- and high-income countries. When specific groups are not adequately represented in government, policies are less likely to be developed that promote awareness and action towards issues that affect the health and human development of these groups, which makes it difficult to break the cycle of poverty and achieve social sustainability.

FIGURE 9.9 The right to vote is important for promoting social sustainability.

In many countries, laws are developed to protect the citizens' human rights by making discriminatory acts illegal. Despite these interventions, many groups are not adequately protected under the law of the country in which they live. As a result, many groups, including women, experience high rates of crime and a reduced ability to participate in the community in which they live, such as not being able to vote, secure a loan, drive a car or own land. Such discrimination can also contribute to forced displacement from their homes.

Improving political and legal rights can promote health and human development by:

- developing policies that prevent discrimination and promote equal opportunity for education and employment. This increases participation in the community in which people live and enhances their capabilities by developing knowledge and work-related skills.
- connecting women, indigenous people and ethnic minorities to the communities in which they live, which can reduce the incidence of depression and anxiety
- addressing violence against women, which reduces the risk of injury from violence, which promotes physical health and wellbeing.

9.3.5 Peace and security

A peaceful environment and society are essential for promoting optimal health and human development. When a country is in conflict, its level of health and human development may be significantly lower than in times of peace.

During times of peace and security, besides the obvious reduction of death and injury from conflict, there are a range of associated effects on health and human development for all members of society, including:

- financial resources are not being directed to a war effort, so the government is in a better position to provide essential resources for its citizens, including infrastructure, education, health care and social protection, which increases the ability of people to access the resources required for a decent standard of living
- the environmental impact of war does not occur, which increases access to food and services such as health care. Water and sanitation facilities and electricity supplies can also be maintained and people are less

likely to be displaced. This reduces the risk of malnutrition and premature death, which increases life expectancy.
- adults can continue to work and children can attend school, which means people can increase the choices they have in life in relation to socialising with others and enjoying leisure time
- people can go about their daily lives, performing activities such as attending work or going to school. This promotes all areas of health and wellbeing because people can work to reduce poverty, which assists in providing resources such as food, water, shelter and health care. This can reduce stress (mental health and wellbeing), promote social interaction (social health and wellbeing), reduce the risk of infection (physical health and wellbeing), promote positive emotions (emotional health and wellbeing) and give people a sense of purpose in their lives (spiritual health and wellbeing).
- the risk of personal injury and the destruction of infrastructure is reduced, which promotes human development because vulnerable groups can be reached to address issues such as poverty and food insecurity
- long-lasting effects of war, such as the presence of landmines and the lack of infrastructure, are reduced so future generations do not have to focus on rebuilding, and can instead direct their efforts towards promoting their health and human development
- people are more likely to receive protection under law during times of peace. This can promote feelings of security, which promotes mental health and wellbeing.

9.3 Exercises

9.3 Quick quiz on | **9.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2	3, 4, 5, 6	7, 8

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Test your knowledge

1. Explain what is meant by the term ‘social sustainability’.
2. What is the underlying aim of social sustainability?
3. Explain why social sustainability is an important consideration even if economic sustainability is achieved.
4. Explain how social protection systems can promote:
   a. health and wellbeing
   b. health status
   c. human development
5. Explain why gender equality is essential for sustainability.

Apply your knowledge

6. Outline the five considerations in achieving social sustainability.
7. Explain how each consideration outlined in question 6 can promote health and human development in a global context.
8. Explain why social sustainability is an important consideration in eliminating poverty globally.

9.3 Exam questions

Question 1 (2 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.15;* © VCAA

One dimension of sustainability is the environmental dimension.

Describe one other dimension of sustainability.

Question 2 (2 marks)

A characteristic of social sustainability is the provision of social protection measures.

Outline two social protection measures.

Question 3 (1 mark)

Define 'social sustainability'.

Question 4 (2 marks)

Access to safe and decent work conditions is a characteristic of social sustainability.

List two other characteristics of social sustainability.

Question 5 (3 marks)

Identify a characteristic of social sustainability and **describe** how it promotes health and wellbeing in a global context.

More exam questions are available in your learnON title.

9.4 The environmental dimension of sustainability

Key knowledge	Key skill
The concept and dimensions of sustainability (environmental) and its role in the promotion of health and human development	Explain sustainability (environmental) and its importance in the promotion of health and human development in a global context

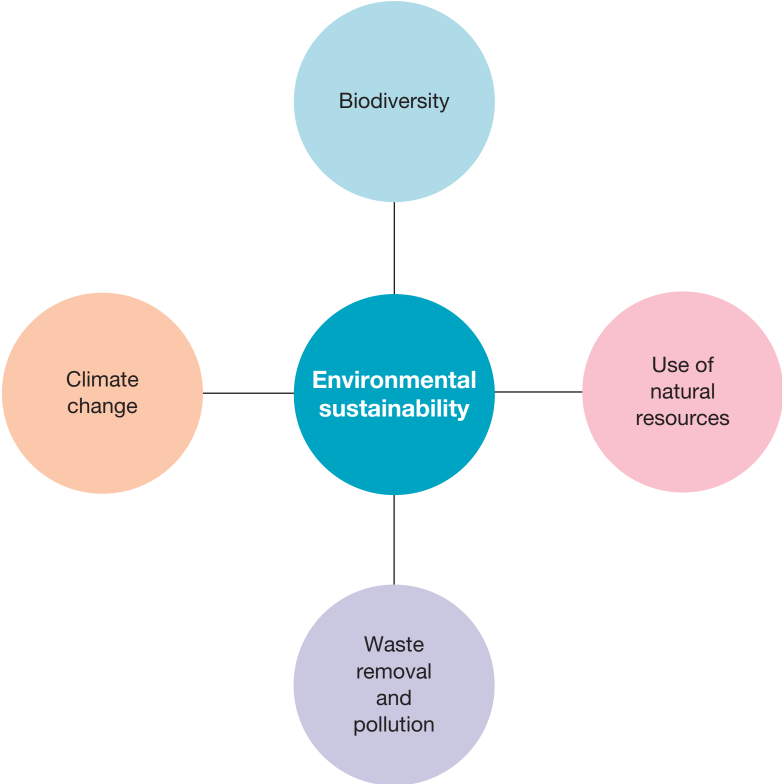
Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what environmental sustainability relates to • how environmental sustainability can influence health and wellbeing, health status and human development in a global context.	• explain what is meant by environmental sustainability • make meaningful links from aspects of environmental sustainability to health and wellbeing, health status and human development in a global context.

Environmental sustainability relates to ensuring the natural environment is used in a way that will preserve resources into the future. Human activities should use natural resources only at a rate that allows these resources to replenish for future generations. Environmental sustainability is a challenge for many countries because they exploit their natural environment as a means of generating income and facilitating trade. Considerations for environmental sustainability are shown in **FIGURE 9.10.**

environmental sustainability ensuring the natural environment is used in a way that will preserve resources into the future

FIGURE 9.10 Considerations for achieving environmental sustainability



9.4.1 Biodiversity

Biodiversity relates to the variety of all forms of life: the different plants, animals and microorganisms, the genes they contain and the ecosystems of which they form a part. The world's ecosystems provide many of the processes and resources required for human health and human development, including:

- provision of oxygen and removal of carbon dioxide
- protection of water resources
- soil formation, including nutrient storage and recycling
- nourishment of plants and animals that are used for food
- wood products used for building, heat and cooking
- fibres used for clothing
- resources used for medicine
- opportunities for recreation and tourism.

FIGURE 9.11 Balanced and stable ecosystems are required for a range of human functions.

biodiversity the variety of different plants, animals and microorganisms, their genes and the ecosystems of which they are a part

Each species within an ecosystem plays an important role in maintaining balance within their environment. If a species is removed from an ecosystem, the ecosystem can become unbalanced and may not be able to carry out its processes effectively, which can directly impact health and human development. An example of this is the role that bees play in pollinating many of the world's plants, including canola, sunflowers, almonds, apples and stone fruits. According to the CSIRO, one third of our food is derived from insect-pollinated crops, with bees playing a major role in this process. Bee numbers have been declining globally and if this trend continues, growing some crops could be increasingly difficult. This could decrease the world food supply by an estimated 5 to 8 per cent. Increased food insecurity could lead to decreased immune system function, particularly for vulnerable groups, which could contribute to disease and higher mortality rates. It also acts to reduce access to resources required for a decent standard of living, such as adequate nourishment, and employment and income for those in the agricultural industry.

9.4.2 Use of natural resources

The manner in which natural resources are used must be considered to ensure sustainable biodiversity. The natural resources that humans use can be classified as either **renewable** or **non-renewable**.

FIGURE 9.12 With careful planning, the timber industry can be sustainable.

Renewable resources can be, with careful planning, used for human consumption and replenished with little impact on the ecosystem. For example, fishing is a source of food and income in many countries. If fishing is managed sustainably, fish can breed and replenish at the rate they are being caught. In many instances, as people attempt to break the cycle of poverty and catch more fish to make a profit, overfishing can occur. This can have devastating effects on fish populations, because they are not able to regenerate at a sustainable rate.

The timber industry is another area of concern, with many forests being harvested at a rate much faster than the trees can regenerate. As well as damaging delicate ecosystems, unsustainable use of renewable resources affects the ability of future generations to use these resources to promote health and human development. Sustainable use of renewable resources:

- allows future generations to be able to earn an income by utilising natural resources, which can assist in providing a range of goods and services required for optimal health and human development such as food, shelter and health care
- preserves natural environments that many people value for cultural reasons, which promotes spiritual health and wellbeing. Natural environments can also be used for socialising and relaxation, which promotes social and mental health and wellbeing and increases the ability of people to lead lives they value in accordance with their needs and interests.

renewable resources resources that are replenished naturally and over a relatively short period; includes crops, water, oxygen, forests and fish stocks

non-renewable resources resources that are not replenished in a short period, so once they are used they are not available for future generations; includes coal, natural gas, petroleum and nuclear substances

Non-renewable resources refer to those that are not replenished in a short period of time. Once these resources are used, they are not available for future generations. According to the International Energy Agency, in 2022, almost 70 per cent of the global electricity supply was generated using non-renewable fossil fuels, including coal, natural gas, petroleum and nuclear substances. Electricity generated using fossil fuels is not sustainable, because fossil fuels will eventually run out. To ensure environmental sustainability, there must be a shift towards energy production from renewable sources such as the sun, tides, waves, wind and rain. Sustainable energy production will increase health and human development in a number of ways, including:

FIGURE 9.13 Wind and solar are examples of renewable sources of energy.

- The next generation of children will be able to complete studies under artificial light, increasing their ability to access knowledge, escape poverty and improve health outcomes.
- Hospitals will function more effectively with a reliable electricity supply, meaning people can receive treatment for many conditions, which can reduce rates of morbidity and mortality. It also increases the ability of people to lead long and healthy lives, which enhances human development.
- Sustainable fuels mean that future generations can access transport systems, which can assist in maintaining social connections and promote social health and wellbeing.
- Less reliance on fossil fuels will reduce smoke and fumes from these sources, which can reduce the incidence of respiratory conditions as well as improve physical health and wellbeing.

9.4.3 Waste removal and pollution

Maintaining clean ecosystems is important in maintaining environmental sustainability. As discussed earlier, ecosystems are responsible for producing clean water and air. Industry, agriculture and human waste can degrade the quality of these resources by contaminating the ecosystems that produce them.

Environmental sustainability requires humans to minimise their waste where possible and appropriately treat the waste products that are produced to reduce their impact on the environment. Adequate waste removal and maintaining environmental purity benefits health and human development by:

FIGURE 9.14 Preventing pollution is important for achieving environmental sustainability.

- ensuring sustainable access to clean water — this can prevent infectious diseases and promote physical health and wellbeing. Individuals will not have to spend hours collecting water each day so they can instead pursue employment, which increases incomes and the ability of people to access resources required for a decent standard of living such as food and shelter. Being free from infectious diseases also allows children to attend school, where they can access knowledge while enhancing their capabilities in relation to numeracy and literacy skills.

- reducing the risk of disease — pollution can provide a breeding ground for disease-causing pathogens. Reducing pollution can reduce this threat, and reducing air pollution can reduce the prevalence of respiratory diseases such as asthma, improving reducing morbidity rates.
- providing nutrient-rich soil — crops fit for human consumption can be grown, which can promote the functioning of body systems and promote physical health and wellbeing. Food security can reduce levels of stress and promote self-assessed health status as people feel better about their lives.

9.4.4 Climate change

According to NASA, the global average surface temperature has increased by approximately 1.1 degrees Celsius since 1880, with the past nine years being the hottest since modern records began in 1880. The average surface temperature will increase even more rapidly over the next century. The rate at which sea levels have risen has also increased in recent decades, and is also expected to continue over the coming century. These changes in climate will in turn affect weather patterns such as rainfall, drought, wind patterns and heat waves (see also topic 10).

FIGURE 9.15 Climate change has the potential to drastically change landscapes, which has a number of implications for health and human development.

Ensuring climate change is minimised is vital for promoting health and human development for a number of reasons:

- Weather and rainfall patterns will stabilise, which may reduce the rate and severity of natural disasters. This will reduce the number of injuries and deaths that occur as a result of these events, which will decrease mortality rates and increase health-adjusted life expectancy. Predictable rainfall allows crops to be grown and promotes food security, which will promote physical health and wellbeing by enhancing immune system function.
- Sea levels will not continue to rise. This will ensure people living in low-lying areas will not be displaced, which can reduce levels of anxiety and allow people to lead productive lives according to their needs and interests. Fresh water sources will also be preserved, which reduces the U5MR by decreasing the transmission of conditions such as cholera.
- The incidence of communicable diseases will decrease, improving physical health and wellbeing. Preventing further climate change will prevent disease-carrying organisms from spreading to other areas because environmental conditions will not support their migration.
- Ecosystems can be maintained if temperatures do not continue to rise. This assists in providing resources such as clean water, air and nutrient-rich soil, which are all required for overall health and human development.

9.4.5 Relationships between the three dimensions of sustainability

The three dimensions of sustainability are related, which means they impact each other. As a result, some examples of resources or conditions required for sustainability can fit into more than one dimension. For example, increasing average incomes in line with inflation is a part of economic sustainability, but promoting equality by eradicating poverty is a part of social sustainability, even though these goals are reliant on each other. Equal access to safe water is an aspect of social sustainability, but relies heavily on environmental sustainability to ensure clean water is available.

Because they are related, failure to consider one dimension will affect the others. For example, a country might have a high income due to the oil reserves they are mining. However, oil reserves deplete (reduced environmental sustainability), so this source of income will shrink in the future (reduced economic sustainability). Reduced income could lead to fewer economic resources available for public education, which has an impact on social sustainability.

In many ways, the environmental aspect of sustainability is considered the largest dimension of sustainability because social and economic sustainability depend on it (see **FIGURE 9.16**). Without access to natural resources, humans cannot survive, let alone earn an income.

FIGURE 9.16 The three dimensions of sustainability all impact each other.

9.4 Exercises

9.4 Quick quiz on | **9.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3	2, 4, 5, 6	7, 8

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Test your knowledge

1. Explain what is meant by ‘environmental sustainability’.
2. Explain what is meant by ‘biodiversity’ and outline two reasons why it is essential for health and human development.
3. Explain the difference between renewable and non-renewable resources.
4. Explain the difference between economic, social and environmental sustainability.
5. Explain why a sustainable ecosystem is important for the health and human development of future generations.

Apply your knowledge

6. a. Outline the four factors that are important for environmental sustainability.
   b. Explain how each factor outlined in **part a** can promote health and human development.
7. Explain how access to electricity can promote physical and spiritual health and human development in a global context.
8. a. What does it mean when the three dimensions of sustainability are said to be related?
   b. Provide examples of how the three dimensions are related.

9.4 Exam questions

Question 1 (2 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.9.a*; © VCAA

Source: United Nations, The Sustainable Development Goals Report 2020, United Nations, New York, p. 18; © 2020 United Nations

Climate change has an impact on environmental sustainability.

Describe environmental sustainability.

Question 2 (2 marks)

Greenhouse gases have been blamed for many of the climatic changes that the world is now experiencing. People are encouraged to reduce their greenhouse gas emissions by selecting cleaner power sources such as solar-powered electricity.

Explain how using solar electricity promotes sustainability.

Question 3 (3 marks)

Identify a characteristic of environmental sustainability and **describe** how it promotes health and human development.

Question 4 (2 marks)

Seeds of Hope project

In May 2015, more than 550 000 trees have been donated to villages in Malawi. The planting of trees as a renewable resource will benefit the people of Malawi in many ways. In the short-term, new trees provide food and raw materials. Long-term benefits include improved income production, storage, shade and enriched soil. For example, baobab leaves are consumed as a vegetable and can be harvested just one year after planting a seedling. Within five years, the trees begin to bear fruit, which can also be eaten or sold. The bark of the tree can be harvested for use as a strong, durable fiber to make twine, rope or other building materials. The bark grows back and can be re-harvested every two to five years. In the subtropical climate of Malawi, the oxygen and water condensation released to the atmosphere by trees is critical for rain to protect the people and the land from drought and famine. Additionally, the trees' root systems help prevent soil degradation and erosion, while the trees themselves provide shade and protection to people and animals alike.

Source: https://www.nuskin.com/en_SE/culture/force_for_good/projects/seeds_of_hope.html

Identify an example of environmental sustainability from the Seeds of Hope project and **justify** your choice.

Question 5 (2 marks)

Explain how environmental sustainability helps future generations.

More exam questions are available in your learnON title.

9.5 KEY SKILLS

9.5.1 Explain sustainability (environmental, social and economic) and its importance in the promotion of health and human development in a global context

tlvd-11373

KEY SKILL Explain sustainability (environmental, social and economic) and its importance in the promotion of health and human development in a global context

Tell me

Sustainability is closely related to the promotion of health and human development. While people should be able to optimise their health and human development, it is important that they are able to do so sustainably; that is, without compromising the ability of future generations to achieve similar levels of health and human development.

For this key skill, it is important to be able to explain sustainability and the three dimensions that underpin it: economic, social and environmental. Being able to identify and discuss specific factors that relate to each dimension of sustainability assists in explaining the importance of each in relation to the promotion health and wellbeing globally.

Show me

In the following example, the concept of social sustainability is explained and its importance in relation to promoting health and human development in a global context is discussed.

Social sustainability relates to creating an equitable society that meets the needs of all citizens and can be maintained indefinitely.[1] Social sustainability includes ensuring all people of working age around the world have access to safe and decent working conditions.[2] Safe and decent working conditions mean that people will not have to work in forced labour, which provides a greater sense of control and purpose in their life and promotes spiritual health and wellbeing around the world.[3] Social sustainability means that all women worldwide will be able to access maternal health services when pregnant and during childbirth. This can mean that complications can be treated, reducing the maternal mortality rates globally.[4] Social sustainability also includes equal access to education. If all children in all countries can go to school, it increases access to knowledge and the ability of people to participate in decisions affecting their lives, such as what they do for a job, which promotes human development in a global context.[5]

[1] An explanation of social sustainability is provided.
[2] A specific aspect of social sustainability is identified.
[3] A link is made between safe and decent working conditions and health and wellbeing.
[4] A specific link is made between an aspect of social sustainability and health status in a global context.
[5] A specific link is made between an aspect of social sustainability and human development.

Practise the key skill

1. Briefly explain what is meant by economic sustainability and discuss its importance for the promotion of health and human development in a global context.
2. Briefly explain what is meant by environmental sustainability and discuss its importance for the promotion of health and wellbeing in a global context.

9.6 EXTENDED RESPONSE — Build your exam skills

tlvd-11374

Consider the following information and answer the question that follows.

Source 1

The variations in HDI between income groups shows that low-income countries require more support to achieve a decent standard of living.

Literacy rates relate to education and can reflect a country's ability to increase average incomes, as well as being a part of social sustainability.

This shows that higher income countries need to take more action to slow global warming and ensure environmental sustainability.

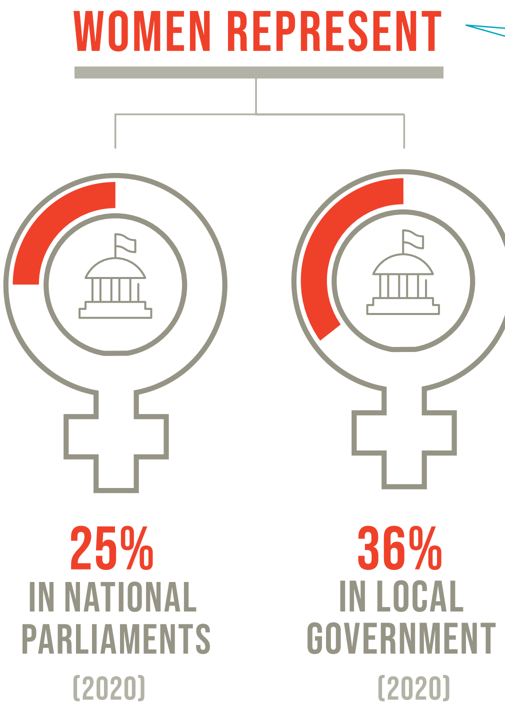
This is a component of HDI that could be used when discussing the importance of economic sustainability in achieving improvement in health and human development.

	Human Development Index (HDI)	Literacy rate (%)		Renewable electricity use (% of total electricity use)	GNI per capita (US$)
		Male	Female		
Australia	0.946	99*	99*	10.9	60 840
High-income	0.884	99*	99*	14.0	51 451
Upper middle-income	0.744	97	95	15.8	10 549
Lower middle-income	0.627	84	72	33.7	2 527
Low-income	0.474	70	54	77.0	723

* refers to assumed rate

Source: WHO, World Bank, UNHDR, 2024.

Source 2



Women are underrepresented in governments, which can affect health and human development and the potential to address gender inequality, a key aspect of social sustainability.

Source: https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/E_Infographic_05.pdf

Source 3

Zala is 12 years old and lives in a rural region of Ethiopia, a low-income country in Africa. Her father died from complications related to HIV/AIDS when she was eight. Zala's family lives in poverty partly due to there being few employment opportunities where they live. As a result, she has not had the opportunity to go to school and instead spends her day collecting water and firewood for cooking, and providing care for her two younger siblings. Zala is like many females in Ethiopia: disadvantaged in many aspects of life, including literacy, health, decision-making and basic human rights.

Using the information provided and your own knowledge, explain why sustainability is important in promoting health and human development into the future. **15 marks**

TIPS

- Begin by breaking the question down into its parts and then focusing on which parts of the stimulus relate to each part of the question.
- You might like to use colour-coding for this.
- Don't forget to include your own knowledge in your response.

9.7 Review

Hey students! Now that it's time to revise this topic, go online to:

Review your results

Watch teacher-led videos

Practise exam questions

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9.7.1 Topic summary

9.2 The economic dimension of sustainability

- Sustainability relates to 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'.
- The three dimensions of sustainability are economic, social and environmental sustainability. Each is essential for optimal health and human development both now and in the future.
- Economic sustainability relates to the capacity of future generations to earn an income and the efficient use of resources to allow economic growth over time. Considerations for economic sustainability include innovative and diverse industries, job creation, economic growth and trade.

9.3 The social dimension of sustainability

- Social sustainability relates to creating an equitable society where all people can access social resources, both now and into the future.
- Social sustainability requires access to human rights, education, health care, political empowerment and connection to community.
- Social sustainability is reliant upon the promotion of equality though the elimination of poverty and the provision of social protection systems, gender equality, access to safe and decent working conditions, promotion of political and legal rights, and peace and security.

9.4 The environmental dimension of sustainability

- Environmental sustainability relates to ensuring the natural environment is used in a way that will preserve resources so they can also be used to benefit future generations.
- Considerations for environmental sustainability include biodiversity, the use of natural resources, pollution and waste removal, and climate change.

on Resources

Digital document Summary (doc-41598)

9.7.2 Key terms

biodiversity the variety of different plants, animals and microorganisms, their genes and the ecosystems of which they are a part
economic sustainability ensuring that average incomes in all countries are adequate to sustain a decent standard of living and continue to rise in line with inflation and living costs in the future
environmental sustainability ensuring the natural environment is used in a way that will preserve resources into the future
non-renewable resources resources that are not replenished in a short period, so once they are used they are not available for future generations; includes coal, natural gas, petroleum and nuclear substances

renewable resources resources that are replenished naturally and over a relatively short period; includes crops, water, oxygen, forests and fish stocks
social protection assistance provided by governments to vulnerable people to meet basic needs such as income, food and housing
social sustainability creating an equitable society where all people can access social resources, both now and into the future
sustainability meeting the needs of the present without compromising the ability of future generations to meet their own needs

9.7 Exercises

learnon

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9.7 Exam questions

Question 1 (4 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.9.d;* © VCAA

Explain the importance of environmental sustainability in promoting two dimensions of health and wellbeing globally. Refer to a *different* example of environmental sustainability in each part of the answer.

Question 2 (2 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.1.c;* © VCAA

	Share of births attended by skilled health staff (2017)	Maternal mortality ratio (no. of maternal deaths per 100 000 live births) (2017)
Australia	96.7%	6
Ghana	78.1%	308
Haiti	41.6%	480

Data: adapted from M Roser and H Ritchie, ‘Maternal mortality’, 2013, published online at <https://ourworldindata.org>

Identify two aspects of social sustainability and **outline** the role of each in reducing the maternal mortality ratio in low-income and middle-income countries.

Question 3 (2 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.15*; © VCAA

One dimension of sustainability is the environmental dimension.

Describe one other dimension of sustainability.

Question 4 (2 marks)

Explain the difference between social sustainability and economic sustainability.

Question 5 (3 marks)

Using different examples, **explain** why sustainability is an important consideration in promoting:

a. health and wellbeing
b. health status
c. human development.

Resources

Digital document	Key terms glossary (doc-41597)
Interactivities	Crossword (int-9244)
	Definitions (int-9245)
Exam question booklet	Topic 9 exam question booklet (eqb-0253)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 9 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

9.7 Summary (doc-41598) ☐
Key terms glossary (doc-41597) ☐

Interactivities

9.7 Crossword (int-9244) ☐
Definitions (int-9245) ☐

Teacher-led videos

9.2 Concepts of sustainability (tlvd-0265) ☐
9.5 Key skill: Explain sustainability (environmental, social and economic) and its importance in the promotion of health and human development in a global context (tlvd-11373) ☐
9.6 Extended response: Build your exam skills (tlvd-11374) ☐

Exam question booklet

9.8 Topic 9 exam question booklet (eqb-0253) ☐

To access these online resources, log on to **www.jacplus.com.au**

10 Global trends and health and human development

LEARNING SEQUENCE

10.1 Overview

	Key knowledge	Key skill	Subtopic
	Implications for health and human development of global trends including: – climate change (rising sea levels, changing weather patterns and increasing number of extreme weather events) – conflict – mass migration – increased world trade (global distribution and marketing of tobacco products, e-cigarette products and processed foods) – tourism – digital technologies	Analyse the implications for health and human development of particular global trends	 **10.2** **10.3** **10.4** **10.5** **10.6**

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

acidification
aquifer
asylum seeker
biodiversity
desalination plant
displaced people
ecosystem
glacier
globalisation
greenhouse gases
stateless

Exam terminology

Analyse	Examine the components of; look for links, patterns, relationships and anomalies

on Resources

Digital document	Key terms glossary (doc-41462)
Exam question booklet	Topic 10 Exam question booklet (eqb-0254)

10.2 Climate change

Key knowledge	Key skill
Implications for health and human development of global trends including: – climate change (rising sea levels, changing weather patterns and increasing number of extreme weather events)	Analyse the implications for health and human development of particular global trends

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- what climate change is and why it has occurred
- three components of climate change
  - rising sea levels
  - changing weather patterns
  - extreme events
- the effects of climate change on health and human development.

You need to be able to:
- describe climate change and the causes
- explain rising sea levels and changing weather patterns and extreme events
- discuss the effects of climate change on health and human development.

This topic explores the implications for health and human development of increased globalisation and a range of global trends. Global trends are patterns of social, environmental and economic activity that affect many countries and require action to be taken at a global level.

Global trends affect all people in high-, middle- and low-income countries, although the implications are often felt more in low-income countries, which have less access to the resources necessary to respond.

10.2.1 Understanding climate change

Climate change is about long-term shifts in temperature and weather patterns. Our climate has experienced changes over time due to small changes in the earth's orbit around the sun. However, over the last 50 years, the burning of fossil fuels such as coal, oil and gas has resulted in a 20 per cent increase in the production of carbon dioxide, methane and other **greenhouse gases**. Greenhouse gases trap heat that is radiated from the sun, acting like a blanket wrapped around the earth.

A range of human activities are now producing levels of greenhouse gases that are leading to global warming. This is bringing about changes in global climate beyond those that occur in the normal cycle of the earth. The burning of fossil fuels to generate power causes 75 per cent of global greenhouse gas emissions and most of this comes from transport and industry. The production of food, the cutting down of forests and our lifestyle also contributes to global warming (see **FIGURE 10.1**).

The temperature of the planet has warmed by around 1.0 degree Celsius since 1850, with each decade becoming increasingly warmer. The decade 2011–2020 was 0.2 degrees Celsius warmer than 2001–2010. In the long term, the temperature of the planet is expected to increase by 3.5 degrees Celsius.

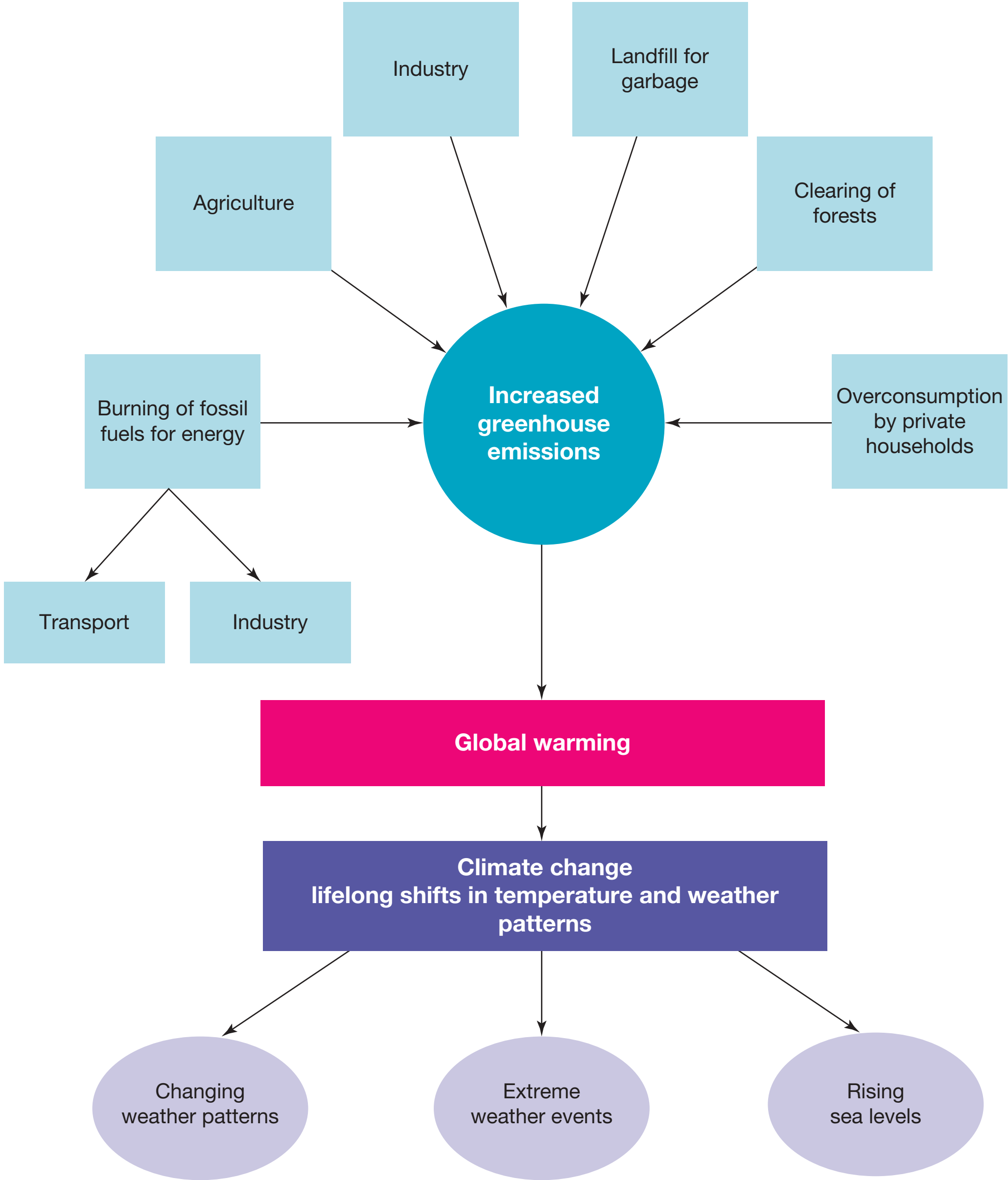
This increase in the earth's temperature has many consequences. The earth is a system in which everything is connected and changes in one area can influence changes in all areas. **Glaciers** are melting and so are the ice sheets that cover west Antarctica and Greenland. This has led to:
- rising sea levels
- changing weather patterns
- more intense and frequent extreme weather events such as floods, cyclones and heatwaves (see **FIGURE 10.1**).

greenhouse gases gases that contribute to the greenhouse effect by absorbing heat. Carbon dioxide, methane and chlorofluorocarbons (used in the manufacture of aerosol sprays) are examples of greenhouse gases.

glacier a slowly moving mass or river of ice formed by the accumulation and compaction of snow on mountains or near the poles

According to the World Health Organization (WHO), between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths each year, from malnutrition, malaria, diarrhoea and heat stress. Between 3.3 and 3.6 billion people will be living in situations that are at risk of being affected by climate change. According to the WHO, climate change is one of the greatest health challenges of the 21st century.

FIGURE 10.1 Increased greenhouse gases from human activity has led to global warming and climate change. This results in changing weather patterns, more extreme weather events and rising sea levels.



EXAM TIP

When asked to analyse the impact of climate change on health and human development, use an example linked to either rising sea levels, changing weather patterns or extreme weather events. Once you have chosen an appropriate example you then need to show how it impacts on health status, different dimensions of health and wellbeing and different aspects of human development using specific examples.

Where relevant, consider both the positive and negative implications, although there may not always be positive implications.

10.2.2 Climate change and rising sea levels

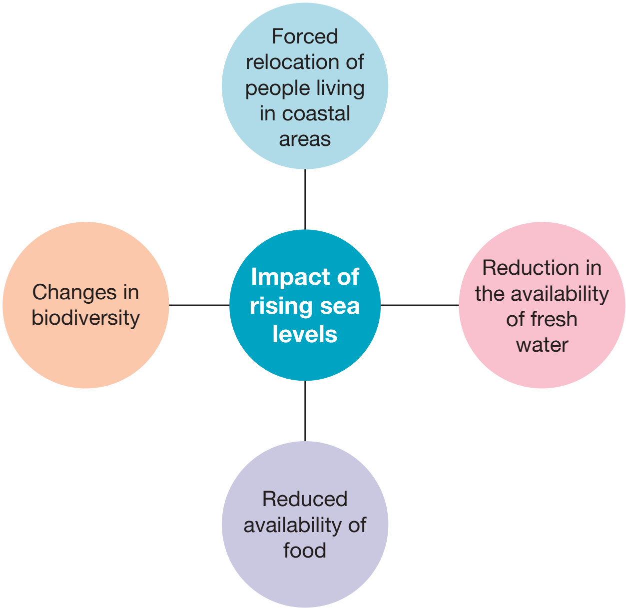
Increased greenhouse gas emissions have contributed to global warming and rising sea levels. The average sea level increased at a rate of around 1.8 millimetres per year from 1961 to 2003, and more recently has increased at a rate of 3.5 millimetres each year, or 3.5 cm per decade. If greenhouse gas emissions continue at this rate, approximately 150–200 million people will have to relocate, because their land will be under water. In some low-lying coastal areas, rising sea levels are already affecting land being used for farming.

The two major causes of rising sea levels are the:
- expansion of the water that occurs as it warms
- increase in the amount of water that occurs when the earth's polar regions and glaciers melt.

Rising sea levels have many consequences (see **FIGURE 10.2**).

aquifer an underground layer of rock, sediment or soil that contains water

FIGURE 10.2 Rising sea levels will have significant global consequences.



Relocation of people living in coastal areas

Rising sea levels mean people living in coastal areas will lose their villages and farms due to flooding (see **FIGURE 10.3**). More than half of the world's population lives within 60 km of the sea. Those living in low- and middle-income countries are at greater risk of the effects of rising sea levels because they are less likely to have the resources to put preventative measures in place or to respond effectively.

FIGURE 10.3 Global warming will lead to more extreme weather events, forcing many people living in coastal areas to relocate.

Less availability of fresh water

As sea levels increase, salt water gradually seeps into fresh underground water sources known as **aquifers**, or freshwater springs. These aquifers provide most of the fresh water that is available for use on the planet. People cannot drink salt water, and many plants cannot survive high levels of salt. While salt can be removed from water through desalination plants, these are very costly to build and maintain and many countries do not have the resources necessary. This will bring about widespread water scarcity, which will affect many people around the world.

Reduced ability to grow food

Salt water is unsuitable for many trees, plants and crops. This means that the seeds, grains, fruits and vegetables that we currently grow will no longer be able to grow in many areas. As oceans get warmer, they also become more acidic, which affects marine life. This reduces the food supply for those who rely on fish and seafood as their main food source.

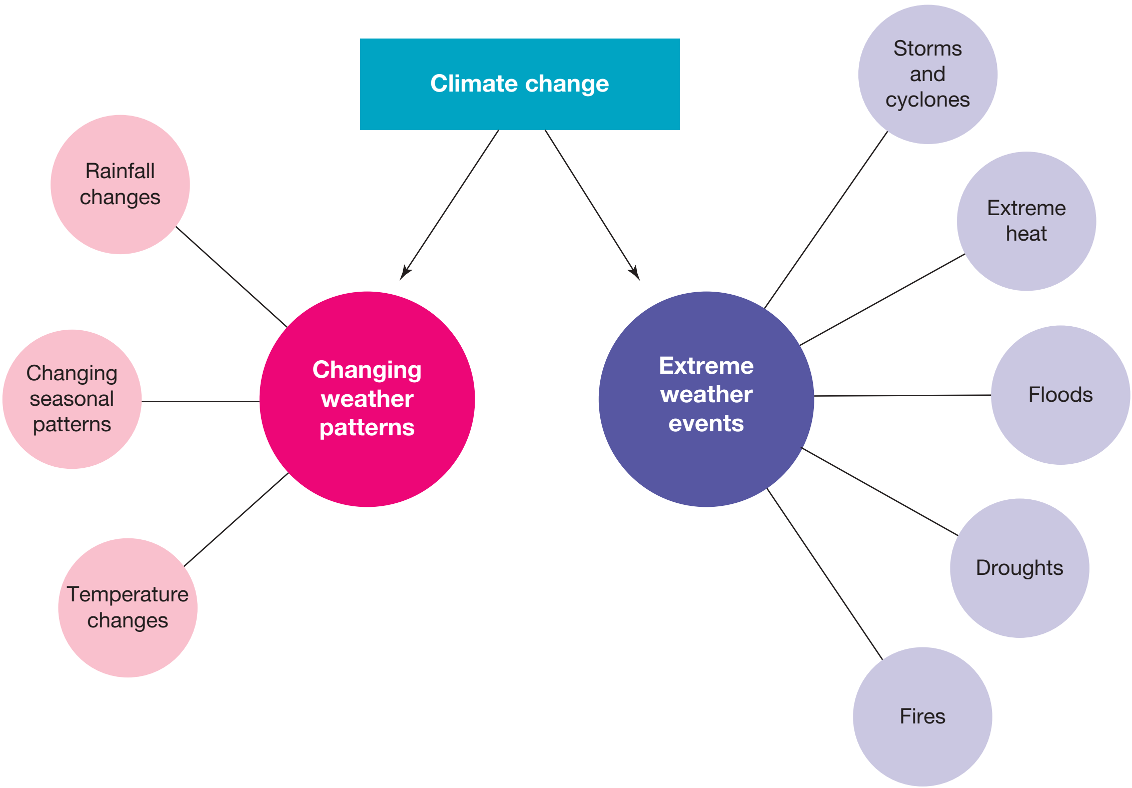
Changes in biodiversity

Biodiversity is important for keeping resources such as water and soil healthy and capable of recovering from disasters and pollution. Biodiversity helps ensure a sustainable food supply and is the source of many medicines and drugs. All species are part of a complex ecosystem that relies on a wide variety of plants and animals for the system to be sustainable. Rising sea levels and salinity have the potential to interrupt this ecosystem and threaten many of the systems that sustain life.

10.2.3 Climate change and changing weather patterns and extreme weather events

Climate change is causing weather patterns to change and increasing the number and intensity of extreme weather events (see **FIGURE 10.4**).

FIGURE 10.4 Climate change brings about changing weather patterns and increases extreme weather events.



A weather pattern occurs when the weather stays the same for days or weeks at a time. The patterns of weather are tied to the four seasons: summer, winter, spring and autumn.

Climate change is bringing about changes or shifts in weather patterns. Oceans play an important role in determining our weather patterns and climate, and the increasing temperature of the oceans is changing these patterns. Dry regions are becoming even drier and wet regions are becoming even wetter.

In Australia, for example, rainfall from May to July has reduced by around 20 per cent since 1970 in the southwest areas of Australia but has increased across parts of northern Australia. Rainfall in countries such as Ethiopia, where droughts are already common, could decline by 10 per cent over the next 50 years. As the earth's temperature rises, more water vapour enters the atmosphere, bringing about more extreme weather events such as storms and cyclones, extreme heat, floods, droughts and fires.

Heatwaves are expected to become more common, making droughts and fires more likely in many areas. The number of extreme weather-related natural disasters has tripled since the 1960s. In 2022, there were 387 natural hazards and disasters recorded worldwide, resulting in the loss of 30 704 lives and affecting 185 million individuals. Economic losses totalled approximately US$223.8 billion (see **FIGURE 10.5**).

FIGURE 10.5 In 2022, climate change resulted in 387 reported disasters due to changing weather patterns and extreme weather events, and resulted in significant morbidity and mortality, costing billions of dollars in economic damage.

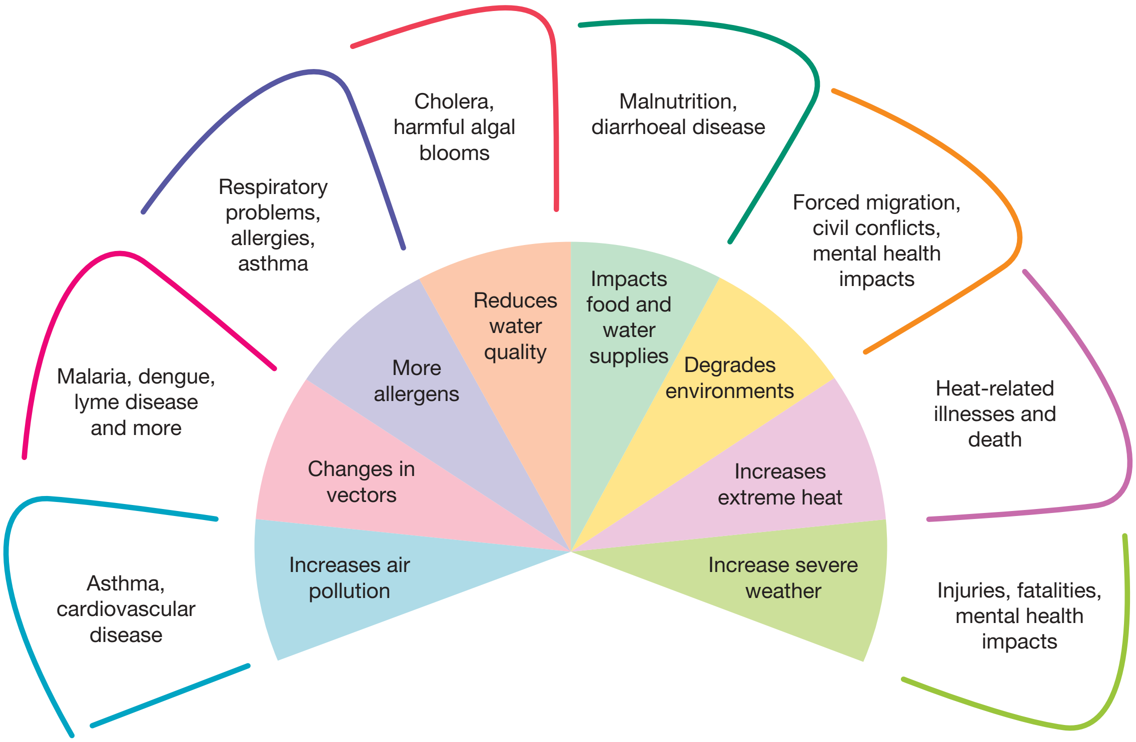
Source: https://cred.be/sites/default/files/CredCrunch70.pdf

10.2.4 Implications for health and human development of climate change

Impact on health status

Climate change is expected to increase the burden of disease associated with many diseases and conditions (see **FIGURE 10.6**).

FIGURE 10.6 Climate change will have a significant impact on health status.



- An increased number of extreme weather events such as extreme heat increases the risk of mortality from heart attacks because the heart can shut down when the temperature of the body gets too hot. Older people are more at risk than others.
- Pollen levels can increase during periods of extreme heat, which can trigger asthma and increase the burden of disease.
- An increase in greenhouse gases due to global warming increases air pollution, which can lead to premature deaths and disability. The incidence and prevalence of respiratory diseases and cardiovascular diseases increase with air pollution. During extreme weather events, such as wildfires, the levels of air pollution can increase by more than 10 times (see **FIGURE 10.7**).

FIGURE 10.7 Wildfires increase the level of pollutants in the air by almost 10 times, which contributes to an increase in cardiovascular and respiratory diseases.

- Increased salinity affects the ability to grow food. Increased greenhouse gases are also thought to affect the nutritional quality of crops such as rice and wheat, lowering the levels of protein and other nutrients such as zinc, iron and B vitamins. Climate change is therefore likely to increase levels of hunger and malnutrition, especially among children, which could lead to higher infant and under-5 mortality rates.
- Rising sea levels will result in higher morbidity and mortality rates from water-borne diseases such as diarrhoea, giardia and cholera, due to the reduction in the availability of freshwater and the forced relocation from homes and communities (see **FIGURE 10.8**).

FIGURE 10.8 As sea levels rise, salt water seeps into our freshwater supplies, which will result in water scarcity and an increase in water-borne diseases.

- Many infectious diseases are spread by mosquitoes, breed in surface water that becomes stagnant. Mosquitoes thrive in humid conditions. Warmer temperatures will produce ideal breeding grounds for mosquitoes, which transmit viruses such as malaria and dengue fever. An increase in the mosquito population could result in an increase in the burden of diseases due to these diseases, as well as contributing to the spread of these diseases into countries that were previously unaffected (see **FIGURE 10.9**).
- Rising sea levels are forcing many people living in low-lying coastal areas to move. This is very stressful and is likely to increase the burden of disease associated with mental illnesses such as anxiety and depression.

FIGURE 10.9 Warmer temperatures are likely to see an increase in the spread of mosquitoes, which are responsible for the spread of malaria and other viruses.

Impact on health and wellbeing

Climate change affects all dimensions of health and wellbeing.

TABLE 10.1 The effects of climate change on dimensions of health and wellbeing

Dimension of health and wellbeing	Climate change impacts
Mental health and wellbeing	• Having to relocate due to rising sea levels contributes to increased stress and anxiety • Reduced self-esteem due to loss of job and income • Extreme weather events such as bushfires and droughts can cause extreme trauma and grief
Emotional health and wellbeing	• Increased grief and distress due to losing your home and having to leave friends and loved ones as a result of rising sea levels or an increase in extreme weather events, such as bushfires and drought
Social health and wellbeing	• Relocation due to rising sea levels and extreme weather events destroys social networks • Children may not be able to attend school and develop relationships
Spiritual health and wellbeing	• Losing social networks and reduced self-esteem can lead to disconnection from communities and friends • The grief and trauma associated with extreme weather events such as bushfires, droughts and floods can lead to a loss of purpose and sense of helplessness
Physical health and wellbeing	• Relocation due to rising sea levels and extreme weather events places strain on infrastructure such as water and sanitation systems, housing and healthcare, which leads to decreased immunity and increased illness and injury • Less availability of fresh water and food due to changing weather patterns and rising sea levels will increase the level of hunger, malnutrition and poor immune functioning, leading to increased disease and illness

	• Extreme weather events and changing weather patterns can lead to an increase in pollen in the air, which can lead to thunderstorm asthma and contributes to poor physical health and wellbeing • Extreme weather events such as heatwaves can affect heart and lung function, which can increase the level of heart disease and stroke

Impact on human development

A decrease in health and wellbeing as a result of climate change will also affect human development (see **FIGURE 10.10**).

- Lower levels of health and wellbeing affect people's ability to lead a long and healthy life.
- When families have to relocate, children are often unable to attend school or their schooling is interrupted. This reduces their capacity to gain knowledge and develop their capabilities.
- Being forced to relocate removes people's choices about how and where they live, and interferes with employment opportunities, which reduces people's income, reducing the ability to afford resources required for a decent standard of living, such as food and health care.
- Without an income, families cannot purchase food, clothing, shelter and clean water, which reduces people's ability to lead a long and healthy life and results in many families being plunged into poverty.
- Climate change impacts women, who often have the responsibility of caring for sick children and adults, and elderly family members, as well as earning an income through the development of small businesses. Therefore, climate change can reduce gender equality, which is necessary for human development.

FIGURE 10.10 Climate change has a significant impact on all aspects of human development.

- An increase in heat waves and climate-related events disrupts communities and breaks down social networks. This reduces opportunities for people to participate in decisions relating to political and community life.

EXAM TIP

If you are asked to analyse the implications for health and human development of climate change as a global trend, remember that there are three components to climate change: rising sea levels, global warming, and an increase in extreme weather events. In your discussion, be clear about which component of global warming you are referring to. For example, changing weather patterns are the result of climate change. This can lead to increased rainfall and temperatures, which can result in frequent pooling of water, which can produce ideal breeding conditions for mosquitoes. In many countries, mosquitoes carry the malaria parasite, which can increase the burden of disease and reduces life expectancy. Malaria produces fever, headache, diarrhoea and vomiting, which impacts physical health and wellbeing. People are unable to work and children are unable to attend school and play, which affects social health and wellbeing. Being unwell often contributes to low levels of confidence and self-esteem and can result in depression, reducing mental health and wellbeing.

Not being able to attend school or work impacts the ability to develop knowledge and skills that are necessary for people to have choices in life and to lead their lives according to their needs and interests. This reduces the level of human development.

CASE STUDY

Mid-winter temperatures above 35 degrees Celsius in South America leave climatologists in disbelief

By Tyne Logan ABC News 4 Aug 2023 (edited)

Climate scientists have been left ‘flabbergasted’ as temperatures in parts of South America near 40 degrees Celsius in the middle of what is supposed to be its winter.

Data from Chile’s national meteorological agency, shows several weather stations in the country reached temperatures above 35 °C on August 1. This is between 10 °C and 20 °C above what is normal for this time of year in parts of Chile and Argentina, according to data from the European Centre for Medium Range Weather Forecasts (ECMWF).

In the Coquimbo region, the mountain town of Vicuna reached a top of 37 °C, the Liceo Samuel Román Rojas weather station peaked at 35.4 °C and Monte Patricia reached 31.5 °C.

Climatologist and weather historian Maximiliano Herrera went so far as to call it one of the most ‘extreme weather events the world has ever seen’.

‘For its duration, area, and intensity, it’s probably the worst winter heatwave in the Southern Hemisphere,’ he said.

‘Flabbergasted’ by temperatures

University of New South Wales climate scientist Sarah Perkins-Kirkpatrick said that, even as a climate scientist who specialised in heat extremes, the temperature observations were hard to believe. She said if those temperatures were to occur in New South Wales, which sits at a similar latitude, it would be ‘extraordinary’.

‘It’s reported that Buenos Aires has had the hottest start to August on record and has shattered its previous record by over 5 degrees. That margin is phenomenal,’ Dr Perkins-Kirkpatrick said.

Extreme heat in Northern Hemisphere

Much of the focus of heat in recent weeks has been on the Northern Hemisphere, which is sweltering through prolonged and intense heatwaves that have fuelled wildfires across three continents and shattered temperature records.

Parts of Italy reached temperatures up to 48 °C in late July, and China more than 50 °C.

On July 6, Algeria recorded its all-time hottest minimum temperature of 39.6 °C, as well as several maximum temperature records.

New analysis by not-for-profit research group Climate Central found the exceptional heat of July would have been unlikely if not for climate change. It found that the July temperatures in 200 countries were made at least three times more likely with climate change.

This impacted more than 6.5 billion people, or 81 per cent of the global population, according to the analysis.

What's causing South America's heat?

Dr Perkins-Kirkpatrick said the South American heat extremes were also likely to bear the fingerprints of climate change. 'There are likely multiple causes to these temperatures — record warm sea surface temperatures in the Atlantic, the developing El Niño in the Pacific, a heat dome that was recently over the region combined with foehn winds, and anthropogenic climate change,' she said.

'Indeed, climate change is probably giving the event a double-whammy, through heating the atmosphere and the ocean.'

Foehn winds are warm and dry, gusty winds that periodically descend down the slopes of mountains and ranges.

Dr Perkins-Kirkpatrick said the temperatures were 'equally' as concerning as the heat extremes being experienced in the Northern Hemisphere.

Source: https://www.abc.net.au/news/2023-08-04/south-america-extreme-heat-mid-winter-climate-change-scientists/102678662#:~:text=%2C-,updated,-Fri%204%20Aug

CASE STUDY REVIEW

1. Identify the factors that contribute to climate change and extreme weather events.
2. Explain why there is concern about the heating of the atmosphere and the ocean.
3. Explain how the extreme temperatures in parts of South America could impact on human development and health and wellbeing.

10.2 Exercises

10.2 Quick quiz on | **10.2 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 5, 7	3, 4, 6, 8	9, 10

Test your knowledge

1. **a.** Outline what is meant by global trends.
   b. State what the term 'climate change' refers to.
2. Describe how increasing levels of greenhouse gases contribute to global warming.
3. What temperature increase is predicted for the planet in the longer term? Outline the consequences of this.

4. a. What are the two major causes of rising sea levels?
   b. Explain four consequences of rising sea levels.
5. Provide three examples that represent extreme weather events.
6. Outline the consequences of changing weather patterns and extreme weather events in 2022.

Apply your knowledge

7. Outline three ways that climate change can affect health status and health and wellbeing.
8. Explain two ways in which climate change can affect human development.
9. Describe the difference between changing weather patterns and extreme weather events and discuss how climate change is influencing both.
10. Using examples from **FIGURES 10.6** and **10.10**, discuss why climate change has been described as one of the greatest health challenges of the 21st century.

10.2 Exam questions

Question 1 (4 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.9.b*; © VCAA

Source: United Nations, The Sustainable Development Goals Report 2020, United Nations, New York, p. 18; © 2020 United Nations

Using the information above, **analyse** the impact of climate change on two dimensions of health and wellbeing.

Question 2 (6 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.11;* © VCAA

Who is at risk of climate change?

Everyone
- Those living in poverty, as well as women, children and the elderly.
- Outdoor workers and people living with chronic medical conditions.
- Children are the most vulnerable due to long exposure to environmental risks.

Everywhere
- Those living in megacities, small island developing states and other coastal, mountainous and polar regions.
- Countries with weak health systems will be least able to prepare and respond.

Source: text from infographic from World Health Organization

Using the information provided above, **analyse** the implications of climate change for health and wellbeing.

Question 3 (2 marks)

Describe how climate change can affect human development low-income countries.

Question 4 (2 marks)

Describe how extreme weather events impact human development.

Question 5 (3 marks)

According to the World Health Organization:

'Although global warming may bring some localised benefits, such as fewer winter deaths in temperate climates and increased food production in certain areas, the overall health effects of a changing climate are likely to be overwhelmingly negative.'

Outline three negative impacts on health and wellbeing that result from climate change.

More exam questions are available in your learnON title.

10.3 Conflict and mass migration

Key knowledge	Key skill
Implications for health and human development of global trends including: – conflict – mass migration	Analyse the implications for health and human development of particular global trends

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what conflict is • how conflict affects health and human development • what mass migration means and its causes • the effects of mass migration on health and human development.	• explain the nature and extent of conflict • discuss the effects of conflict on health and human development. • explain the extent of mass migration • discuss the effects of mass migration on health and human development.

10.3.1 Conflict

displaced people those who are forced to leave their home because of war or persecution

Since 2001, the level of conflict worldwide has increased. Acts of terrorism deliberately targeting civilians have become more common and more deadly. According to the World Health Organization, armed conflicts are now the largest and longest experienced since the end of World War II, and the number of refugees and **displaced people** as a result of conflict is at its highest since World War II, with 2 billion people living in places affected by conflict.

The nature of conflict has also changed, with international humanitarian law now being largely ignored. There is deliberate bombing of healthcare facilities and starvation tactics are being used as weapons of war. Up to 90 per cent of people who are killed and injured are civilians, mostly women and children. Low- and middle-income countries are the most vulnerable to conflict and are also the countries that do not have the necessary money to spend on funding a war while providing basic services for their people. These are major reasons why conflict is considered a global trend.

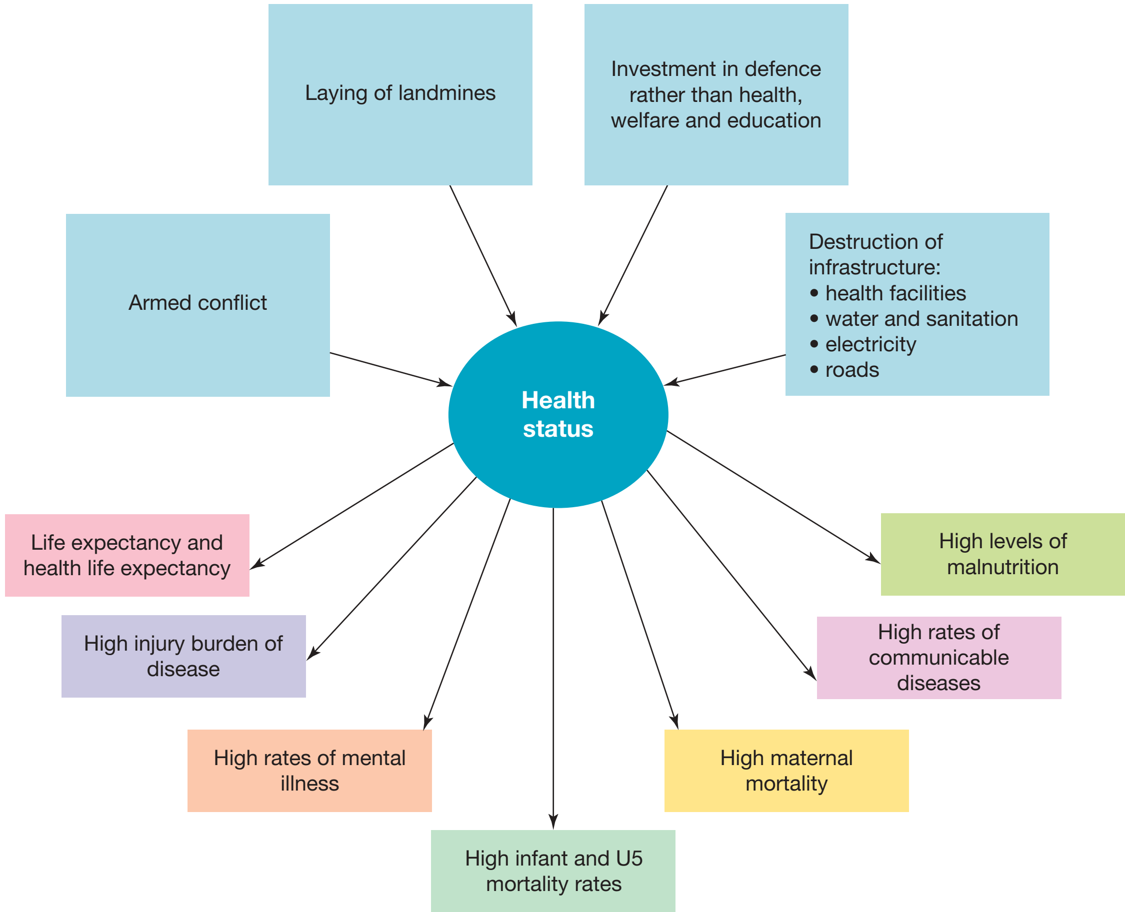
10.3.2 Impact of conflict on health and human development

Conflict has a huge impact on health status, health and wellbeing and human development, not only during the period of conflict but for many years after, as countries seek to recover from the effects of war.

Impact on health status

Armed conflict directly kills, injures and traumatises men, women and children. It reduces life expectancy and healthy life expectancy, and contributes to high morbidity and mortality rates and high incidence and prevalence of mental illness (see **FIGURE 10.11**).

FIGURE 10.11 When countries are involved in conflict, there is a significant impact on health status.



The burden of disease associated with injuries is high and young adult males are often overrepresented among those who are either killed or permanently disabled. In many countries, children between the ages of 12 and 20 are enlisted in the military and die prematurely.

Countries affected by conflict suffer from the destruction of infrastructure. Healthcare facilities are deliberately destroyed, which means there is a lack of access to health services (see **FIGURE 10.12**).

Conditions that may have been treatable during peaceful times, such as injuries and infections, are left untreated in times of conflict. Childbirth becomes risky and this is reflected in high maternal and child mortality rates.

The destruction of roads means farmers are often unable to transport their food to local markets and farms. Crops are often destroyed or the land is used to lay landmines, which means food is either unavailable or very expensive, which leads to a high burden of disease due to malnutrition.

Other infrastructure, such as water and sanitation facilities and electricity supplies, can also be deliberately bombed. This increases the burden of disease associated with communicable diseases such as typhoid, dysentery, cholera and diarrhoea.

FIGURE 10.12 During times of conflict, infrastructure such as healthcare facilities are often deliberately destroyed.

During times of conflict, governments invest resources into funding defence forces rather than providing services such as health, education and welfare, which tend to improve the health status of the population. High military spending is often maintained for many years even after the conflict has ended.

High levels of trauma are experienced during periods of conflict, resulting in a high burden of disease due to mental illness. Not only do families experience grief from the loss of family members, but communities live in constant fear for their own safety and the safety of their family and friends.

The effects of conflict are long-lasting. Landmines laid during times of conflict can cause death and injury for many years, along with the long-term impact of trauma on mental health.

Impact on health and wellbeing

Conflict affects all dimensions of health and wellbeing.

Personal injuries reduce physical health and wellbeing. The effects are often experienced for many years after the conflict ends. Destruction of the physical environment and infrastructure limits access to essential resources such as food, water, shelter and healthcare services. This increases the risk of hunger and poor immune system functioning, resulting in illness and disease, which reduces levels of physical health and wellbeing.

Conflict breaks down social networks and destroys families and communities. This leads to significant grief and loss and reduces emotional, social and mental health and wellbeing. Violence carried out on civilians produces a culture of violence, fear and distrust and destroys community connectedness, which reduces the level of emotional and spiritual health and wellbeing.

Rape, sexual violence, sexual exploitation, trafficking and sexual slavery of women and girls are more common in times of conflict. This is associated not only with poor physical health and wellbeing, but has long-term and severe impacts on their mental health and wellbeing (see **FIGURE 10.13**).

FIGURE 10.13 Women and children are often targeted when conflict occurs and the experience has long-term effects on all dimensions of health and wellbeing.

Impact on human development

Conflict destroys people's human rights. Women and girls in particular are subject to victimisation and gender-based discrimination, which impacts on human development. People are left disempowered and disconnected from their community. This means they are no longer able to contribute in a productive way or participate in decisions that affect their lives and the community (see **FIGURE 10.14**).

Conflict reduces economic activity and destroys infrastructure such as water supplies, roads, schools and healthcare facilities. This reduces access to education and denies people the resources needed to enjoy a decent standard of living. Not only are school buildings demolished, but families also face economic hardship, which means children are no longer able to attend school and develop the knowledge and skills needed to build their capabilities. Conflict reduces people's capacity to lead a productive life and develop to their full potential.

The decline in economic activity has enormous effects on countries. Conflict affects the ability of governments to effectively function, and traps people and the country in a cycle of poverty and underdevelopment. This further reduces levels of human development.

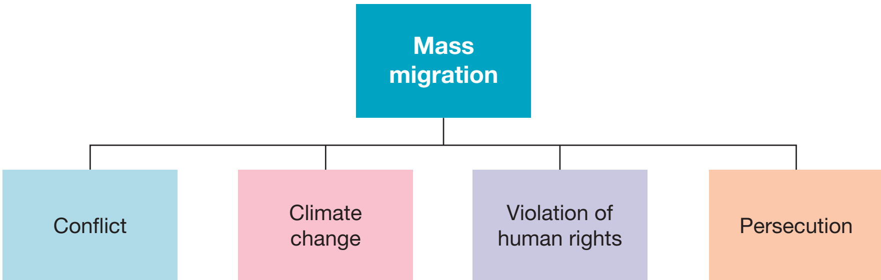
FIGURE 10.14 Conflict results in people being disconnected from their community and a loss of essential infrastructure, and denies people the resources needed to enjoy a decent standard of living, which impacts human development.

10.3.3 Mass migration

Mass migration is the movement of large groups of people from one geographical area to another in response to a crisis. It does not refer to the normal migration patterns that occur all around the world where people make a conscious decision to move to a different country or location and go through normal processes to do so.

Mass migration occurs when large numbers of people are forced to leave their homes due to a crisis such as conflict, persecution (often based on race), violations of their human rights and issues relating to climate change (see **FIGURE 10.15**).

FIGURE 10.15 Mass migration occurs when large numbers of people are forced to leave their homes in response to some form of crisis.



People forced to flee their homes may seek asylum in foreign countries and become refugees. They may become internally displaced – uprooted within their own country – becoming stateless. This means they do not have the nationality of any country and are therefore not protected by the laws of any country (see **FIGURE 10.16**).

According to the United Nations Refugee Agency (UNHCR), in 2022, 108.4 million people worldwide were forced to leave their homes. This represented an increase of 19 million people compared to the end of 2021 and this number continues to increase each year (see **FIGURE 10.17**). Among them are:

- nearly 35.3 million refugees, around 41 per cent of whom are young people under the age of 18
- 5.4 million asylum seekers
- 62.5 million displaced people
- 5.2 million others in need of protection, including stateless people who have been denied a nationality and lack access to basic rights such as education, health care, employment and freedom of movement.

This is why mass migration is considered to be a global trend.

FIGURE 10.16 Forced displacement of people results in people becoming either refugees, asylum seekers, internally displaced or stateless persons.

Mass migration

Refugees

- People who have fled their country and crossed an international border to find safety in another country, often with little more than the clothes on their back.
- They leave behind homes, possessions, jobs and loved ones.

Asylum seekers

- People who have fled their country but for whom their request for protection in another country has yet to be processed.

Internally displaced persons

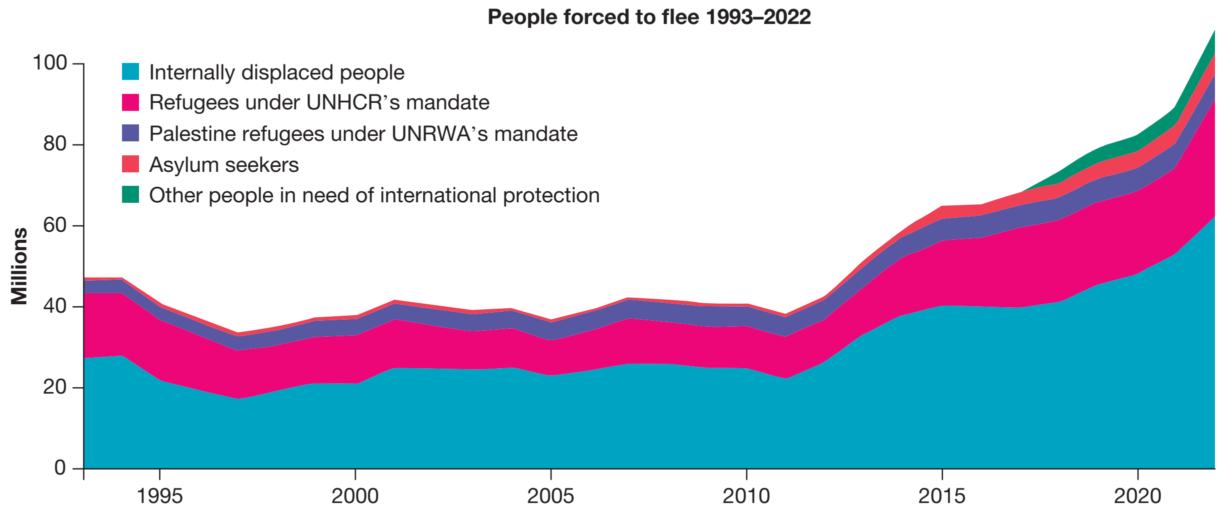
- People who have been forced to leave their home but have not crossed a border to find safety
- They are on the run in their own country.

Stateless persons

- People who do not have the nationality of any country and are therefore not protected by the laws of any country.

More than 1 in every 74 people globally have been forced to flee, with almost 90 per cent of them in low- and middle-income countries. In 2022, 52 per cent of forced displacements came from three countries: the Syrian Arab Republic, Ukraine and Afghanistan.

FIGURE 10.17 The number of people affected by forced displacements continues to increase.



Source: Global Trends Forced Displacement In 2022, UNHCR, p9, https://www.unhcr.org/global-trends-report-2022

People being internally displaced results in overcrowding in the cities. When people are forced to relocate to other countries, these are often low- and middle- income countries. In 2022, low-income countries hosted 16 per cent of the world's displaced people and a further 26 per cent were hosted by low-middle income countries. This can create a huge burden on the already struggling economies, infrastructure, security and society of these countries.

10.3.4 Impact of mass migration on health and human development

Mass migration affects the health status, health and wellbeing and human development of those who are forcibly displaced and often of host countries as well.

Impact on health status

Mass migration is generally associated with poorer health status.

Refugees are often forced into crowded and unclean living conditions in refugee camps. They suffer from insecurity, lack of services, including healthcare services and vaccination programs, and shortages of food and water. This can lead to outbreaks of cholera, diarrhoea and vaccine-preventable diseases such as measles, all of which spread quickly and represent the most common causes of death. These diseases are more likely to affect children under 5 and older people, increasing infant and under-5 mortality rates and reducing life expectancy. Women and children are also more likely to sufferer gender-based violence, which increases the levels of domestic violence and child abuse.

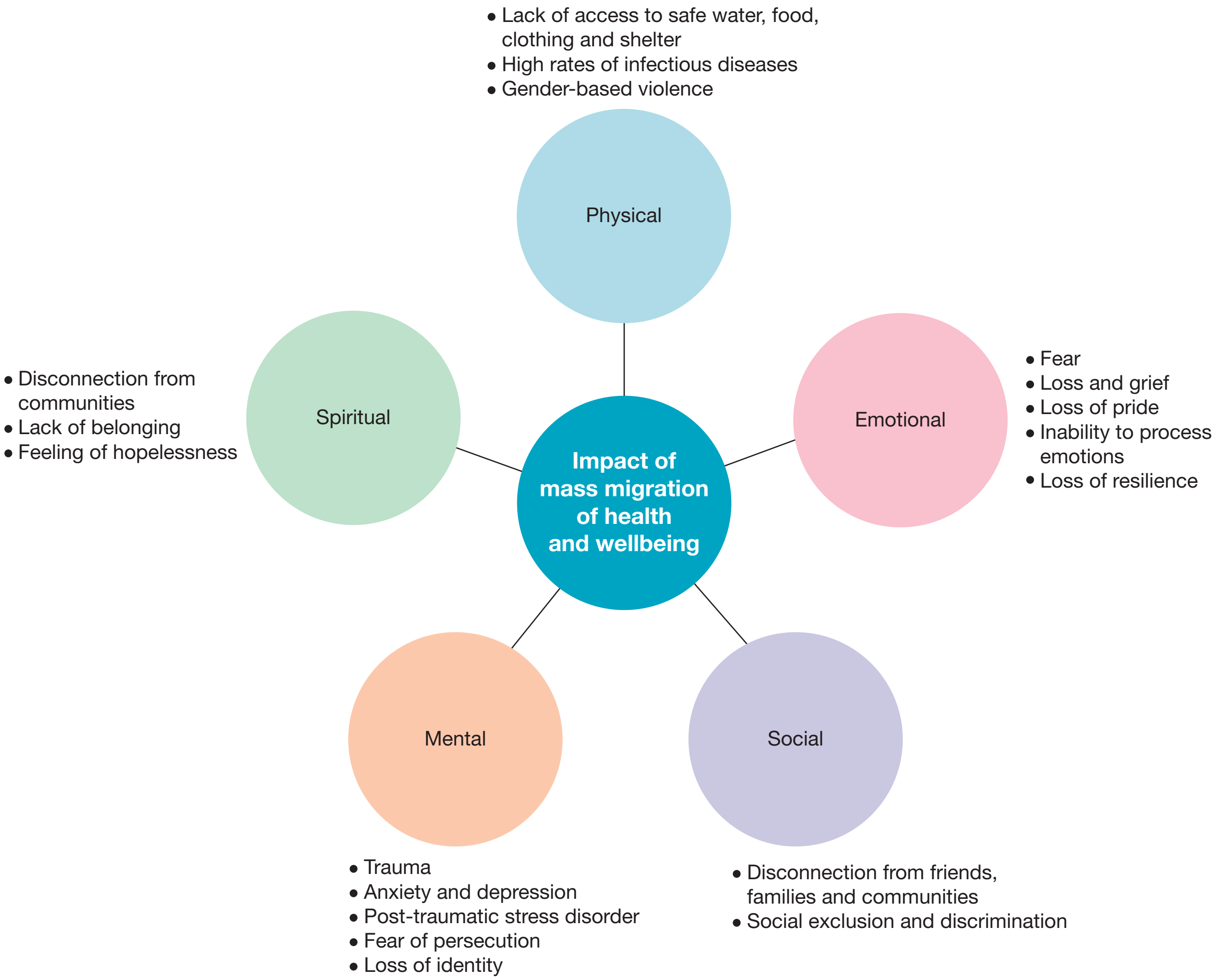
The long-term impact of the trauma and fear associated with forced relocation results in a high level of burden of disease associated with depression, anxiety, and post-traumatic stress disorders that affects many generations. Treatment and health prevention services for chronic diseases such as diabetes, cardiovascular diseases and cancer screening are either unavailable or not able to be accessed, which increases the incidence and prevalence of these noncommunicable diseases.

The relocation of people can overload existing health systems due to the number of people crowding into new areas, which can reduce the health status of the population in general.

Impact on health and wellbeing

Mass migration affects all dimensions of health and wellbeing (see **FIGURE 10.18**).

FIGURE 10.18 Mass migration has an impact on all dimensions of health and wellbeing.



Exposure to crisis that results in the mass migration of people almost always reduces the level of mental and physical health and wellbeing.

Women and girls are more vulnerable to gender-based violence, which impacts not only their physical health and wellbeing but also their mental health and wellbeing. Children can be separated from their parents, which increases their level of fear and trauma, impacting mental and emotional health and wellbeing.

The need to establish a home in a new location can be difficult and requires many adjustments, which can take months, years, or even longer to achieve. During this time, migrants can be separated from friends, families and communities and often lack support services and the means of earning a living. This reduces the level of social and spiritual health and wellbeing by disrupting people's sense of community and belonging. High levels of anxiety, depression, feelings of hopelessness and post-traumatic stress disorders lead to poor mental health and wellbeing.

In some cases, when people are forced to relocate, they experience social exclusion and discrimination on the grounds of ethnicity, race, nationality or migrant status. They often live in fear of further persecution, which impacts emotional health and wellbeing. It also reduces levels of optimism and self-esteem, which impacts mental health and wellbeing.

Migrants often experience loss and grief, which impacts emotional health and wellbeing. With the loss of employment that occurs when people have to relocate, many experience a significant loss of pride as men, in particular, are no longer able to provide for their family or use their skills productively in refugee camps. This impacts their emotional health and wellbeing. This can also lead to a loss of identity and sense of purpose, which reduces the level of spiritual health and wellbeing.

Impact on human development

Countries that experience mass migration, as well as the host countries that open their borders to refugees and asylum seekers, experience lower levels of human development.

Migration disrupts children's formal education, which can result in lost generations of educated adults who are then not given an opportunity to gain even primary school education. This means they are less likely to develop their skills and capabilities, reducing the choices they have about employment, where they live and how they live their lives. Limited employment options and low-paid employment means it is difficult to afford resources such as food, water, housing and medical care. This limits their ability to enjoy a decent standard of living and live a long and healthy life.

People who have been forced to relocate often lack security and are denied their basic human rights, which are conditions for human development. This is particularly true for stateless people who are not protected by the laws of any country and are unable to access education or health care, formal employment, voting in elections or travel. When thousands of people are left stateless, whole communities can be alienated and marginalised, which can lead to those people having a poorer standard of living.

Many host countries that open their borders to those who have to relocate are low- and middle-income countries. The sudden increase in migrants can place enormous stress on the limited resources of these host countries. These countries are often economically fragile with limited employment opportunities, infrastructure, health care and social protection systems. They often lack the resources to adequately support their own population, let alone those who are forced to relocate. This can impact the level of human development in these countries.

10.3 Exercises

10.3 Quick quiz on | **10.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 4, 7	3, 5, 9	6, 8, 10, 11

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Test your knowledge

1. a. What is meant by ‘the nature of conflict has changed’?
   b. Identify how many people are living in places affected by conflict.
2. Outline two ways that conflict can affect physical and social health and wellbeing.
3. When conflict occurs, outline why women are at greater risk.
4. a. What is meant by mass migration?
   b. Outline the main reasons for mass migration.
   c. Explain each of the four groups of people who generally constitute mass migration.
5. Identify how many people worldwide were forced to leave their homes in 2022 and describe what has been the trend over time.
6. Explain four ways that mass migration can impact health status.

Apply your knowledge

7. Outline why conflict would be described as a global trend.
8. Discuss how conflict can impact human development.
9. Explain the difference between mass migration and normal migration patterns that occur around the world.
10. Explain how mass migration impacts mental health and wellbeing.
11. Most of the world’s refugees are relocated to other countries, many of which are low- and middle-income countries. Explain the consequences of this to health.

10.3 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2011, Health and Human Development Exam, Section B, Q.4.a;* © VCAA

Since 1980, almost half of the world’s poorest countries have experienced conflict. More than 90 per cent of wars now take place within countries rather than between them.

The main causes of conflict within countries include:
- political instability
- economic and social inequalities
- extreme poverty
- lack of economic growth
- poor government services
- high unemployment
- environmental degradation.

During the 1990s alone, war claimed more than five million lives. The cost, in terms of human suffering, economic loss and wasted development opportunities, has been enormous.
Source: Focus, magazine published by AusAID

Explain how conflict may influence health status in low-income countries.

Question 2 (2 marks)

Source: Adapted from *VCE 2011, Health and Human Development Exam, Section B, Q.4.b;* © VCAA

Explain how conflict may influence human development in low-income countries.

Question 3 (4 marks)

Source: *VCE 2007, Health and Human Development Exam, Q.7.c;* © VCAA

The *World Food Programme* (WFP) is the food aid part of the United Nations. Food aid is one way to promote food security, which is defined as access of all people at all times to the food needed for an active and healthy life. One of the core policies for the *World Food Programme is*:

- to improve the nutrition and quality of life of the most vulnerable people at critical times in their lives.

In January 2002, the *World Food Programme* and the government of Sudan launched a five-year program to improve maternal and child nutrition. The *World Food Programme* recognises that women are the first and fastest solution to reducing poor nutrition. Experience shows that in the hands of women, food aid is far more likely to reach children. Seven out of ten of the world's hungry are women and girls. The *World Food Programme* seeks to give over half its food aid to females.

Source: Adapted from: World Health Organization, *World Food Programme* http://www.wfp.org/english. Accessed March 2007

Describe two ways in which ongoing conflict in countries like Sudan would impact on the availability of food for women and children.

Question 4 (2 marks)

Outline two ways in which military conflict can impact the food supply of people living in a low-income country.

Question 5 (3 marks)

Describe how mass migration can impact on the health and wellbeing of people living in a low-income country.

More exam questions are available in your learnON title.

10.4 Increased world trade (global distribution and marketing of tobacco, e-cigarette products and processed foods)

Key knowledge	Key skill
Implications for health and human development of global trends including: – increased world trade (global distribution and marketing of tobacco products, e-cigarette products and processed foods)	Analyse the implications for health and human development of particular global trends

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what has contributed to the global distribution and marketing of products • why multinational companies have targeted low- and middle-income countries to market tobacco products, e-cigarette products and processed foods • why this is an issue • the impact on health and human development.	• explain the reasons why multinational companies have marketed their products to low- and middle-income countries • explain the changes in consumption of these products that have occurred over time • discuss the effects of the increased consumption of these products in low- and middle-income countries on health and human development.

Globalisation has made it easier for large multinational companies to distribute, market and sell their products in all areas of the world. This has led to an increase in world trade. While globalisation and the increase in world trade have provided many economic benefits, aggressive marketing and promotion of products such as tobacco, e-cigarettes and processed foods have been detrimental to global health outcomes and human development.

globalisation the process in which boundaries between countries are reduced or eliminated allowing individuals, groups and companies to act on a global scale; a reduction in barriers to trade, communication and transport contributes to this process. It can be described as transforming the different societies of the world into one global society.

10.4.1 Tobacco

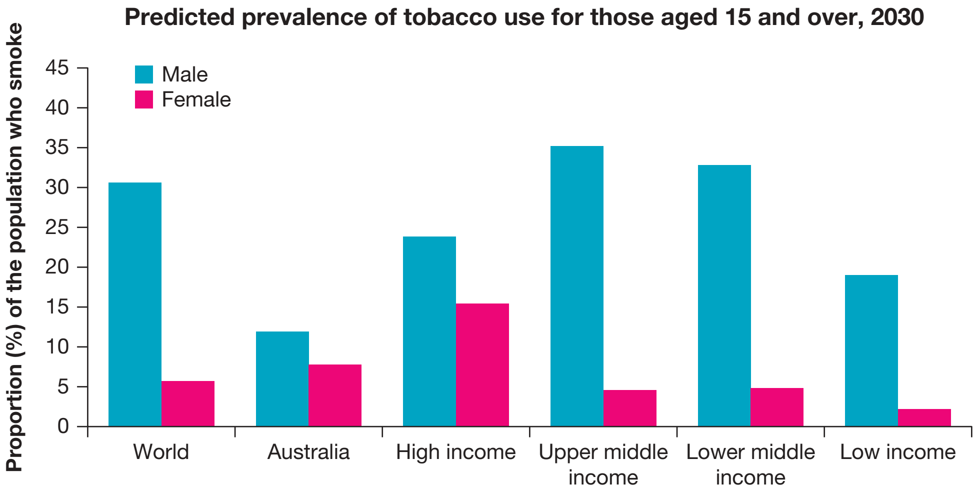
Over the last 20 or so years, tobacco manufacturers have been targeting low- and middle-income countries in an attempt to make up lost profits from high-income countries where smoking rates have been decreasing. Laws, taxes, regulations and public awareness campaigns that have been successful in many high-income countries such as Australia either didn't exist or were limited in low- and middle-income countries. As a result, the distribution and marketing increased in these countries.

According to the WHO, the number of tobacco users is the highest in low-income countries, particularly in the African region and the eastern Mediterranean region. Over 80 per cent of the world's 1.3 billion smokers live in low- and middle-income countries (see **FIGURE 10.20**). This is because they have high population growth and developing economies, which brings new wealth and a desire to be more like western cultures. These factors, as well as tobacco industry distribution and marketing, and lack of education and health promotion interventions, has led to high rates of smoking and number of smokers in low- and middle-income countries.

FIGURE 10.19 Tobacco companies have targeted low- and middle-income countries, leading to an increase in tobacco use among populations in these countries.

In India, almost one-quarter of deaths among middle-aged men are caused by smoking. In addition, it has been predicted that as many as 100 million Chinese men currently under 30 years of age will die from tobacco use. The increasing rates of women smoking in low- and middle-income countries is also a concerning trend. In the past, smoking has traditionally been considered a male activity. As a result, tobacco companies have invested heavily, trying to tap into the female market through advertising and promotion. Children have also been influenced by advertising campaigns in low- and middle-income countries, and the rates of children who smoke have increased. The ability to purchase single cigarettes in many low-and middle-income countries has contributed to this trend because it makes the purchase of tobacco more affordable for those living in poverty.

FIGURE 10.20 Predicted prevalence of tobacco use for those aged 15 and over, 2030



Source: Adapted from WHO global report on trends in prevalence of tobacco use 2000–2030. Geneva: World Health Organization, 2024

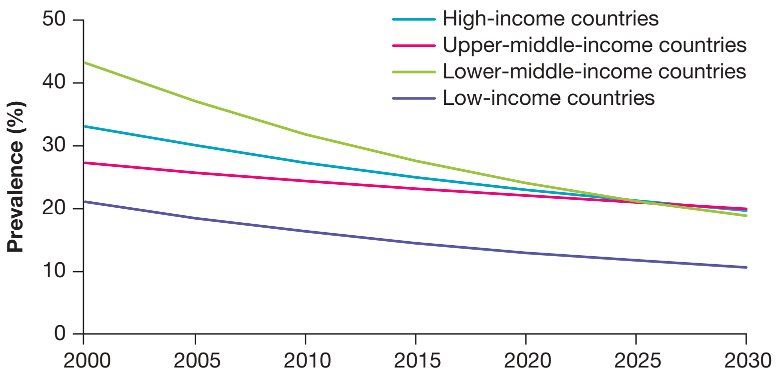
In high-income countries such as Australia, interventions by governments and non-government organisations have led to a decrease in smoking rates. These interventions include:

- advertising and packaging laws
- increased taxation on cigarettes
- laws restricting smoking in public places.

Globally, similar interventions are gradually being rolled out. While this has been slow in many low- and middle-income countries, the WHO estimates that 5.6 billion people, or 71 per cent of the world population, are now protected by at least one tobacco control measure. This reflects action in 107 countries.

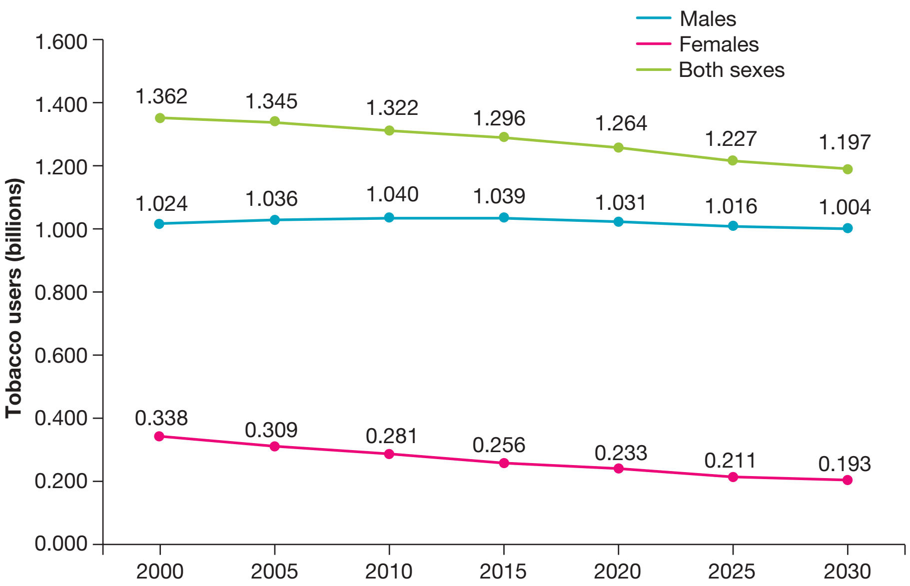
Over the last 15 years, the global prevalence of smoking has reduced from 26.4 per cent in 2010 to 20.9 per cent in 2020, and is expected to decrease further to 19.48 per cent by 2025 and 18.1 per cent in 2030 (see **FIGURE 10.22**). The number of smokers has also declined steadily to reach 1.30 billion in 2020 and is projected to further decline to 1.27 billion by 2025 (see **FIGURE 10.21**).

FIGURE 10.21 The proportion (%) of people aged over 15 years who smoke has been declining since 2000 in all income countries.



Source: WHO global report on trends in prevalence of tobacco use 2000–2030. Geneva: World Health Organization, 2024

FIGURE 10.22 The global number of tobacco users aged 15 years and over has been declining over time.



Source: WHO global report on trends in prevalence of tobacco use 2000–2030. Geneva: World Health Organization, 2024

Despite the decline in tobacco use, it continues to be one of the most preventable causes of premature deaths globally. The tobacco epidemic has been described by the WHO as one of the biggest public health threats the world has ever faced, killing over 8 million people a year globally. More than 7 million of those deaths are the result of direct tobacco use, while around 1.3 million are the result of non-smokers being exposed to second-hand smoke. The number of deaths is expected to keep growing even after rates of tobacco use start to decline, because tobacco-related diseases take time to develop. Tobacco smoking is still a major concern in high-income countries such as Australia.

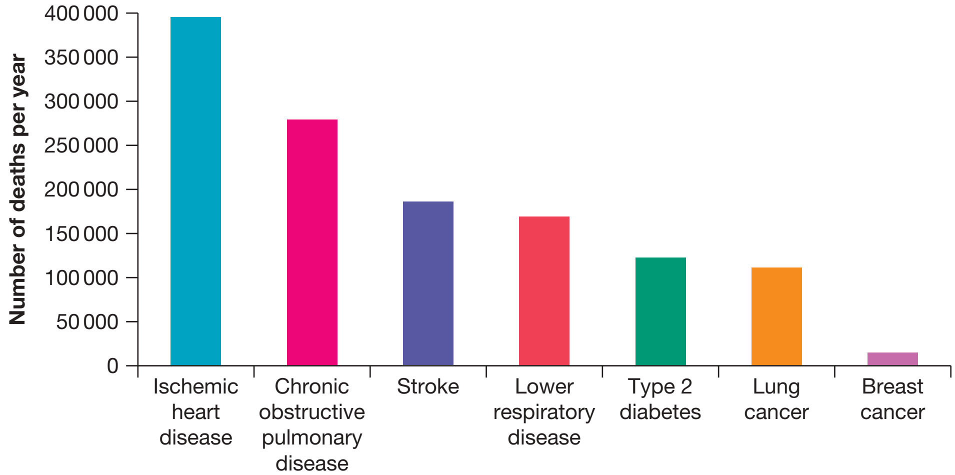
Impact on health status

All forms of tobacco use are harmful, and there is no safe level of exposure to tobacco. It is responsible for the death of 8 million people a year, including 1.3 million non-smokers from second-hand smoke. These deaths include people who do not use tobacco, such as infants and children. Nicotine contained in tobacco is highly addictive and tobacco use is a major risk factor for cardiovascular and respiratory diseases, over 20 different types of cancer and many other health conditions.

Tobacco can also be deadly for non-smokers (see **FIGURE 10.23**). Nearly half of all children breathe air polluted by tobacco smoke and 65 000 children die each year due to illnesses related to second-hand smoke. Severe asthma, respiratory tract infections, ear infections and sudden infant death syndrome are all more common among children exposed to second-hand smoke. This exposure does not only harm children during childhood but continues to affect their health status in adulthood.

Smoking while pregnant can affect foetal growth and development, contribute to early or premature birth- and low birth weight, and increased infant mortality. Exposure to second-hand smoke during pregnancy is particularly relevant to many low- and middle-income countries, where few women smoke but live with men who do. Of the 1.3 million deaths due to second-hand smoke, almost 90 per cent occur in low- and middle-income countries.

FIGURE 10.23 Smoking is responsible for the death of 8 million people a year, including 1.3 million non-smokers who die from a range of diseases similar to those of smokers.



Source: WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO. p 17, https://www.who.int/publications/i/item/9789240077164

Impact on health and wellbeing

Tobacco-related illnesses affect both individuals and their families. When a family member suffers a chronic health condition, the resulting healthcare costs can plunge families into poverty. The death of a working family member can also threaten a family's future financial stability. This causes huge amounts of grief, stress and anxiety, with a significant impact on mental health and wellbeing. With a loss of income, families may not be able to afford food, clothing, shelter, healthcare such as childhood vaccinations, and water. This affects their physical health and wellbeing because it weakens immune systems and increases the risks of suffering from malnutrition, water-borne diseases such as dysentery and diarrhoea, and other communicable diseases such as measles. Many families feel a sense of shame, which affects their emotional health and wellbeing and can lead to disconnection from their community, which affects their social and spiritual health and wellbeing.

Impact on human development

The loss of life and burden of diseases due to smoking can reduce the level of human development. Where funds are allocated to the purchase of tobacco, less money is available for children's education. With less income, children, most often girls, are forced to leave school and work to earn money for the family. This leads to gender inequality and reduces the level of human development.

Without an education, children are not able to develop their knowledge, skills and capabilities, and often face a life of poverty. Poverty removes choices from people and prevents them from enjoying a decent standard of living. People become disempowered, are often unable to participate in community life and are prevented or discouraged from being part of political decision-making through the voting process.

Clear air is also a human right and exposure to second-hand tobacco smoke removes this, which also impacts human development.

10.4.2 E-cigarette products

Since cigarette sales have fallen, tobacco companies are now aggressively marketing new products such as e-cigarettes and lobbying governments to limit their regulation. The WHO has described this action as 'tobacco companies seeking to hook another generation on nicotine'.

There are many different types of e-cigarettes on the market, including e-cigarettes, e-hookahs, vape pens, nicotine vaporisers and electronic nicotine delivery systems. The use of these products is referred to as vaping.

E-liquids do not contain tobacco and may or may not contain nicotine. They do, however, contain additives, flavours and chemicals. It has been estimated that there are more than 15 000 vape flavours for sale online and 243 unique chemicals in nicotine vaping product liquids, many of which are regarded as poisons. These include formaldehyde, heavy metals, solvents and volatile compounds. The dose of nicotine delivered by e-cigarettes also varies.

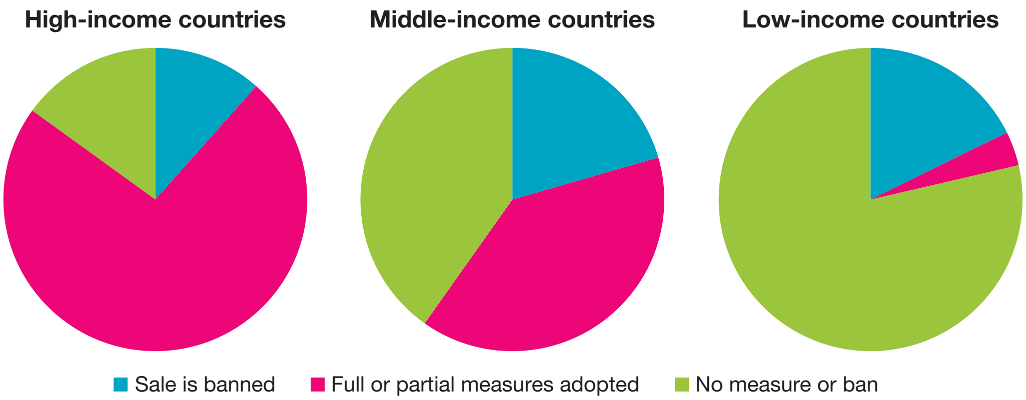
According to the United Nations, since 2005, the e-cigarette industry has grown from one manufacturer to a huge global industry with more than 450 brands. Between 2014 and 2018, the value of the global e-cigarette market more than doubled from US$6.8 billion to over US$15.5 billion; by 2021, it had increased to almost US$22.8 billion. This figure is expected to increase to US$26 billion. The major international tobacco companies have invested heavily in e-cigarettes, and tobacco companies now own many of the top e-cigarette brands.

Like cigarettes, these products are often being marketed to children and adolescents, particularly those who have never previously smoked, using thousands of appealing flavours and misleading claims about the products (see **FIGURE 10.24**). Efforts being made to address the marketing of these products is also being undermined by the aggressive promotion of e-cigarettes as a safer alternative to cigarettes.

FIGURE 10.24 E-cigarettes are being marketed to children and adolescents using appealing flavours. The exhaled vapour contains additives, flavours and around 243 different chemicals.

Laws and regulations around the advertising, promotion and sponsorship of nicotine e-cigarettes varies across countries. The WHO notes that only 111 countries worldwide have adopted some measure to regulate nicotine e-cigarettes, but this number is increasing, particularly in high-income countries. Low-income countries are less likely to have any measures or bans in place (see **FIGURE 10.25**).

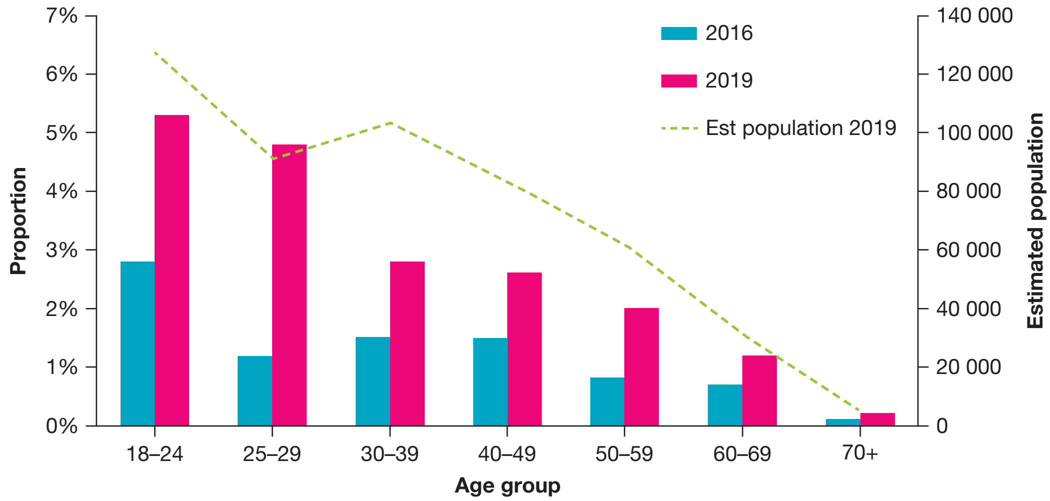
FIGURE 10.25 Measures to regulate the use of e-cigarettes are much lower in low- and middle-income countries than in high-income countries.



Source: WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO. p 96, https://www.who.int/publications/i/item/9789240077164

Globally, the use of e-cigarettes has increased enormously and is more common among young people, particularly males and existing smokers. 17 per cent of youth aged 8–19 surveyed across 51 countries in 2016–2019 indicated that they had used e-cigarettes. In 2018, the United States declared youth use of e-cigarettes to be an 'epidemic'. The 2022 US National Youth Tobacco Survey found that 2.5 million middle and high school students reported current e-cigarette use, with almost half of high schoolers vaping on a daily basis. In Australia, use was more common in the younger age groups, with 5.2 per cent of 18–24-year-olds reporting current daily, weekly or less than weekly use, up from 2.8 per cent in 2016 (see **FIGURE 10.26**).

FIGURE 10.26 Proportion of Australians reporting e-cigarette use, by age, 2016 and 2019



Source: Banks E, Yazidjoglou A, Brown S, Nguyen M, Martin M, Beckwith K, Daluwatta A, Campbell S, Joshy G. Electronic cigarettes and health outcomes: systematic review of global evidence. Report for the Australian Department of Health. National Centre for Epidemiology and Population Health, Canberra: April 2022. P18 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj93Zn20ICBAxVgk4kEHYVcBagQFnoECA4QAQ&url=https%3A%2F%2Fwww.nhmrc.gov.au%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2Fattachments%2Fecigarettes%2FElectronic_cigarettes_and_health_outcomes_%2520systematic_review_of_evidence.pdf&usg=AOvVaw3xdXXTWz4Ipe8eNUhiYJFm&opi=89978449

Impact on health status

Although the exact long-term impacts of e-cigarette use on health status are not known, the contents of common vapes are known to contribute to negative health outcomes (see **FIGURE 10.27**). The aerosol that users inhale and exhale from e-cigarettes includes a range of metals and substances that can increase the incidence and prevalence of diseases including:

- cardiovascular disease
- cancer, particularly lung cancer
- diseases of the nervous system and respiratory system.

FIGURE 10.27 The use of e-cigarettes can impact heath status in a range of ways.

Source: https://nceph.anu.edu.au/files/E-cigarettes%20and%20health%20outcomes_ANU_PHXchange_1.pdf#overlay-context=research/projects/health-impacts-electronic-cigarettes

There are also risks for people who are exposed to the vapours from second-hand aerosols. The aerosol can also contain nicotine, which can be toxic and highly addictive. Inhaling high levels of nicotine can lead to poisoning and is known to increase levels of anxiety and depression.

E-cigarettes have been promoted as a nicotine replacement device to assist smokers of conventional cigarettes to quit and to reduce the number of cigarettes they smoke. However, in the majority of cases, e-cigarettes have been found to be used in addition to cigarette smoking rather than as a substitute. E-cigarettes have also been found to be very addictive due to the speed of the nicotine reaching the blood.

E-cigarettes are dangerous when used by children and adolescents, the age groups in which there has been the greatest uptake. Nicotine can have long-term effects on brain development. It has also been found to double the chance of young people who have never smoked to start smoking conventional tobacco cigarettes later in life.

When used indoors, e-cigarettes can also affect others. The levels of nicotine, fine particles and potential cancer-causing substances in second-hand aerosols increase the risk of heart and lung disorders. At a broader level, there is also concern that e-cigarettes have the potential to normalise the act of smoking again, which would destroy all the progress made in reducing cigarette use.

Impact on health and wellbeing

The use of e-cigarettes reduces the level of physical health and wellbeing of users and those who are subject to second-hand aerosols.

The chemicals in the inhaled vapour affect the functioning of many of the main organs of the body, in particular the lungs and the heart. The nicotine in aerosols can lead to addiction, dependence and nicotine poisoning. In the short term, the most common negative effects of using nicotine vaping products are mouth and throat irritation, nausea and insomnia. Nicotine can increase the heart rate and blood pressure, which decrease physical health and wellbeing.

The consumption of nicotine by children and adolescents has been found to change the structure and function of the brain, leading to long-term consequences for brain development and potentially leading to learning difficulties, anxiety disorders and depressed mood, therefore impacting mental health and wellbeing. E-cigarette use during pregnancy is also thought to have consequences for brain development of the developing foetus. E-cigarette use can also expose non-smokers to nicotine and other harmful chemicals through second-hand aerosols.

For young people, e-cigarettes can impact their social health and wellbeing. When smoking is undertaken as part of a social group, it can have a positive impact. Being part of a social group can promote a sense of belonging and improves spiritual health and wellbeing. However, it can also create conflict between young people and their parents and carers and interrupt schooling, which destroys relationships and social support networks.

People need money to purchase e-cigarettes and this can result in money being redirected from purchasing food and health care, which can lead to hunger and malnutrition and put further stress on relationships. Addiction can lead to feelings of guilt and disappointment, which can impact emotional health and wellbeing.

Impact on human development

E-cigarettes have a negative impact on human development. Because e-cigarette use is reasonably new, the long-term effects are yet to be realised but the high use by young people is of great concern. E-cigarettes are likely to affect people's ability to live a long and healthy life due to the relationship between e-cigarettes and a range of chronic diseases, such as heart disease, cancer and respiratory diseases. With increased morbidity, there will be greater demands placed on the healthcare systems and, in many low- and middle-income countries, there is no universal access as there is in Australia. This means people are at greater risk of being plunged into poverty, which means they are more likely to experience disadvantage and not be able to afford the essential resources to enjoy a decent standard of living. Poverty reduces people's choices, creates inequality and reduces a country's level of human development.

Educational opportunities and employment are usually limited where there are high levels of poverty, which means many people will not have the chance to develop their knowledge and skills and expand their capabilities. This reduces people's confidence and their likelihood of participating in voting processes and other aspects of community life. This reduces the level of human development.

10.4.3 Processed foods

Processed foods relate to any food items that have been deliberately changed before being made available to eat. Food processing can be as basic as drying or freezing a food to maintain freshness, or as complex as creating a food item from a range of ingredients, such as a jar of pasta sauce, a cake mix or a microwave meal. Many processed foods are healthy and safe to consume on a regular basis, such as canned fruit and frozen vegetables. Others contain significant amounts of added salt, sugar and/or fat and should be consumed only sometimes and in small amounts, such as frozen pizzas, fast food hamburgers and French fries.

FIGURE 10.28 Many cereals are ultra-processed foods.

It is the unhealthier highly processed foods, referred to as **ultra processed foods**, that are actively marketed to consumers and contribute to many negative health outcomes. Examples of these foods are packaged foods such as snacks, cookies and biscuits, instant soups and noodles, ready-to-eat and heat meals, lollies and soft drinks. They are designed and made for maximum profit, are quick and convenient and have long shelf-lives. They contain cheap ingredients, are energy dense and high in sugars, refined starches, unhealthy fats and sodium. There is increasing evidence that these foods also have addictive qualities.

These foods have been marketed in high-income countries for many years. However, low- and middle-income countries have become new target markets. As incomes have increased and people have migrated from rural areas to major cities looking for work, access to these foods has increased. Traditional diets, which were often low in fat, are being replaced by processed foods, contributing to a more energy-dense diet (see **TABLE 10.2**). The total sales of processed foods in low- and middle-income countries will soon be equivalent to those in high-income countries.

ultra processed foods highly processed foods, usually containing cheap ingredients and many artificial additives. They contain high levels of salt, fat and refined sugars.

TABLE 10.2 Global and regional per capita food consumption (kJ per capita per day), actual and estimated

Region	1964–66	1974–76	1984–86	1997–99	2015	2030
World	9 865	10 188	11 109	11 728	12 301	12 761
Low- and middle-income countries	8 594	9 004	10 251	11 217	11 924	12 468
High-income countries	12 330	12 824	13 414	14 142	14 403	14 644

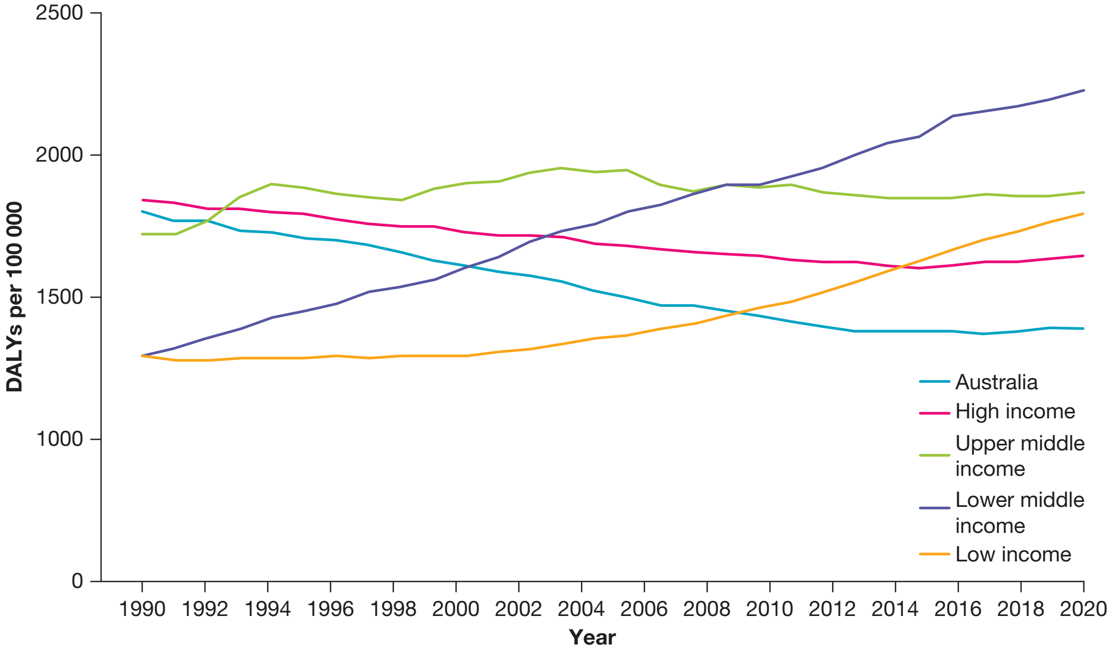
Impact on health status

For many years, the marketing and increased consumption of processed foods in high-income countries such as Australia has contributed to higher rates of overweight, obesity and related conditions, such as cardiovascular disease and type 2 diabetes. According to the WHO, the incidence and prevalence of these diseases are continuing to increase in low- and middle-income countries (see **FIGURE 10.29**).

The rates of obesity among people of high socioeconomic status in Brazil and India are now comparable with the United States and Australia. Higher rates of obesity will result in higher rates of associated conditions, including cardiovascular disease, hypertension and diabetes, as well as higher rates of depression. The WHO predicts that the incidence of stroke deaths will double in the low- and middle-income countries over the next

20 years. China is already experiencing the effects of westernised diets, with more than one million people dying of stroke each year. High salt intake is thought to be largely responsible for this trend. It has also been predicted that one billion people globally will be living with obesity by 2030.

FIGURE 10.29 DALY per 100 000 people due to overweight and obesity over time



Source: Adapted from: http://vizhub.healthdata.org/gbd-compare

Many low- and middle-income countries now face a 'double burden' of disease. They are still experiencing high rates of undernutrition and other conditions associated with poverty, such as infectious diseases, but are now also experiencing the increasing rates of conditions associated with wealth, such as obesity, cardiovascular disease and type 2 diabetes. Quite often, the effects of obesity and undernutrition exist side by side in the same community. Under-resourced health systems in many low- and middle-income countries mean that treatment for conditions related to obesity may not be available, further contributing to morbidity and mortality rates, premature deaths and low health-adjusted life expectancy.

Impact on health and wellbeing

Chronic diseases associated with eating a lot of highly processed foods impact health and wellbeing. Diseases such as cardiovascular diseases, cancer and type 2 diabetes affect the functioning of the organs in the body, which reduces the level of physical health and wellbeing. When people suffer from overweight and obesity, they often find it harder to exercise, become physically fit and maintain muscle tone. This can contribute to sleeping issues such as **sleep apnoea** and increased fatigue, which reduce the levels of physical health and wellbeing.

sleep apnoea a sleep disorder in which breathing repeatedly stops and starts

Less physical activity can lead to lower levels of self-esteem and confidence, and an increased level of anxiety and stress about illness, which reduces the level of mental health and wellbeing. People can feel embarrassed and frustrated due to having a chronic illness, which impacts emotional health and wellbeing. This can sometimes lead to lower levels of social interaction with others, which can impact social health and wellbeing. Social networks can also be reduced if people are unwell and unable to work, and they may feel a sense of disconnection with people and a sense of hopelessness, which can impact spiritual health and wellbeing.

Impact on human development

When people suffer from chronic diseases such as type 2 diabetes, cancer or cardiovascular disease, it may impact on their ability to lead long and healthy lives. If their condition interferes with their ability to work and earn an income, it may reduce their standard of living. Having a chronic illness can affect people's ability to lead a life they value and can limit the choices they make.

In low- and middle-income countries, high levels of noncommunicable diseases places additional stress on healthcare systems, which are also trying to deal with communicable diseases. This means many people may not be able to receive necessary health care, which reduces the level of human development. High levels of noncommunicable diseases in high-income countries due to the over-consumption of processed foods also adds additional pressure on healthcare systems and increases the level of funding that is needed to meet the health needs of the population, which can reduce the level of human development.

10.4 Exercises

10.4 Quick quiz on | **10.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
2, 3	1, 4, 5, 7	6, 8, 9, 10

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Test your knowledge

1. Explain why tobacco companies have been specifically targeting low- and middle-income countries.
2. Outline three reasons for increasing rates of tobacco use in low- and middle-income countries.
3. List three ways that second-hand smoke can affect health status.
4. Explain two ways that e-cigarettes can impact human development.
5. a. Explain what is meant by processed foods.
   b. Are all processed foods unhealthy? Explain.
6. a. Graph the energy intake for the world, and high-, middle- and low-income countries using the data from **TABLE 10.2**.
   b. Describe two trends from the graph.
   c. Suggest reason for the trends identified in **part b**.
   d. Explain how these trends could impact health status in high-income, low, and middle-income countries.

Apply your knowledge

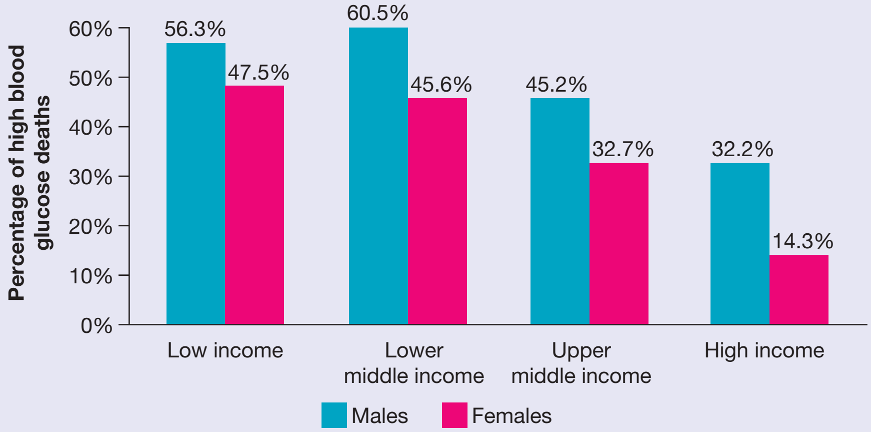
7. a. Using information in **FIGURE 10.22**, outline the difference in tobacco use rates for males and females in Australia compared to upper middle-income countries.
   b. Suggest reasons that might account for the differences identified in **part a**.
8. Use the information in **FIGURE 10.21** to compare trends in tobacco users over time.
9. Explain four ways that e-cigarettes can impact health.
10. a. Use **FIGURE 10.29** to compare the rate of DALY due to overweight and obesity between Australia and low-income countries over time.
    b. Suggest reasons that may account for the difference in **part a**.

10.4 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2017, Health and Human Development Exam, Q.9.b;* © VCAA

The graph shows the percentage of deaths that were attributed to high blood glucose levels for males and females aged 20–69 years according to country income group in 2012.



Discuss how global marketing and access to health care could have contributed to these differences.

Question 2 (2 marks)

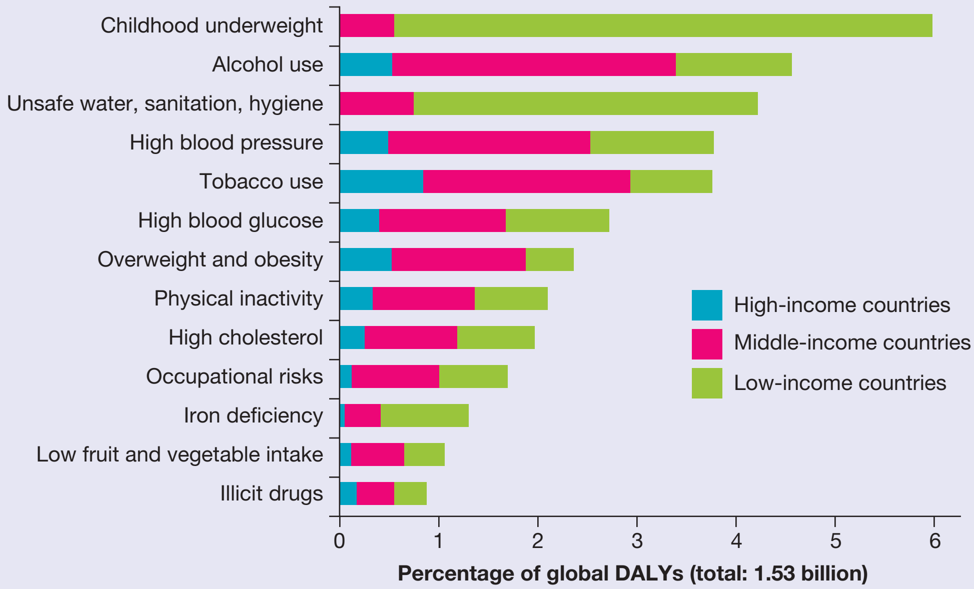
Source: *VCE 2016, Health and Human Development Exam, Q.14.a;* © VCAA

> Obesity is placing a heavy burden on the world's population in both rich and poor countries. Almost 30 per cent of people globally are now either obese or overweight. Two-thirds of the obese population now live in developing countries, which also experience high rates of undernutrition.

Explain how global marketing has contributed to the increase in the number of people who are overweight or obese.

Question 3 (4 marks)

Source: Adapted from *VCE 2012, Health and Human Development Exam, Section B, Q.3.b;* © VCAA



a. From the graph, **select** one of the risk factors common to all three income levels for which global marketing and distribution plays a role. **1 mark**

b. **Discuss** the influence that global marketing and distribution might have on the risk factor selected in **part a**. **3 marks**

Question 4 (3 marks)

Source: *VCE 2010, Health and Human Development Exam, Section A, Q.9;* © VCAA

The following table indicates the leading causes of death in 2004 globally, compared with the leading causes of death predicted in 2030.

TABLE 1 Leading causes of death globally – ranked 1 to 15 for 2004 and 2030 (predicted)

Leading causes of death, 2004 and 2030 compared			
2004		**2030**	
Disease or injury	**Rank**	**Rank**	**Disease or injury**
Ischaemic heart disease	1	1	Ischaemic heart disease
Cerebrovascular disease	2	2	Cerebrovascular disease
Lower respiratory infection	3	3	Lower respiratory infection
Chronic obstructive pulmonary diseases	4	4	Chronic obstructive pulmonary diseases
Diarrhoeal diseases	5	5	Road traffic injury
HIV/AIDS	6	6	Trachea, bronchus, lung cancer
Tuberculosis	7	7	Diabetes mellitus
Trachea, bronchus, lung cancer	8	8	Hypertensive heart diseases
Road traffic injury	9	9	Stomach cancer
Prematurity and low birthweight	10	10	HIV/AIDS
Neonatal infection and other	11	11	Nephritis and nephrous
Diabetes mellitus	12	12	Self-inflicted injuries
Malaria	13	13	Liver cancer
Hypertensive heart diseases	14	14	Colon and rectum cancer
Birth asphyxia and birth trauma	15	15	Oesophagus cancer

Source: Adapted from: www.who.int, p.33

a. Global marketing is considered to have a major influence on health status. **Select** one leading cause of death that is predicted to rise in ranking from 2004 to 2030 that could be due to the influence of global marketing. **1 mark**

b. **Describe** how global marketing might contribute to this increased ranking. **2 marks**

Question 5 (2 marks)

Source: *VCE 2004, Health and Human Development Exam, Q.1;* © VCAA

Over 1300 million people in the world are current smokers (World Bank, 1999). If this behaviour continues in the twenty-first century the use of tobacco will lead to one billion deaths, eighty per cent of which will occur in low-income countries. Within twenty years, tobacco dependence could become the world's single largest cause of premature death or years lived with disability.

Outline how global marketing and distribution has contributed to increased smoking rates in low- and middle-income countries.

More exam questions are available in your learnON title.

10.5 Tourism

Key knowledge	Key skill
Implications for health and human development of global trends including: – tourism	Analyse the implications for health and human development of particular global trends

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what tourism means • the advantages and disadvantages of tourism • how increased tourism affects health and human development.	• describe tourism • explain the advantages and disadvantages of tourism • explain how tourism can affect health and human development.

10.5.1 Tourism

Tourism refers to the activities that people get involved in when they travel to and stay in places where they do not normally live. It includes visiting tourist attractions, engaging in cultural experiences, exploring new places, and participating in activities specific to where they are staying. It is one of the fastest growing industries worldwide and although it was affected greatly by the COVID-19 pandemic, it is recovering quickly and continues to account for around 10 per cent of the world's GDP. Tourism includes accommodation, sightseeing, entertainment and experiencing the local culture, food and traditions.

According to the United Nations World Tourism Organization, 963 million people travelled to a different country in 2022. This is expected to reach 1.8 billion people by 2030.

Tourism is important for both travellers and the people in the country that they visit.

FIGURE 10.30 Why tourism is important

Source: World Tourism Organization 2016, 'Why Tourism Matters', infographic (online), available at www.unwto.org

Advantages of tourism

The reasons why tourism is important are shown in **FIGURE 10.30** and can be grouped into economic, social and environmental advantages (see **TABLE 10.3**).

In many low- and middle-income countries, tourism is a major source of income and employment. It provides over 300 million jobs worldwide, representing 12 per cent of the working population. It involves many service providers and organisations, some of which are directly involved in the provision of services to tourists, while others work in the background and support the services that enable tourism to take place. Tourism has helped countries move from being classified as low-income to middle-income.

TABLE 10.3 The economic, social and environmental advantages of tourism

Economic	Social	Environmental
• Plays a key role in developing jobs for local people and improves living standards • Improves economic growth — Tourism accounts for 10 per cent of the world's GDP, and economic growth is important if people and countries are to escape from poverty. • Economic growth promotes jobs, providing around one in every 11 jobs • Contributes taxes that can be used to improve infrastructure such as water supplies, telecommunications and rail improvements	• Promotes local culture and products • Contributes to social inclusiveness, with almost twice as many women than men employed in the tourism sector, contributing to gender equality. • Can provide incentives to invest in education and training • Promotes mutual understanding, peace and security by breaking down barriers that exist between cultures, and provides opportunities to build trust and peace • Can increase understanding of and appreciation for people in other countries and their cultures • Preserves cultural values and diversity, and raises awareness of the value of heritage	• Can promote environmental protection — Tourism is effective in raising money for the conservation of wildlife and the environment. • It can be a way of protecting and restoring biodiversity

Disadvantages of tourism

While tourism has many benefits, there are also many disadvantages (see **FIGURE 10.31**).

- Tourism can put additional pressure on local infrastructure and services, which may not be able to cope with the disposal of liquid and solid wastes.
- Additional wastes generated by the tourism industry can pose environmental risks if they are unable to be disposed of in a safe manner.
- More tourism means more transport, which increases global emissions and contributes to climate change.
- Tourism can also result in disease-producing organisms being transported rapidly from one country to another. The most recent example is COVID-19. Concerns also occur when different strains of viruses occur in different countries and care must be taken to control the introduction of new strains into countries such as Australia.

FIGURE 10.31 Tourism can create employment opportunities for women.

Impact on health status

Tourism has shown that it can help increase economic activity and increase a country's GDP or income. This means more money can be generated from taxes, which can be used to:

- provide affordable healthcare services so children can be vaccinated, have regular medical check-ups and get medical treatment when needed. This decreases infant and under-5 mortality rates. Pregnant women will be able to be monitored throughout their pregnancy and have their baby delivered by trained healthcare workers, which will help reduce maternal mortality rates. Investment in improving infrastructure will help reduce the burden of disease associated with communicable and respiratory diseases, help reduce premature death and disability, and extend life expectancy and healthy life expectancy.
- support girls' education, which helps reduce the number of girls who marry and have children when they are young. This improves the health of adolescent girls and reduces health conditions such as fistula.

Tourism can also lead to an increased incidence of infectious diseases such as COVID-19, contributing to lower life expectancy.

Impact on health and wellbeing

Economic growth due to tourism means individuals and families are able to be employed and earn an income. With an income, families can purchase food, water, clothing, shelter and health care, which promotes physical health and wellbeing. Families can also afford to send their children to school, which creates opportunities to develop relationships that promote social health and wellbeing. Healthier people feel more confident, empowered and resilient, which increases the level of emotional health and wellbeing. Greater empowerment builds a sense of belonging to the community, which promotes spiritual health and wellbeing.

FIGURE 10.32 Tourism can create employment opportunities for women.

Tourism preserves cultural values, diversity and heritage. Tourism can protect traditional values and customs, empower communities and foster pride, which promotes emotional and spiritual health and wellbeing.

However, if the impact of tourism places local infrastructure under pressure and sees waste products being dumped in waterways and forests, physical health and wellbeing can be affected by unsafe water and lack of sanitation. Water-borne diseases such as cholera can significantly reduce the level of physical health and wellbeing. Where diseases are spread as a result of tourism, levels of physical health and wellbeing can also be reduced.

Impact on human development

Almost twice as many women are employed in the tourism sector compared with any other sector. This increases female empowerment and gender equality, both of which are necessary for human development. The tourism sector can provide incentives to invest in education and vocational training. This helps develop people's knowledge and skills, which expands their capabilities and supports them to seek well-paid employment.

Tourism promotes cultural diversity and raises awareness of the value of heritage. This helps to support a sense of community, which promotes the participation of all people in decision-making processes such as voting.

Tourism has been responsible for lifting many countries out of poverty and provides opportunities for governments to invest in health care, welfare and infrastructure, which allows people to enjoy good health and wellbeing and to live long and healthy lives. With more income, people have more choices and can make decisions about how they want to live their lives according to their needs and values.

EXAM TIP

When analysing the impact of tourism on the health and wellbeing of people in low- and middle-income countries, consider both the advantages and disadvantages in your discussion.

10.5 Exercises

10.5 Quick quiz on | **10.5 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 4	3, 5, 6, 8	7, 9, 10

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Test your knowledge

1. What is tourism?
2. Outline two situations where tourism had a negative impact on health status.
3. Outline two ways that tourism can contribute to improved human development.
4. a. Identify what percentage of the world's GDP tourism contributes to.
   b. Identify which regions are expected to have the strongest growth in tourism by 2030.
5. Outline two examples of the economic, social and environmental advantages of tourism.
6. Outline two disadvantages of tourism.
7. Explain how tourism can promote health and wellbeing.

Apply your knowledge

8. Explain how tourism could help countries move from being classified as low-income to middle-income.
9. Outline how tourism can help achieve gender equality.
10. Tourism does not always promote health and wellbeing. Discuss.

10.5 Exam questions

Question 1 (6 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.5.a*; © VCAA

World tourism has increased significantly over the last 20 years.

Analyse the implications of increased tourism for health and wellbeing.

Question 2 (2 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.5.b*; © VCAA

World tourism has increased significantly over the last 20 years.

Using one indicator of the Human Development Index (HDI), **outline** how an increase in tourism can have an impact on a country's HDI.

Question 3 (1 mark)

Outline one positive outcome of tourism in low-income countries.

Question 4 (2 marks)

Describe how tourism may improve education levels in low-income countries.

More exam questions are available in your learnON title.

10.6 Digital technologies

Key knowledge	Key skill
Implications for health and human development of global trends including: – digital technologies	Analyse the implications for health and human development of particular global trends

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the different types of digital health technologies and how they are being used • the impact that digital technologies have had on the delivery of health care • the advantages and disadvantages of digital health technologies • the impact of digital technologies on health and human development.	• explain examples of digital health technologies and how they have changed the delivery of health care. • describe the positive and negative impacts of digital health technologies • discuss the effects of digital technologies on health and human development.

Over the last 10 years there has been considerable growth in digital technologies, in particular mobile phone technology and the internet. The world has become increasingly more connected.

Developments in, and the expansion of, digital technologies mean that they are not only being used for everyday communication but also for more complex data collection and functions. This is particularly evident in the area of **digital health technologies**, which are changing the nature of health care globally. These technologies include:

- wearable health devices such as smart watches, which can monitor vital health signs and other health indicators (see **FIGURE 10.33**)
- telehealth services
- mobile health (mHealth) apps
- artificial intelligence
- robotics
- digital health platforms.

digital health technologies the use of digital tools, platforms and devices in health care

The digital health technologies market was valued at US$27.51 billion in 2022 and is estimated to reach US$78.53 billion by 2030.

Digital health technologies can be used to:

- analyse huge amounts of data, including medical records, patient-generated data and health monitoring data in real time, which helps healthcare professionals make better decisions
- help people to become more engaged with their health
- make healthcare procedures more efficient
- improve communication between patients and healthcare professionals.

FIGURE 10.33 Health technologies such as those provided by wearable devices can monitor vital signs and symptoms of chronic diseases such as diabetes, cardiovascular diseases and cancer. This allows for early intervention, better health outcomes and cheaper healthcare costs.

Online networks enable people to share and compare different diagnoses and treatments with people who have the same conditions all over the world. Members of an online community can ask for advice, learn from each other, discuss test results and compare how different medications, treatments or combinations of drugs might be working. Sharing information creates more informed and empowered people because health professionals are no longer the only source of information.

During the COVID-19 pandemic, telehealth was effective in replacing the need for many face-to-face GP and specialist consultations and is now being used more often for remote consultations. Telehealth is able to reach more people and improve access to health care.

Digital health technologies can also be used to provide personalised health care and treatment plans. They can take into account a range of factors such as an individual's genetic makeup, lifestyle choices and environmental factors to create an individual treatment plan. They can assist medical professionals to diagnose conditions early and take action before conditions worsen.

Many countries are using digital technologies to collect health-related information. Mobile phones are being used to:

- help healthcare workers in the field gather population data, such as the number and ages of men, women and children, and the numbers of pregnant women and whether they access health care before, during and after pregnancy.
- get information to set up programs that meet the needs of the population
- evaluate the effectiveness of the programs implemented
- register births, deaths and marriages so people have access to legal protection, education and basic human rights
- better prepare for disasters and use SMS services to issue emergency warnings.

However, there are some concerns about the use of technology to deliver health care:

- Some people find digital platforms difficult to navigate, which can cause frustration and limit their willingness to engage with digital health systems. This may isolate some people.
- There can be concerns about poorer quality health care in relation to the ability of healthcare providers to properly diagnose and treat conditions without a physical examination.
- Personal health data that is collected is sensitive and must be stored safely and securely. Strong cybersecurity laws, regulations and practices must be in place to protect people's privacy and confidentiality, and individuals must be given the power to decide who they share their personal information with. These systems are not always in place, especially in low- and middle-income countries.

FIGURE 10.34 Digital technologies are now available to people who live outside major cities.

Impact on health status

Digital health technologies have the ability to increase access to health care, particularly for those in rural and remote communities. This means people do not have to take time off work to travel to larger centres to get health care. Symptoms of ill health may be treated more quickly, which will reduce the prevalence of many health conditions and reduce premature death.

Digital technologies can improve the efficiency and sustainability of healthcare systems by reducing healthcare costs by streamlining processes and decreasing the need for in-person visits and expensive hospital stays. This means the money allocated to health care can be used to reduce waiting lists in hospitals, which can help reduce the burden of disease.

Digital health technologies can improve health promotion and disease prevention by using digital platforms to communicate key health promotion messages and reminders about medical screenings. Wearable devices, mobile health apps and remote monitoring can also help track patients' vital signs and behaviours, allowing for early detection of potential health issues and timely interventions. This will help reduce the prevalence and incidence of many diseases because people will be more informed about health-promoting behaviours. These can reduce the need for hospitalisations and lower healthcare costs.

The use of digital health technologies can mean that procedures are less invasive, which means recovery time is shorter and there is less chance of infections.

Impact on health and wellbeing

Digital technologies can provide people with access to self-care and diagnostic information that they can use to monitor their personal health. This can empower people to be actively engaged in their own health. They are more informed and have the tools to self-manage their condition and follow an individualised treatment plan. This promotes both physical and mental health and wellbeing.

Digital technologies are a powerful way of staying connected with others. This can increase social networks and promote social health and wellbeing. Reducing social isolation can also improve mental health and wellbeing because people no longer feel isolated, especially those living in rural and remote areas, the elderly and those with a disability. It may also mean that older people will be able to remain at home for longer because digital technologies can be used to monitor their physical health and wellbeing remotely. For many people, this reduces the stress and trauma of having to move into an aged care home and promotes their mental health and wellbeing.

However, the use of digital technologies can also create problems with addiction. This has led to poor sleep patterns and eye damage, which affect physical health and wellbeing, as well as relationship breakdowns and interruptions to children's schooling, which impacts social health and wellbeing.

The increasing incidence of hacking into people's bank accounts and social media accounts also causes anxiety and stress. Issues regarding the safety of children and young people online, such as ongoing cyberbullying, exposure to indecent content such as pornography, sexting and the sharing of personal information, are a concern in all countries. Adults are also subject to harassment using digital technologies, with females often more likely to be targeted. Digital technologies can also be used to groom children and to radicalise people. This can all result in a decrease in mental health and wellbeing.

Impact on human development

Digital technologies can be used to improve health status and help people lead a long and healthy life and enjoy a decent standard of living. Improved health and wellbeing gives people more freedom of choice and the ability to lead the life they value. Access to health care means less time off when they are ill, less income lost for families and fewer productivity losses for communities. This can promote economic growth.

Women often have the responsibility of caring for family members. The use of technology can help them feel empowered, which increases their confidence and helps promote gender equality. Digital technologies can also provide opportunities for people to be connected and involved in political decisions that affect their lives, their families' lives and those of their communities.

However, the 'dark side' of technology has the capacity to reduce the level of human development, especially when sensitive data is shared and identities are stolen. This violates people's human rights.

10.6 Exercises

10.6 Quick quiz on

10.6 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 6, 7	3, 4, 10	5, 8, 9

Test your knowledge

1. Why are digital technologies considered a global trend?
2. Explain how people, businesses and governments are using digital technologies.
3. Identify what digital health technologies are and describe what they include.
4. Outline how digital health technologies are assisting people to share health information.
5. Explain what factors are taken into account to provide people with personalised health care and treatment plans.
6. Describe the different ways countries are using digital technologies.
7. Outline the concerns associated with the use of digital technologies.

Apply your knowledge

8. Explain how digital technologies can empower people to manage their health and wellbeing and to adopt healthy behaviours.
9. Explain three ways that digital technologies can promote health and wellbeing.
10. Describe two ways that digital technologies can promote human development.

10.6 Exam questions

Question 1 (6 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.10*; © VCAA

… 96% of the world has access to mobile phone networks.

The Be He@lthy, Be Mobile initiative uses mobile phone technology to deliver disease prevention and management information direct to mobile phone users, and strengthens health systems by providing training to health workers.

Source: World Health Organization, Be *He@lthy Be Mobile Report: January 2013 to December 2014*, p. 5

The 'Be He@lthy, Be Mobile' initiative, implemented by the World Health Organization (WHO), was introduced to address the incidence of non-communicable diseases.

Analyse the implications of the 'Be He@lthy, Be Mobile' initiative for health and wellbeing.

Question 2 (4 marks)

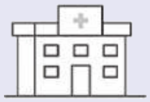
Source: *VCE 2019, Health and Human Development Exam, Q.14;* © VCAA

Digital technologies are increasingly being used globally to share health knowledge. The Australian Government has established My Health Record, which is a digital health record system. It contains online summaries of an individual's health information, for example, medicines they are taking and allergies. My Health Record allows doctors, hospitals and other healthcare providers to view an individual's health information. Individuals can choose to opt out of the My Health Record system.

90.1%
National My Health Record participation rate.

20 million
clinical documents have been uploaded to people's My Health Records.

49 million
medication prescription and dispense records have been uploaded.



15 900
healthcare professional organisations are connected, including GP organisations, hospitals, pharmacies and aged care services.

Sources: infographics from My Health Record statistics, www.myhealthrecord.gov.au/statistics; text adapted from Australian Government, Office of the Australian Information Commissioner, www.oaic.gov.au/privacy-law/other-legistlation/my-health-records

Analyse the implications of using digital technologies, such as My Health Record, for knowledge sharing on health and wellbeing.

Question 3 (1 mark)

What are three digital technologies that promote health and human development?

Question 4 (2 marks)

'A new study for Janssen by Galaxy Research found patients and carers commonly turn to their peers online for support, information and inspiration. Three-quarters of Australians have researched or discussed health issues on social media or in an online community; for 77 per cent of those with a chronic illness, the most valuable content is advice on living with their condition.'

Source: http://www.smh.com.au/national/education/australians-turn-to-online-health-communities-for-information-inspiration-20170310-guvoot.html

Outline two positive health and wellbeing outcomes of digital technologies outlined above.

Question 5 (4 marks)

Technologies such as mobile phones and apps are now used in many countries to provide a warning system for a range of natural disasters such as earthquakes, floods, bushfires and tsunamis. They can reach people quickly, providing reliable and targeted information and can tell them what they can do to stay safe. They can also be used to prepare for emergencies by helping people create emergency plans and provide advice on what people should take with them in the event of an emergency.

Using examples from the extract above, **explain** how technologies such as mobile phones and apps could promote human development.

More exam questions are available in your learnON title.

10.7 KEY SKILLS

10.7.1 Analyse the implications for health and human development of particular global trends

tlvd-11423

KEY SKILL Analyse the implications for health and human development of particular global trends

Tell me

To address this skill, it is important to have a clear understanding of:

- the aspects included in the term health:
  - health status
  - all dimensions of health and wellbeing
- human development

for each of the global trends explored in this topic.

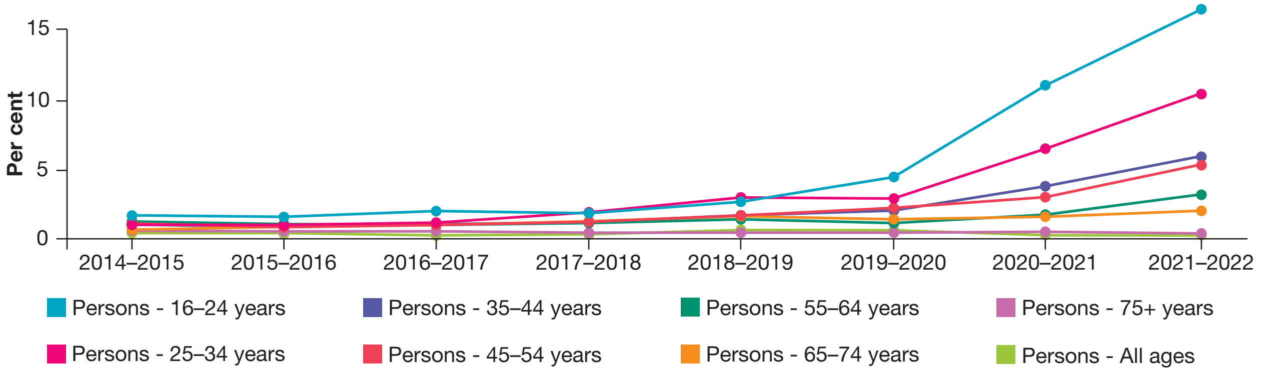
The following questions offer a useful approach when analysing the impact of global trends on health and wellbeing:

- Which global trend is the focus of the question? For example, it could be rising sea levels or extreme weather events as part of climate change; conflict; mass migration; tourism; increased world trade including the global distribution and marketing of tobacco products, e-cigarette products or processed foods; or any digital technologies. This information could be presented as a case study, graph, table or quotation.
- What does the global trend mean or what does it include?
- Will the trend have a positive impact on health status and all dimensions of health and wellbeing, including physical, social, emotional, mental and spiritual health and wellbeing and human development?
- Are there any potential negative influences on health status, health and wellbeing and human development in relation to the global trend?

Show me

These questions will be applied to **FIGURE 10.35.**

FIGURE 10.35 E-cigarette use in NSW by age group, 2015–2022



Source: NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health. https://www.healthstats.nsw.gov.au

The global trend shown in the graph is the increase in the use of e-cigarettes, in particular the increased use among young people.[1]

[1] The global trend is clearly identified.

The percentage of young people who identified as a current user of e-cigarettes or vapes had increased from 1.8 per cent in 2015 to 17 per cent in 2022. This is more than triple the percentage of people aged 35–44. While this data relates to one state within Australia, the use of e-cigarettes has increased globally, affecting all income countries. Tobacco companies have been aggressively advertising these products, particularly to children and adolescents. The global market for conventional cigarettes has started to decline as a result of the implementation of tobacco control measures. These measures have been slow to respond to the increase in the availability and use of e-cigarettes, which has created an opportunity for these companies to establish new markets and increase their profits. E-cigarettes use a heating element to vaporise a solution called e-liquid, which is then inhaled. The vapour is not smoke because nothing is burned, but the exhaled vapour contains particles of chemicals produced by the device and usually contains nicotine.[2]

[2] E-cigarettes as a global trend is outlined to show an understanding of what it is and why it is a global trend.

E-cigarettes are reasonably new but there is strong evidence that they will have a negative impact on health status. The aerosols that are inhaled include a range of metals and substances that can increase the incidence and prevalence of diseases including cardiovascular disease, cancer, particularly lung cancer, and diseases of the nervous system and respiratory system. These risks also extend to those who are exposed to the vapours from second-hand aerosols. The nicotine contained in the aerosols can be toxic, can cause accidental poisoning and is highly addictive. When used by children and adolescents, e-cigarettes can be dangerous. Nicotine can have long-term effects on brain development. When used indoors, the nicotine, fine particles and potential cancer-causing substances in second-hand aerosols increase the risk of heart and lung disorders.[3]

[3] The link to health status is clear and relevant health indicators are used to show understanding.

E-cigarettes impact all dimensions of health and wellbeing. They reduce the level of physical health and wellbeing of both users and those exposed to second-hand aerosols. The chemicals in the inhaled vapour affect the functioning of many of the main organs of the body, in particular the lungs and the heart. The nicotine in aerosols can lead to addiction, dependence and nicotine poisoning. In the short term, the most common negative effects of using nicotine vaping products are mouth and throat irritation, nausea and insomnia. Nicotine can increase the heart rate and blood pressure.[4]

[4] The use of e-cigarettes is linked to the effects on physical health and wellbeing.

Nicotine has also been related to anxiety disorders and depressed mood, therefore impacting mental health and wellbeing.[5]

[5] The impact on mental health and wellbeing is outlined

When the smoking of e-cigarettes is undertaken as part of a social group, it can have a positive impact on social health and wellbeing, and being part of a social group can promote a sense of belonging, which improves spiritual health and wellbeing.[6] However, it can also create conflict between young people and their parents and carers and interrupt schooling, which destroys relationships and social support networks.[7]

[6] A positive impact on social and spiritual health and wellbeing is outlined.

[7] A negative impact on social health and wellbeing is outlined.

People need money to purchase e-cigarettes and this can result in money being redirected from purchasing food and health care, which can lead to hunger and malnutrition[8] and put further stress on relationships. Addiction can lead to feelings of guilt and disappointment, which can impact emotional health and wellbeing.[9] In low- and middle- income countries, the cost of e-cigarettes is likely to result in lower levels of human development. This is in addition to the impact of increased levels of morbidity due to chronic diseases such as heart disease, cancer and respiratory diseases. People are at greater risk of being plunged into poverty, which means they may not be able to afford the essential resources to enjoy a decent standard of living. Poverty reduces people's choices, creates inequality and reduces a country's level of human development. Educational opportunities and employment are usually limited by high levels of poverty, which means many people will not have the chance to develop their knowledge and skills and expand their capabilities. This reduces people's confidence and their likelihood of participating in voting processes and other aspects of community life. This reduces the level of human development.[10]

[8] The link to health status is clear and relevant health indicators are used to show understanding.
[9] An understanding of the impact on emotional health and wellbeing is shown.
[10] The impact on human development is explained.

Practise the key skill

These questions will be applied to the image at the right.

1. Identify the global trend represented in the image and explain why it is a global trend.
2. Describe two ways in which this global trend can improve health status and health and wellbeing of the global trend identified above.
3. Explain how the global trend may have a negative impact on health and wellbeing.

tlvd-11424

10.8 EXTENDED RESPONSE — Build your exam skills

This extended response section gives you the opportunity to try a full question with three sources, with minimal assistance. Remember to use the skills you have learned in prior topics to break down the question and use the sources.

Consider the following question:

Use the information from each of the three sources and your own knowledge of the global distribution and marketing of products to:

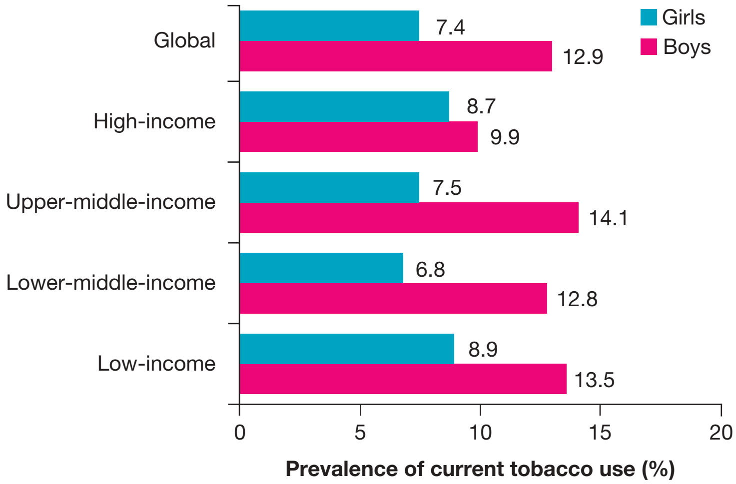
- explain the global marketing and distribution of tobacco, e-cigarettes and processed foods and why this has occurred
- analyse the implications for health and human development. **15 marks**

TIPS

- Remember to break down the question to determine what you need to do.
- Use highlighters to link relevant aspects of the source material to each component of the question.

Source 1

Prevalence of current tobacco use, adolescents aged 13–15 years, by World Bank income group (2010–2020 averaged)



Source: WHO global report on trends in prevalence of tobacco smoking 2000–2025, second edition. Geneva: World Health Organization; 2018, p.33 https://apps.who.int/iris/rest/bitstreams/1390521/retrieve

Source 2

Quick facts about e-cigarettes

- The use of e-cigarettes is unsafe for children, adolescents and young adults.
- Most e-cigarettes contain nicotine, which is highly addictive and can cause harm to adolescent brain development, which can continue long-term.
- E-cigarette use has grown significantly at a global level with adolescents being the age group with the highest uptake.
- E-cigarettes can contain other harmful substances besides nicotine.
- There is evidence that the health effects of e-cigarettes are similar to those of conventional cigarettes.
- Young people who use e-cigarettes may be more likely to smoke cigarettes in the future.

Source 3

Changes in the average sales of selected foods across three income countries between 2009 and 2019

Food	High income	Upper middle income	Lower middle income
Carbonated soft drinks	–2.0	–0.1	4.8
Savoury snacks	1.5	2.5	11.0
Confectionary and sweet spreads	–0.1	0.1	3.0
Sweet biscuits, snack bars and fruit snacks	0.5	1.0	4.0
Ready-made meals	1.0	2.5	5.5

Source: Adapted from http://ijhpm.com Int J Health Policy Management 2021, 10(12), 968–982, https://www.ijhpm.com/article_4050.htm

10.9 Review

Hey students! Now that it's time to revise this topic, go online to:

Review your results

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10.9.1 Topic summary

10.2 Climate change

- Climate change refers to long-term shifts in temperature and weather patterns.
- Human activity has resulted in a 20 per cent increase in the production of greenhouse gases over the last 50 years, which has brought about climate change.
- Due to the increasing temperature of the planet, we are now experiencing rising sea levels, changing weather patterns and more intense and frequent extreme weather events.
- Sea levels were rising at a rate of 1.8 mm per year between 1961 and 2003, but are now rising at a level of 3.5 mm each year.
- Rising sea levels have an impact on people's health and wellbeing worldwide, but those living in coastal areas, and particularly those living in low- and middle-income countries, are at greater risk of losing their homes and their livelihoods.
- Rising sea levels will lead to forced relocation of people living in coastal areas, reducing the availability of fresh water, reducing the ability to grow food and bringing about changes in biodiversity.
- Global warming is expected to contribute to changing weather patterns, such as more extreme heat and for longer periods, changing rainfall patterns where dry regions will become dryer and wet regions are more likely to be flooded.
- Extreme weather events include cyclones, floods, droughts, fires and storms will increase.
- Extreme weather events and changing weather patterns will affect health status by contributing to increased rates of infectious diseases, deaths from cardiovascular disease and respiratory diseases and injuries, and an increased burden of disease from malnutrition, water-borne diseases, malaria and mental health conditions.
- The impact on health and wellbeing of climate change is a lower level of emotional health and wellbeing due to grief and loss and social networks being destroyed impacting social health and development, increased hunger and malnutrition and lack of access to water impacting physical health and wellbeing and increased stress and anxiety affecting mental health and wellbeing.
- The impact of climate change on human development relates to a reduced quality of life and the lack of opportunity to develop knowledge, skills and capabilities, as well as poverty and a reduction in gender equality.

10.3 Conflict and mass migration

- Since 2001, the level of conflict worldwide has increased and acts of terrorism have become more common and more deadly.
- Conflict brings about loss of life and long-term disability from injuries, as well as high levels of mental illness, which affect health status.
- Destruction of infrastructure means water and sanitation facilities, electricity and farmland are destroyed, which leads to infectious diseases and high infant and under-5 mortality rates.
- Physical health and wellbeing is affected by injures, and lack of water and food reduces immune system functioning, increasing illness and disease. Women and children are often more vulnerable.
- Conflict removes people's human rights.
- People are forced from their homes and seek safety in other parts of the country or in another nearby country. This is known as mass migration.

- Mass migration occurs due to conflict, climate change, violation of human rights or persecution.
- When people are displaced, it usually results in overcrowding in the urban centres, or people are moved to crowded refugee camps with unsanitary living conditions. Infectious diseases often spread quickly and medical supplies, housing and fresh water can be in short supply.

10.4 Increased world trade (global distribution and marketing of tobacco products, e-cigarette products and processed foods)

- Tobacco manufacturers have increasingly marketed and promoted tobacco, e-cigarettes and processed foods, particularly in low- and middle-income countries.
- Tobacco use has been decreasing due to the implementation of tobacco control measures but is still higher in middle-income countries and is increasing in some countries in Africa and the eastern Mediterranean region.
- 80 per cent of the world's 1.3 billion smokers live in low- and middle-income countries.
- Smoking kills 8 million people each year, more than 1 million of which is due to second-hand smoke.
- All forms of tobacco are harmful and there is no safe level of exposure.
- Tobacco smoking has huge consequences for health status, health and wellbeing and human development.
- With smoking rates falling, tobacco companies are now marketing e-cigarettes to make up for lost sales.
- e-cigarettes do not contain tobacco but the aerosols that are inhaled usually contain nicotine and many poisonous and harmful chemicals.
- Tobacco control measures are much lower for e-cigarette use. E-cigarettes are marketed to children, adolescents and those who are non-smokers.
- There is strong evidence that e-cigarettes contribute to poor health status, impact levels of health and wellbeing and reduce levels of human development.
- Processed foods are any food item that has been deliberately changed before being made available to eat. Processed foods can be healthy but ultra-processed foods have significant impacts on health status, health and wellbeing and human development.
- Ultra-processed foods contain high levels of salt, fat and/or sugar and have contributed globally to increased obesity, cardiovascular diseases, cancers and type 2 diabetes.
- The global marketing and distribution of processed foods in low- and middle-income countries has led to a double burden of disease in which these countries are experiencing high levels of malnutrition and infectious diseases, as well as increasing rates of noncommunicable diseases.
- The over-consumption of processed foods reduces health status, all dimensions of health and wellbeing and human development.

10.5 Tourism

- Tourism is one of the world's fastest growing industries, accounting for 10 per cent of the world's GDP.
- Tourism provides jobs and can help lift countries out of poverty and achieve gender equality, because almost twice as many women than men are employed in the tourism sector.
- The advantages of tourism are economic, social and environmental.
- Disadvantages of tourism include environmental damage, overcrowding and pressure on local infrastructure. It can be a threat to health and wellbeing. Increased travel can result in the transmission of diseases and illnesses.

10.6 Digital technologies

- Digital technologies have expanded considerably over the last ten years, which means people have become more connected and there is considerably more knowledge sharing.
- Expansion in the mobile phone network and the internet has contributed to an increased ability to reach more people and provide them with health information as well as more efficient data collection methods.
- Digital technologies can empower people to take control of their health and wellbeing and make changes to their lifestyle.

- Digital technologies can revolutionise the delivery of health care and have the potential to improve health status, promote health and wellbeing and increase human development.
- Digital technologies do have negative consequences, particularly in relation to the safety of personal data and when these networks are used for bullying and harassment.

on Resources

Digital document Summary (doc-41463)

10.9.2 Key terms

aquifer an underground layer of rock, sediment or soil that contains water
digital health technologies the use of digital tools, platforms and devices in health care
displaced people those who are forced to leave their home because of war or persecution
glacier a slowly moving mass or river of ice formed by the accumulation and compaction of snow on mountains or near the poles
globalisation the process in which boundaries between countries are reduced or eliminated allowing individuals, groups and companies to act on a global scale; a reduction in barriers to trade, communication and transport contributes to this process. It can be described as transforming the different societies of the world into one global society.
greenhouse gases gases that contribute to the greenhouse effect by absorbing heat. Carbon dioxide, methane and chlorofluorocarbons (used in the manufacture of aerosol sprays) are examples of greenhouse gases.
sleep apnoea a sleep disorder in which breathing repeatedly stops and starts
ultra processed foods highly processed foods, usually containing cheap ingredients and many artificial additives. They contain high levels of salt, fat and refined sugars.

10.9 Exercises

learn**on**

10.9 Exam questions

Question 1 (7 marks)

Source: Adapted from *VCE 2020, Health and Human Development Exam, Q.12;* © VCAA

Over a million Rohingya refugees have fled violence in Myanmar in successive waves of displacement since the early 1990s …

The Rohingya are a stateless Muslim minority in Myanmar. The latest exodus began on 25 August 2017, when violence broke out in Myanmar's Rakhine State, driving more than 742 000 to seek refuge in Bangladesh. Most arrived in the first three months of the crisis … The vast majority reaching Bangladesh are women and children, and more than 40 per cent are under age 12. Many others are elderly people requiring additional aid and protection. They have nothing and need everything.
Source: UNHCR, The UN Refugee Agency, 'Rohingya emergency', www.unhcr.org/en-au/rohingya-emergency.html

a. According to the Ottawa Charter for Health Promotion, peace and shelter are prerequisites for health. **Explain** why each of these prerequisites must be available for the Rohingya people to improve or maintain their health and wellbeing. **4 marks**

b. **Explain** the implications of mass migration, some of which are evident in the information in the source above, for health and wellbeing. **3 marks**

Question 2 (9 marks)

Tanzania: Eco-friendly sustainable camp

Isoitok Camp Manyara in Tanzania-Africa was created and designed with the idea to allow foreign travelers to experience the true life and daily existence of the Maasai whilst taking in jaw dropping views across The Great Rift Valley to Lake Manyara National Park. The experience of staying at Isoitok Camp is an education both in cultural tourism and how to run a business using the environment around you. The traveler gets to understand how the Maasai neighbors generally live and what they must endure over the changing seasons. The initiative does not end there as once again the traveler sees first hand and is educated through familiarization briefings as to what is meant by an 'eco' friendly 'sustainable' camp.

Source: Adapted from: United Nations World Tourism Organisation: *Tourism in Africa: A Tool for Development*, p. 73. http://cf.cdn.unwto.org/sites/all/files/pdf/tourism_africa_tool_development1.compressed_0_0.pdf.

a. **Explain** one of the global trends that is evident in this example. **2 marks**

b. **Provide** three advantages of this project to Tanzania. **3 marks**

c. **Discuss** how this global trend could promote human development. **4 marks**

Question 3 (8 marks)

The diagram in **FIGURE 10.36** represents a range of consequences associated with climate change.

FIGURE 10.36 State of the Global Climate, 2017

Source: https://public.wmo.int/en/media/press-release/state-of-climate-2017-%E2%80%93-extreme-weather-and-high-impacts.

a. **Describe** two factors that have contributed to the consequences shown in the diagram. **4 marks**

b. Select two examples of the consequences of climate change represented in the diagram and **analyse** the impact on health and wellbeing. **4 marks**

Question 4 (8 marks)

Increased access to digital technologies, particularly in low- and middle-income countries, has increased the number of adults with access to financial services such as banking. Access to financial services means people can take out loans, which can be used to start or expand their business.

a. **Explain** how access to financial services could promote health and wellbeing. **2 marks**

b. **List** two other examples of how digital technologies can be used to promote health and wellbeing. **2 marks**

c. For each of the examples identified in **part b**, **describe** two ways they can promote health and wellbeing. **4 marks**

Question 5 (3 marks)

The United Nations Security Council's peacekeeping division helps countries resolve conflict peacefully through negotiation and mediation.

Outline three ways in which resolving conflict will impact human development in countries torn apart by war.

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Digital document	Key term glossary (doc-41462)
Interactivities	Crossword (int-9299) Definitions (int-9300)
Exam question booklet	Topic 10 Exam question booklet (eqb-0254)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 10 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

10.9 Summary (doc-41463) ☐
Key terms glossary (doc-41462) ☐

Interactivities

10.9 Crossword (int-9299) ☐
Definitions (int-9300) ☐

Teacher-led videos

10.7 Key skill: Analyse the implications for health and human development of particular global trends (tlvd-11423) ☐
10.8 Extended response: Build your exam skills (tlvd-11424) ☐

Exam question booklet

10.9 Topic 10 Exam question booklet (eqb-0254) ☐

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UNIT 4 | AREA OF STUDY 1: GLOBAL HEALTH AND HUMAN DEVELOPMENT

School-Assessed Coursework Unit 4

OUTCOME 1

Analyse similarities and differences in health status and human development globally and analyse the factors that contribute to these differences.

School-Assessed Coursework 3 online only

To answer questions online and to receive **immediate feedback** and **sample responses** for every question, go to your learnON title at www.jacplus.com.au or download the assessment as a Word document from your Resources tab.

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Digital document School-Assessed Coursework 3 (doc-41696)

Key knowledge

- The concept of human development
- Advantages and limitations of the Human Development Index
- Characteristics of low-, middle- and high-income countries
- Similarities and differences in health status and human development in low-, middle- and high-income countries, including Australia
- Factors that contribute to similarities and differences in health status and human development:
  - access to safe water
  - sanitation
  - poverty
  - discrimination (race, religion, sex, sexual orientation and gender identity)
- The concept and dimensions of sustainability (environmental, social and economic) and its role in the promotion of health and human development
- Implications for health and human development of global trends including:
  - climate change (rising sea levels, changing weather patterns and increasing number of extreme weather events)
  - conflict
  - mass migration
  - increased world trade (global distribution and marketing of tobacco products, e-cigarette products and processed foods)
  - tourism
  - digital technologies

Key skills

- Explain the concept of human development
- Explain the Human Development Index and evaluate its usefulness in measuring human development in different countries
- Describe characteristics of low-, middle- and high-income countries
- Evaluate data to analyse similarities and differences between countries in relation to health status and human development
- Analyse factors that contribute to health status and human development in different countries
- Compare health data and other information to analyse reasons for health inequalities within and between countries
- Explain sustainability (environmental, social and economic) and its importance in the promotion of health and human development in a global context
- Analyse the implications for health and human development of particular global trends

11 Sustainable Development Goals

LEARNING SEQUENCE

11.1 Overview

	Key knowledge	Key skills	Subtopic
◯	The importance of the UN's SDGs for health and human development in a global context	Discuss the importance of the UN's SDGs for global health and human development	**11.2**
◯	Key features of SDG 3 ('Ensure healthy lives and promote wellbeing for all at all ages')	Describe the key features of SDG 3	**11.3** **11.4** **11.5** **11.6**
◯	Relationships between SDG 3 and SDGs 1, 2, 4, 5, 6 and 12	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally	**11.7** **11.8** **11.9** **11.10** **11.11** **11.12**

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

antenatal care
birth asphyxia
circular economy
indivisible
interdependent
material footprint
maternal mortality
microfinance
neonatal period
schistosomiasis
social protection measures
sustainable agriculture
trachoma
tropical diseases

Exam terminology

Analyse	Examine the components of; look for links, patterns, relationships and anomalies
Describe	Provide a general description
Discuss	Give an overall account of

on Resources

Digital document Key terms glossary (doc-41599)

Exam question booklet Topic 11 Exam question booklet (eqb-0255)

11.2 Understanding the importance of the Sustainable Development Goals and key features of SDG 3

Key knowledge	Key skill
The importance of the UN's SDGs for health and human development in a global context	Discuss the importance of the UN's SDGs for global health and human development

You need to know:	You need to be able to:
• what is meant by the Sustainable Development Goals (SDGs) • who developed the SDGs • why the SDGs are important.	• explain the SDGs and who developed them • explain why they are important.

11.2.1 What are the Sustainable Development Goals (SDGs)?

The 17 Sustainable Development Goals (SDGs) are a set of targets and plans to make the world a better place. They include 169 targets to be achieved by 2030. The goals were developed by all United Nations member states, non-government organisations, and people around the world, and were introduced in 2016. The goals include ambitious targets and plans to achieve each of them. They tackle global challenges and aim to meet the needs of all people in all countries, whether low-, middle- or high-income. They provide direction for action in five areas.

One goal is no more important than any other — they complement and connect with each other. They are designed as a set of goals and targets that are integrated, **interdependent** and **indivisible**. Their achievement requires governments, organisations and the private sector to work together at an international, national, regional and local level.

interdependent mutually reliant on each other

indivisible unable to be divided or separated

11.2.2 The importance of the Sustainable Development Goals for global health and human development

The 17 global goals work together to achieve the following outcomes:
- end extreme poverty and hunger
- address diseases and promote health and wellbeing
- empower women and girls
- tackle climate change
- fight inequalities within and among countries
- build peaceful, just and inclusive societies
- protect human rights.

Global health focuses on the health needs of people around the world. It goes beyond the boundary of individual countries, affecting multiple populations and large numbers of people. It is about improving health, reducing health differences and achieving equity in health for all people worldwide. Therefore, the achievement of the Sustainable Development Goals is important for improvements in global health and human development. This will be explored in detail in the following sub-topics.

FIGURE 11.1 The UN's 17 Sustainable Development Goals

Source: United Nations, 2015.

11.2.3 SDG 3: Good health and wellbeing

Good health and wellbeing contributes to the achievement of many of the SDGs. In turn, the achievement of other SDGs helps to achieve good health and wellbeing. This is why SDG 3: Good health and wellbeing is the focus of this topic, along with its relationship with other selected SDGs:

- SDG 1: No poverty
- SDG 2: Zero hunger
- SDG 4: Quality education
- SDG 5: Gender equality
- SDG 6: Clean water and sanitation
- SDG 12: Responsible consumption and production.

This topic will investigate each of the key features of SDG 3 and then explore the relationship between SDG 3 and the other selected SDGs shown in **FIGURE 11.2**. For each feature, actions that will help achieve the targets are provided, which will connect to the exploration of programs that are part of topic 12.

FIGURE 11.2 This topic explores the interrelationships between SDG 3 and other health-related SDGs.

on Resources

Teacher-led video **Teacher-led video** Features of each SDG (tlvd-11389)

11.2 Activity

Access the **SDG** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document SDG worksheet (doc-41618)

Weblink SDG

11.2 Exercises

11.2 Quick quiz on | **11.2 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5	6

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Test your knowledge

1. When were the Sustainable Development Goals (SDGs) introduced and by whom?
2. State the five areas of importance.
3. Identify the outcomes the SDGs are aiming to achieve.
4. Why are the goals described as being interconnected?

Apply your knowledge

5. Describe why governments, organisations and the private sector need to work together at an international, national, regional and local level to achieve the goals and targets.
6. 'There can be no sustainable development without peace and no peace without sustainable development.' Explain this statement.

11.2 Exam questions

Question 1 (2 marks)

Outline why the Sustainable Development Goals (SDGs) are considered ambitious.

Question 2 (1 mark)

Identify the organisation that was responsible for the development of the Sustainable Development Goals (SDGs).

Question 3 (1 mark)

Identify by when the Sustainable Development Goals aim to be achieved.

Question 4 (4 marks)

Provide two reasons why the SDGs are important for global health and human development.

More exam questions are available in your learnON title.

11.3 Key features of Sustainable Development Goal 3: Good health and wellbeing

Key knowledge	Key skill
Key features of SDG 3 ('Ensure healthy lives and promote wellbeing for all at all ages')	Describe the key features of SDG 3

You need to know:	You need to be able to:
• each of the key features of SDG 3 • key features that could be grouped as being actions that need to be taken or health and wellbeing outcomes.	• identify and name each of the key features of SDG 3 • categorise each key feature according to whether it represents an action to be taken or a health and wellbeing outcome

GOOD HEALTH AND WELLBEING: ENSURE HEALTHY LIVES AND PROMOTE WELLBEING FOR ALL AT ALL AGES

SDG 3 aims to promote physical and mental health and wellbeing, and extend life expectancy by addressing the major causes of morbidity and mortality in low-, middle- and high-income countries. The goal includes a number of key features, each with individual targets. These are:

- reduce **maternal mortality** to fewer than 70 per 100 000 live births
- end preventable deaths of newborns and children under five, reducing neonatal mortality to 12 per 1000 live births and under-5 mortality to 25 per 1000 live births
- end the epidemics of AIDS, tuberculosis, malaria and **neglected tropical diseases** (NTD), and combat hepatitis, waterborne diseases and other communicable diseases
- reduce premature mortality from non-communicable diseases by one-third through prevention and treatment, and promote mental health and wellbeing
- strengthen the prevention and treatment of substance abuse, including drugs and alcohol
- halve global deaths and injuries from road traffic accidents
- ensure universal access to sexual and reproductive healthcare services
- achieve universal health coverage, including access to affordable essential medicines and vaccines
- reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- strengthen the implementation of the WHO Framework Convention on Tobacco Control in all countries, as appropriate
- support the research and development of vaccines and medicines for communicable and non-communicable diseases and provide access to affordable essential medicines and vaccines
- increase investment in healthcare services and qualified healthcare staff, especially in low-income countries and small island developing states
- strengthen the capacity of all countries for early warning, risk reduction and management of health and wellbeing risks.

SDG 3 aims to achieve good health and wellbeing for everyone, at every stage of life. Its key features include a combination of targets for improvements or outcomes for a range of global health and wellbeing issues, as well as targets for actions that will help achieve these improvements or outcomes. These are shown in **FIGURE 11.3**.

maternal mortality death of a mother during pregnancy, childbirth or within six weeks of delivery

neglected tropical diseases a group of diseases that mainly occur in tropical and subtropical environments and are most common in countries where people lack access to safe water and sanitation

FIGURE 11.3 Key features of SDG 3

Outcome targets for improved health and wellbeing		Action targets that will help achieve outcomes and improvements in health and wellbeing and human development
Reduce maternal mortality		Achieve universal health coverage, including quality health care, essential medicines and vaccines
End preventable deaths of newborns and children under five		Access to sexual and reproductive healthcare services
End epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases (NTDs)	To achieve these health and wellbeing outcomes, a range of actions are needed.	Have systems in place for early warning, prevention and management of risks to health and wellbeing
Address hepatitis, waterborne diseases and other communicable diseases		Support the research and development of vaccines and medicines for communicable and non-communicable diseases
Reduce non-communicable diseases and promote mental health and wellbeing		Support investment in health services and trained medical workers to expand access to health care
Reduce road traffic accidents		
Reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination		Implement the WHO Framework Convention on Tobacco Control
Reduce substance abuse, including drugs and alcohol		Strengthen prevention and treatment services for substance abuse

EXAM TIP

You will need to have an understanding of each of the key features of SDG 3, although you do not have to remember each one word-perfect. You will be expected to make links and show your understanding of the different features.

11.3 Exercises

11.3 Quick quiz on | **11.3 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3	2, 4	5, 6

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Test your knowledge

1. State the name of SDG 3 and its aim.
2. What is the difference between the features of SDG 3 that represent health and wellbeing outcomes and the features that represent actions that need to be taken?
3. Describe universal health coverage.

Apply your knowledge

4. Why is universal health coverage important for achieving SDG 3?

5. Explain why it is important to strengthen the capacity of all countries for early warning, risk reduction and management of health and wellbeing risks.
6. The features of SDG 3 can be grouped under a range of categories. Refer to **FIGURE 11.3** and complete the following table that represents one way the features can be grouped.

Health and wellbeing outcomes	
Population groups	1. Reduce maternal mortality 2. ____________________
Disease groupings	1. End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases (NTD), and combat hepatitis, waterborne diseases and other communicable diseases 2. ____________________ 3. Reduce non-communicable diseases and promote mental health and wellbeing
Causes of burdens of disease	1. ____________________ 2. Reduce road traffic accidents
Actions that need to be taken to achieve health and wellbeing outcomes	
Universal health coverage	1. Achieve universal health coverage, including affordable access to quality healthcare services and essential medicines and vaccines 2. ____________________ 3. Support investment in health services and trained medical workers to expand access to health care
Substance control	1. ____________________ 2. Strengthen the implementation of the WHO Framework Convention on Tobacco Control
Medicines and research	1. ____________________
Early warning and protection	1. ____________________

11.3 Exam questions

Question 1 (1 mark)

Source: Adapted from *VCE 2017, Health and Human Development Exam, Q.10.a.i;* © VCAA

Source: © World Health Organization 2015

Name the feature of the SDG represented in the information above.

Question 2 (3 marks)

Outline three actions that need to be taken that are included in the feature of SDG 3: Good health and wellbeing.

Question 3 (2 marks)

Explain the difference between the actions that need to be taken and the outcomes of SDG 3.

Question 4 (4 marks)

Identify two features of SDG 3 that are more likely to be more difficult to achieve in low-income countries than in middle- or high-income countries and **explain** why.

More exam questions are available in your learnON title.

11.4 SDG 3 Key feature of maternal and child health and wellbeing

Key knowledge	Key skill
Key features of SDG 3 ('Ensure healthy lives and promote wellbeing for all at all ages')	Describe the key features of SDG 3

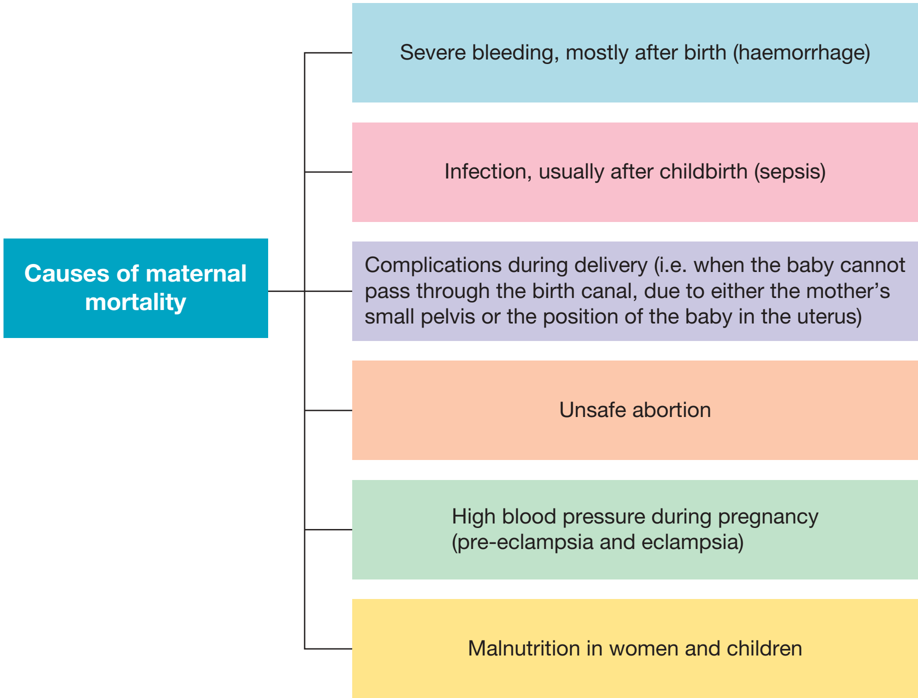
Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- the meaning and causes of maternal mortality
- the causes of death of newborns and children under five
- why reducing maternal mortality and child deaths has been included as a key feature
- actions that can be taken to reduce maternal mortality and child deaths.

You need to be able to:
- describe maternal mortality
- explain the main causes of maternal mortality and the deaths of newborns and children under five
- provide examples of how maternal mortality and neonatal and child deaths can be reduced.

This is the key feature of SDG 3: Reduce maternal mortality and end preventable deaths of newborns and children under five.

FIGURE 11.4 Causes of maternal mortality



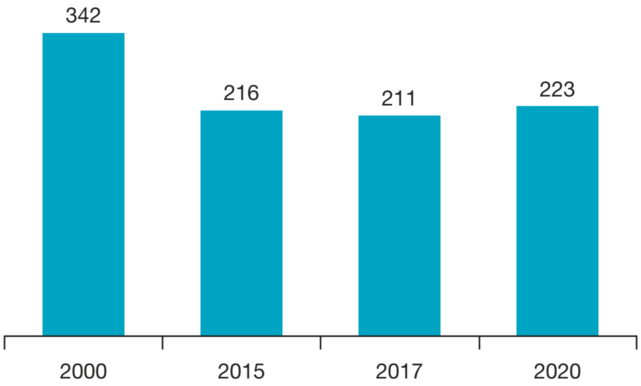
11.4.1 Reduce maternal mortality

Maternal mortality refers to the number of mothers who die due to complications related to pregnancy and childbirth. **FIGURE 11.4** shows that most maternal deaths occur in low- and middle-income countries as a result of six main causes.

Why reducing maternal mortality is a key feature

SDG 3 aims to reduce maternal mortality rates by 2030. Every day, around 800 women die during pregnancy or from childbirth-related complications (see **FIGURE 11.5**) This is equivalent to one woman dying every two minutes (see **FIGURE 11.6**).

FIGURE 11.5 Global maternal mortality ratio (deaths per 100 000 live births)



Source: Adapted from data from Report of the Secretary-General, 'Progress towards the Sustainable Development Goals', United Nations, 2023

FIGURE 11.6 In many parts of the world, pregnancy and childbirth are risks to a woman's health.

Source: https://sdgs.un.org/goals/goal3

Almost 95 per cent of maternal deaths occur in low- and middle-income countries, and 70 per cent in low-income countries, particularly in sub-Saharan Africa and southern Asia. Most of these deaths can be prevented (see **FIGURES 11.7** and **11.8**).

- Globally, only 84 per cent of births were attended by skilled birth attendants between 2015 and 2021.
- Only half of all pregnant women globally can access the recommended four **antenatal care** visits.
- While access to contraception for women aged 15–49 has increased, there are still many women who do not have the means to control the number of children they have and the timing and spacing of births.
- Adolescent pregnancy has declined steadily in almost all regions but remains high in sub-Saharan Africa.
- Malnutrition can also increase the risk of maternal mortality, particularly in low-and middle-income countries with iron-deficiency anaemia contributing to 20 per cent of all maternal deaths.

antenatal care health care provided to women during pregnancy and just after birth

FIGURE 11.7 Maternal mortality can be prevented in a range of ways.

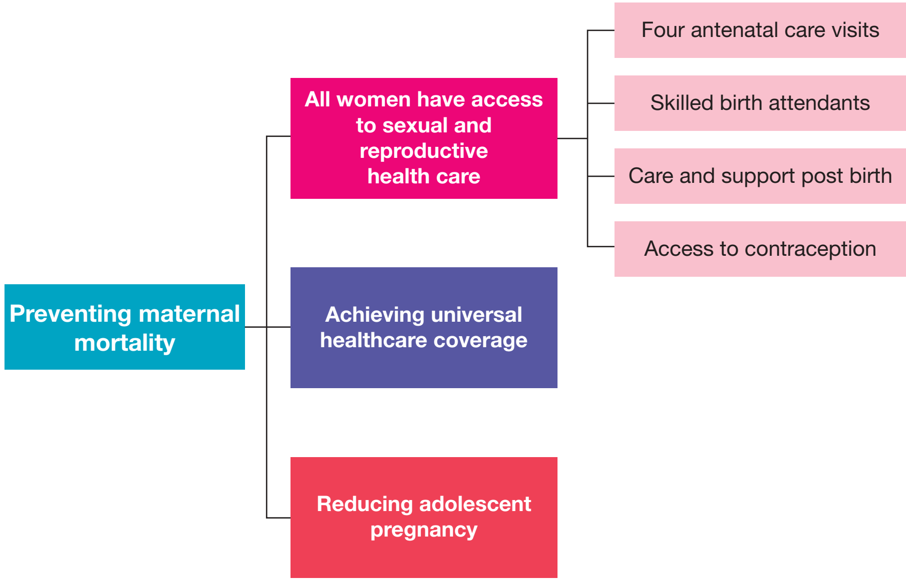


TABLE 11.1 Actions needed to prevent maternal mortality

Action needed	How it prevents maternal mortality
All women have access to sexual health and reproductive healthcare services, including antenatal care.	Antenatal care means there are qualified healthcare workers available who can monitor the health of the mother and baby to reduce risks and complications and reduce deaths. A minimum of four antenatal visits are needed.
Women must be able to give birth with the assistance of skilled health workers or birth attendants.	Trained birth attendants can help if there are complications during birth, such as obstructive labour, if a caesarean section is needed, or if haemorrhaging occurs. Giving birth in a medical clinic reduces the risks of infections and deaths.
Women are provided with care and support after birth (post-natal care).	The first six weeks after birth are important in promoting the health and wellbeing of mothers and children. Post-natal care supports mothers, provides screening for newborns to check that they are putting on weight and growing, and helps identify any potential health concerns.
Women must have access to contraception and family planning services.	This means families can plan the number of children they have and the spacing of births. By allowing two years between births, mothers and infants are more likely to survive pregnancy and childbirth and remain healthy.
The number of adolescent girls having children must be reduced.	Pregnancy during adolescence increases the risk of maternal mortality because girls' bodies are still developing and are less able to cope with the demands of pregnancy and childbirth. Stillbirths and newborn deaths are 50 per cent higher among infants born to adolescent mothers compared to infants born to mothers aged 20–29.
Universal health coverage must be achieved.	Blood pressure can be monitored and treated, which can prevent death from eclampsia and pre-eclampsia, as well as receiving treatment for HIV if needed and immunisation for tetanus to help prevent infection.

FIGURE 11.8 One way to reduce maternal mortality rates is to ensure that all women have access to quality antenatal care. It is recommended that women have four antenatal care visits during their pregnancy.

11.4.2 End preventable deaths of newborns and children under five

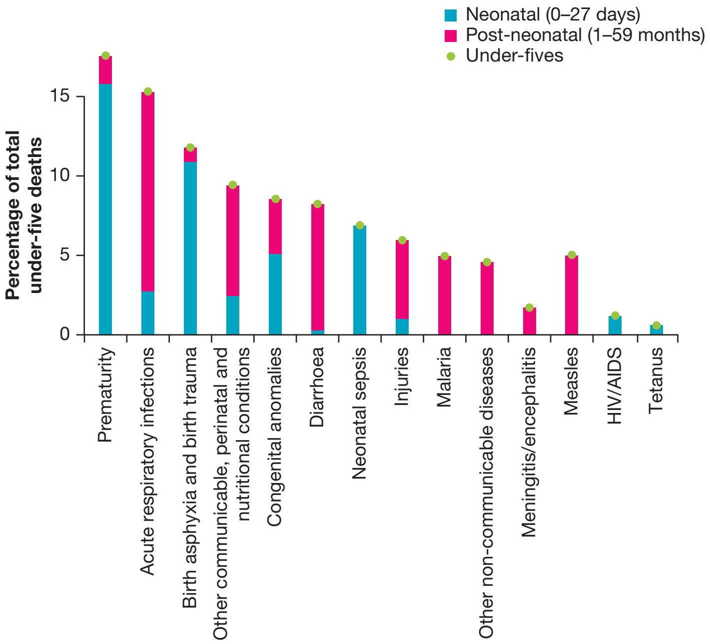
Many child deaths occur in the **neonatal period** — the first 28 days of life. Up to half of all these deaths occur within the first 24 hours of birth, and 75 per cent occur in the first week. The 48 hours immediately following birth is the most crucial period for newborn survival. Three quarters of neonatal deaths are due to premature birth, **birth asphyxia** (lack of breathing at birth), birth trauma and infections.

neonatal period the first 28 days after birth

birth asphyxia a condition in which a baby's brain and other organs do not get enough oxygen before, during or immediately after birth. It can cause temporary or permanent damage.

Acute respiratory infections such as pneumonia, diarrhoea and malaria are the leading causes of death in children under five (see **FIGURE 11.9**).

FIGURE 11.9 Prematurity, acute respiratory infections, birth asphyxia and birth trauma are responsible for three quarters of all deaths in children under five.



Source: World Health Organization, *World Health Statistics: 2018*, p. 5, https://www.who.int/gho/publications/world_health_statistics/2018/EN_WHS2018_Part2.pdf?ua=1

Why ending preventable deaths of newborns and children under five is a key feature

Child survival is an important indicator of human development. It has a major effect on life expectancy. SDG 3 aims to end preventable deaths of newborns and children under five and reduce neonatal mortality. Children who reach their fifth birthday have a higher chance of surviving into adulthood.

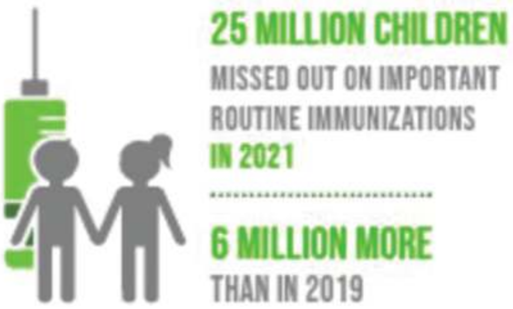
Neonatal and under-5 mortality rates have declined. 2.3 million newborns died in 2021 and the global neonatal mortality rate was 18 deaths per 1000 live births. In 2021, the under-5 mortality rate was 38 deaths per 1000 live births, or around 5 million children under five dying.

Many children globally are not vaccinated or do not receive full vaccination and this number fell due to COVID-19. Between 2019 and 2021, immunisation against diphtheria, tetanus and pertussis (whooping cough) fell to just 81 per cent, the lowest it has been for 30 years. This meant that 25 million children missed out on being vaccinated (see **FIGURE 11.10**).

Where a child is born affects their chance of survival. In the African region, under-5 mortality rates are the highest at 74 per 1000 live births in 2021, almost twice the global rate.

When children are born into families in poverty, they are almost twice as likely to die before the age of five compared to those from wealthier families. Children of mothers who have an education — even if it is only at primary school level — are more likely to survive than children of mothers with no education at all.

FIGURE 11.10 COVID-19 reduced the number of children who received vaccinations, leaving them at risk of infectious diseases such as diphtheria, whooping cough, measles and tetanus.



Source: https://sdgs.un.org/goals/goal3

Many of the actions that reduce maternal mortality rates are also important for ending the preventable deaths of newborns and children under five (see **FIGURE 11.11** and **TABLE 11.2**).

FIGURE 11.11 There are many actions that can be taken to help prevent the deaths of newborns and children under five, particularly in low- and middle-income countries.

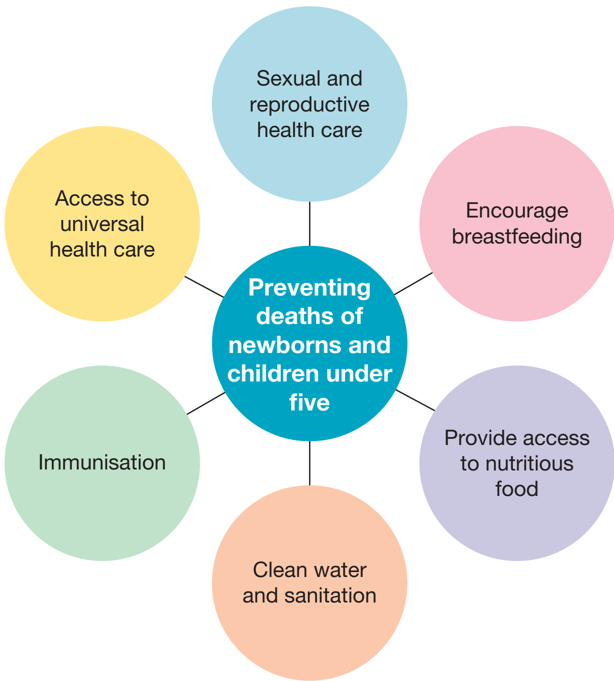


TABLE 11.2 Actions to end preventable deaths of newborns and children under five

Action needed	How it prevents deaths of newborns and children under five
All women have access to sexual and reproductive healthcare services, including antenatal care and safe birthing practices	Qualified healthcare workers can monitor the health of the mother and baby and reduce risks leading to premature birth. Safe birthing practices help reduce deaths from sepsis (poisoning) and complications during birth such as asphyxia and birth trauma.
Encourage breastfeeding	Breastfeeding ensures newborns are well-nourished. Breast milk also provides immunity against infection and helps protect against deaths from dehydration due to diarrhoea and malnutrition.
Provide access to nutritious foods	Many children continue to die from malnutrition so it is important they are provided with nutritious food once breastfeeding has finished.
Access to clean water and sanitation	Clean water and sanitation are important in preventing diarrhoea, which is a major cause of death in children under five.
Immunisation	Immunisation helps prevent deaths from infectious diseases such as tetanus, measles, whooping cough and diphtheria.
Access to universal health coverage	Affordable health care means children under five can receive health care and advice, medicines and antibiotics, and affordable vaccinations. This helps reduce deaths from infectious diseases, infections and dehydration from diarrhoea.

11.4 Exercises

11.4 Quick quiz on | **11.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3, 4	2, 5, 6	7, 8, 9

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Test your knowledge

1. Identify the five main causes of maternal mortality.
2. Outline three ways that maternal mortality rates can be reduced.
3. Identify when most infant deaths occur.
4. What major causes of death in children under five can be prevented by encouraging breastfeeding?
5. State the actions needed to end the preventable deaths of children under five from diarrhoea.

Apply your knowledge

6. Describe how access to sexual and reproductive health services can help and preventable deaths of children under five.
7. Explain why children born into poverty would be almost twice as likely to die before the age of five as those from wealthier families.
8. Discuss why universal health coverage could help reduce the under-5 mortality rate.
9. Refer to **FIGURE 11.9**. Compare the main causes of death for newborns to those that cause the death of children under five.

11.4 Exam questions

Question 1 (2 marks)

Using an example, **explain** why SDG 3: Ensure healthy lives and promote wellbeing for all ages is important for promoting global health and human development.

Question 2 (1 mark)

Most infant deaths occur in the neonatal period. **What** is the meaning of neonatal?

Question 3 (2 marks)

Describe one way to reduce maternal mortality.

More exam questions are available in your learnON title.

11.5 SDG 3 Key feature of communicable diseases

Key knowledge	Key skill
Key features of SDG 3 ('Ensure healthy lives and promote wellbeing for all at all ages')	Describe the key features of SDG 3

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what AIDs, tuberculosis, malaria, neglected tropical diseases and hepatitis are, and the causes of each • why it is important to end the epidemics of these diseases and combat hepatitis • actions that can be taken that could end the epidemics of each of these diseases.	• describe each of AIDS, tuberculosis, malaria, neglected tropical diseases and hepatitis, and how they are transmitted • explain the reasons why each of these diseases are an issue globally • provide examples of how these diseases can be reduced.

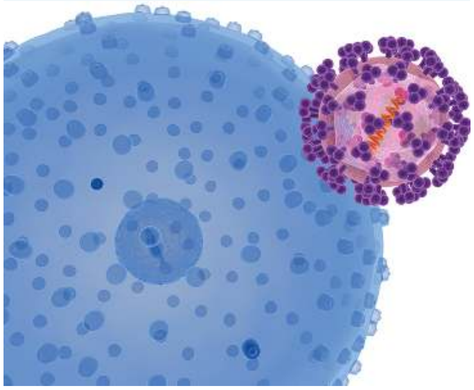
This is the key feature of SDG 3: End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis. It aims to reduce the impact of communicable diseases with a focus on long-term diseases with the largest burden.

11.5.1 AIDS

AIDS (acquired immunodeficiency syndrome) is caused by the human immunodeficiency virus (HIV), which damages and weakens the body's immune system. The body loses the ability to fight infections, and the infected person eventually develops AIDS. Those with AIDS are at high risk of developing cancers and infectious diseases such as tuberculosis, which eventually leads to death.

HIV is transmitted via the exchange of infected bodily fluids such as blood, semen, vaginal secretions and breast milk. It is usually spread by sexual intercourse without a condom and by the sharing of needles and syringes. It is estimated that 75–85 per cent of adults who are HIV positive contracted the infection through unprotected sexual intercourse. HIV can also be passed from an infected mother to a child during pregnancy or birth, or through breastfeeding.

FIGURE 11.12 HIV infecting a cell

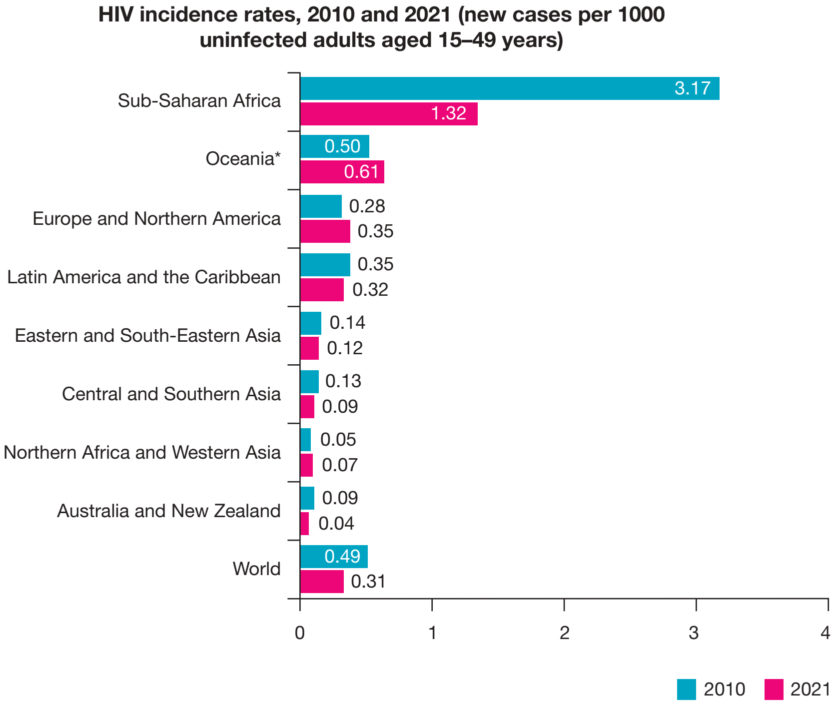


There is currently no cure for HIV and no vaccine to prevent the disease. However, antiretroviral drugs (ART) help delay and, in some cases, prevent the progression of HIV to AIDS. ART involves a combination of three or more drugs that stop the virus from reproducing, so people with HIV can enjoy healthy lives and reduce the risk of transmitting the virus to others. However, ART does not eliminate the virus from the body and the drugs need to be taken continuously.

Why ending the AIDS epidemic is a key feature of SDG 3

- Globally, millions of people have died and continue to die from AIDS-related illnesses since the start of the epidemic in 1981 (see **FIGURES 11.13** and **11.14**).
- Of those living with HIV, many are not aware of their HIV status.
- Many adults, pregnant women and children who are living with HIV do not have access to ART.
- Of most concern, is that AIDS continues to be the leading cause of death among those aged 10–19 years in Africa. It is the second most common cause of death among youth globally and the leading cause of death for women of reproductive age worldwide and the second most common cause of death among youth globally.

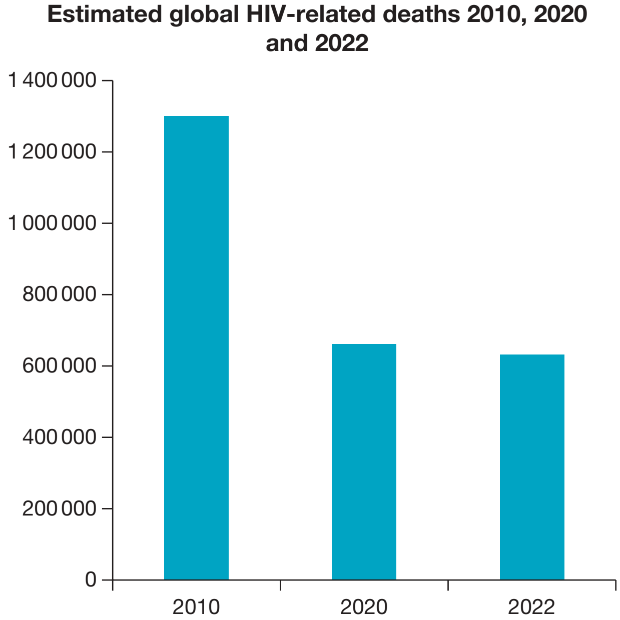
FIGURE 11.13 HIV incidence rates



*Excluding Australia and New Zealand

Source: https://unstats.un.org/sdgs/report/2023/Goal-03/

FIGURE 11.14 Estimated global HIV-related deaths



Source: Adapted from https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/j0294-who-hiv-epi-factsheet-v7.pdf?sfvrsn=5cbb3393_7

There are a range of actions that need to be taken or continued to end the AIDS epidemic (see **FIGURE 11.15** and **TABLE 11.3**).

FIGURE 11.15 Actions needed to end the AIDS epidemic

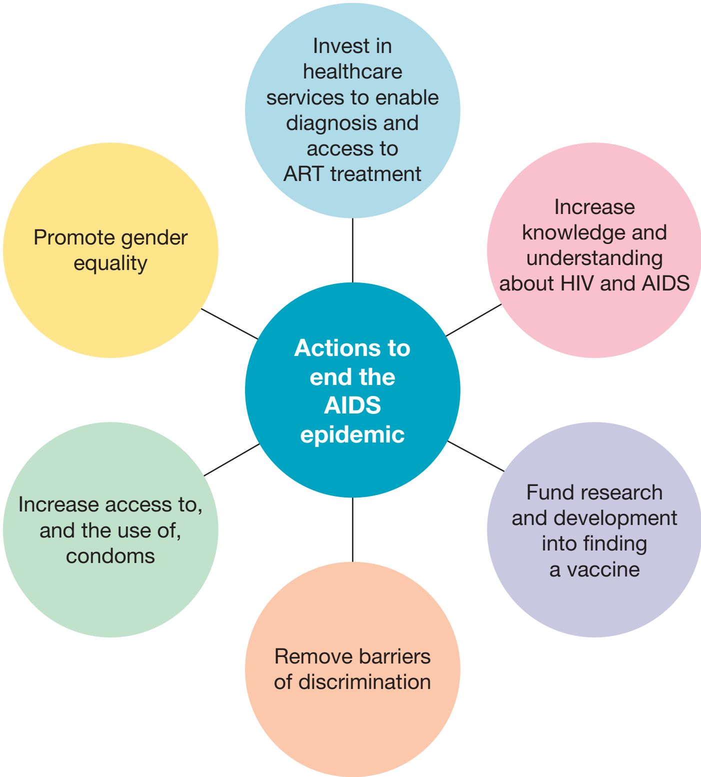


TABLE 11.3 Actions needed to end the AIDS epidemic

Action needed	How it will help end the AIDS epidemic
Invest in healthcare services so everyone has access to diagnosis and ART treatment as needed	Many people are unaware they have HIV, which means it is much more easily spread. People need to be diagnosed and provided with information about how to reduce the spread of the virus and to receive ART treatment to prevent HIV progressing to AIDS.
Increase knowledge and understanding of HIV and AIDS, how it can be prevented and how to stop spreading the disease from one person to another	There are still many people who do not understand what HIV is, how it is contracted and how to prevent its spread from one person to another, including from mothers to babies.
Fund ongoing research and development into finding a vaccine	There is currently no vaccine or cure for the disease, which means there is currently no way to cure someone with HIV/AIDS. ART can help prevent the transition from HIV to AIDS but does not cure the disease.
Remove barriers to discrimination of those with HIV/AIDS	Many HIV/AIDS sufferers face discrimination and stigma, which prevents them from seeking diagnosis and treatment.
Increase access to, and the use of, condoms	Condoms help prevent the spread of the HIV but many couples are unable to access or afford them or do not understand why they are important to use.
Promote gender equality	This means women can have a say in relation to the importance of using condoms and are less likely to be victims of rape or multiple partners, which can spread the virus. It also means women are able to obtain healthcare services and gain access to diagnosis and treatment.

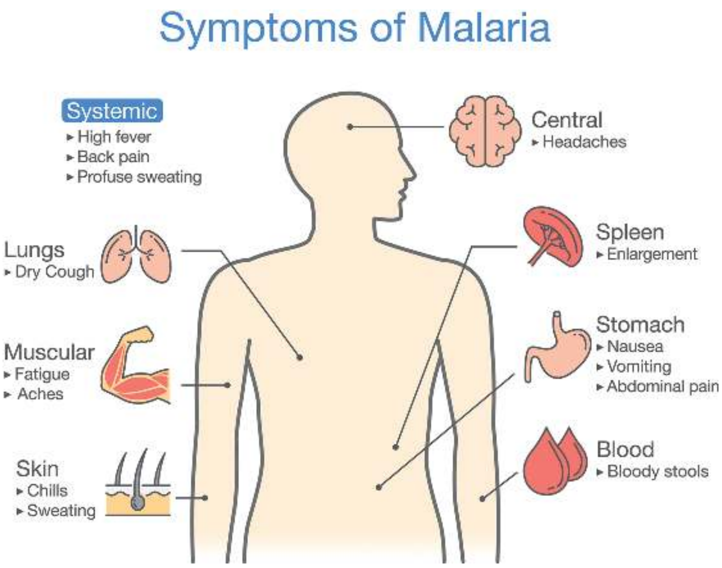
11.5.2 Malaria

Malaria is a life-threatening disease caused by parasites that are transmitted to people when bitten by infected female mosquitoes. Young children and pregnant women are at greater risk of contracting the disease. Malaria destroys the body's red blood cells and causes fever, headache, diarrhoea and vomiting. If left untreated, malaria can cause death.

Actions to control and eradicate mosquitoes are the most effective ways of preventing malaria. This is known as vector control and includes:

- using insecticide-treated mosquito nets to protect people when they sleep
- spraying the inside walls of homes with insecticide to kill and repel mosquitoes
- using antimalarial medicines to prevent malaria if bitten by mosquitoes
- spraying or removing stagnant water, which is a breeding ground for mosquitoes.

FIGURE 11.16 Malaria has significant impact on many parts of the body.



Once infected, malaria can be cured with quick diagnosis and treatment with ACT (artemisinin combination therapy).

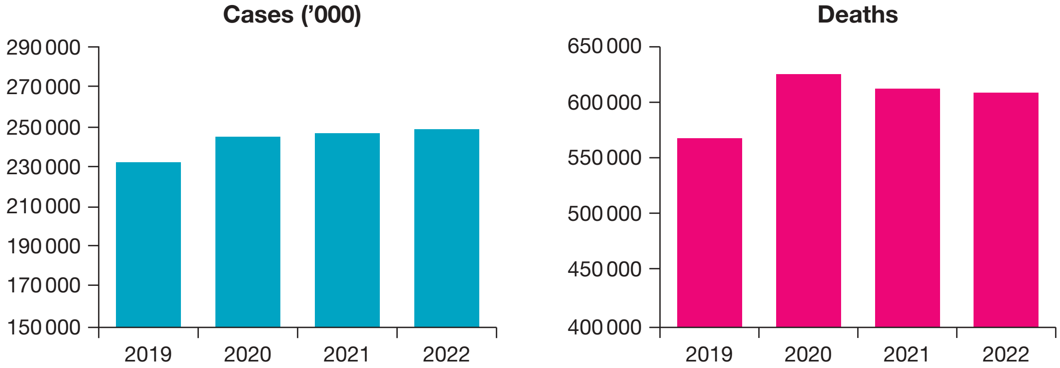
Why ending the malaria epidemic is a key feature

- At the moment the world is unlikely to achieve the target of ending the malaria epidemic (see **FIGURE 11.17**).
- In 2021, malaria killed an estimated 619 000 people globally, with most of these deaths occuring in children under five.
- The total number of malaria cases worldwide continues to increase (see **FIGURE 11.18**).
- Malaria is still endemic in 84 countries.
- While more people have been able to access insecticide-treated nets, diagnostic tests and the ACT drug, there are many people at high risk of malaria who are still missing out on these services.
- Many people are still not protected by insecticide-treated bed nets or by the internal spraying of homes.

FIGURE 11.17 The incidence of malaria has increased since 2013 and raises questions about whether the global goal of ending malaria by 2030 is possible.

Source: World Health Organization, *World Malaria Report 2022*

FIGURE 11.18 Deaths and cases of malaria, 2019–2022



Source: *World Malaria Report 2023*, p. 3, https://cdn.who.int/media/docs/default-source/malaria/world-malaria-reports/world-malaria-report-2022-global-briefing-kit-eng.pdf?sfvrsn=5ec7ec5c_6&download=true

- The ability of countries to control and eliminate malaria is affected when conflict occurs in malaria-endemic areas, by changing climate patterns and increasing resistance of mosquitoes to the insecticides.
- Africa continues to have the highest malaria death rates, accounting for 94 per cent of cases and deaths worldwide.

Ending the malaria epidemic is possible but requires a great deal of action to be taken (see **FIGURE 11.19** and **TABLE 11.4**).

FIGURE 11.19 Ending the malaria epidemic needs action in a range of areas.

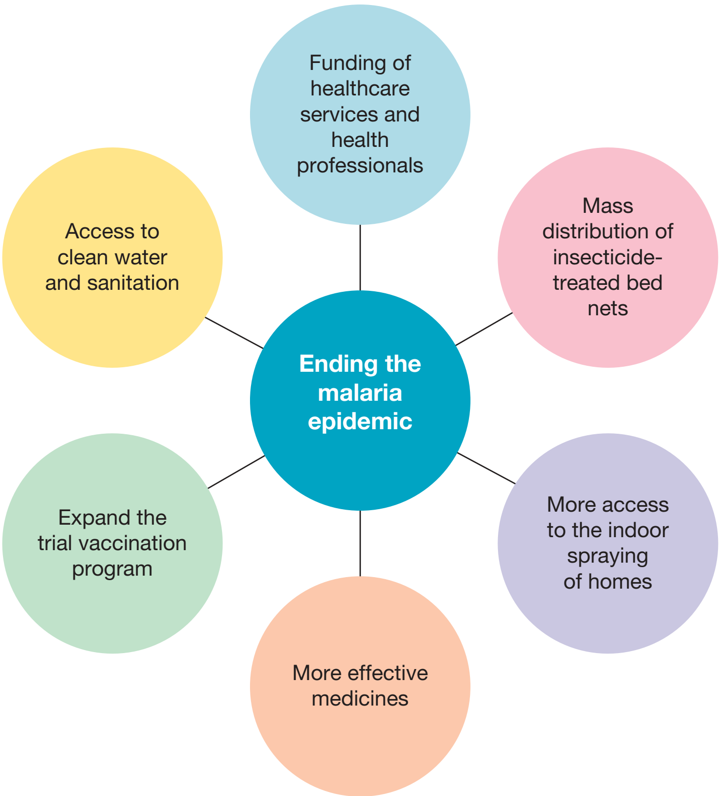


TABLE 11.4 Actions needed to end the malaria epidemic

Action needed	How it will help end the epidemic of malaria
Fund healthcare services and health professionals	This will enable people to have access to health care so malaria can be prevented, diagnosed and treated. Many low-income countries lack the resources to provide the necessary health services.
Mass distribution of insecticide-treated bed nets	Mosquitoes bite children and adults while they sleep and bed nets keep people protected from mosquitoes that carry malaria.
Expand the trial vaccination program	A vaccine for malaria is currently being trialled and is showing evidence of being able to be rolled out as a mass program. This will protect children and adults from getting malaria.
More access to the indoor spraying of homes	Spraying the indoor rooms where people live is an effective way to kill mosquitoes indoors and prevent them from coming into homes.
More effective medicines	The malaria parasite is developing resistance to the current pesticides and antimalarial medicines, so it is important to develop medicines that will remain effective in treating and preventing malaria.
Access to clean water and sanitation	Mosquitoes breed in stagnant water that is lying around in open spaces. Ensuring safe water and sanitation is available removes the breeding ground for the mosquitoes that carry malaria.

11.5.3 Tuberculosis

Tuberculosis (TB) is a disease that affects the lungs. It is highly contagious and is caused by bacteria that can spread from person to person via the air through coughing and sneezing. Its symptoms include night sweats, persistent cough, tiredness, weight loss and coughing up blood. If left untreated, TB destroys lung tissue and results in death. It mostly affects adults, although all age groups are at risk. The chances of developing TB are much higher among people infected with HIV.

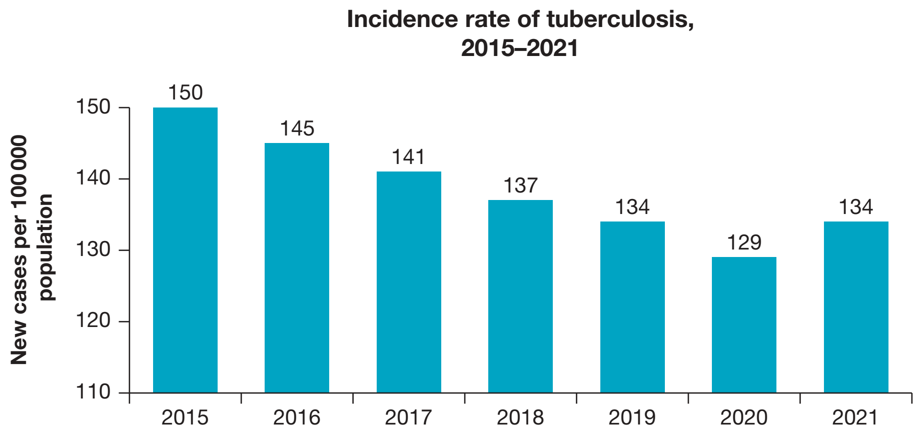
Why ending the tuberculosis epidemic is a key feature

- The world is not on track to end the TB epidemic.
- Nearly all cases of TB can be prevented and cured, but the disease is still one of the top ten causes of death worldwide, and causes more deaths than HIV.
- While death rates and the incidence of TB declined, the COVID-19 pandemic affected access to TB diagnosis and treatment in many countries and, for the first time in nearly twenty years, the global deaths from TB increased (see **FIGURES 11.20** and **11.21**).
- The BCG vaccine, which was developed almost 100 years ago, can effectively prevent TB in children. However, regular BCG vaccinations are not reaching all children.
- TB is curable and preventable. It can be prevented with vaccinations and, if diagnosed early, can be treated and cured with appropriate drugs.

FIGURE 11.20 Tuberculosis deaths

Source: https://unstats.un.org/sdgs/report/2022/Goal-03/

FIGURE 11.21 Global TB incidence, 2015–2021



Source: https://unstats.un.org/sdgs/report/2023/Goal-03/

- Many new cases of TB are not reported to health authorities, which means many people are not receiving adequate diagnosis and treatment.
- Drug-resistant TB continues to be a public health threat.
- Over 95 per cent of TB deaths occur in low- and middle-income countries and it is among the top five causes of death for women aged 14–44.

Ending the TB epidemic requires many actions to be taken by the global community (see **FIGURE 11.22** and **TABLE 11.5**).

FIGURE 11.22 Ending the TB epidemic needs a range of actions to be taken.

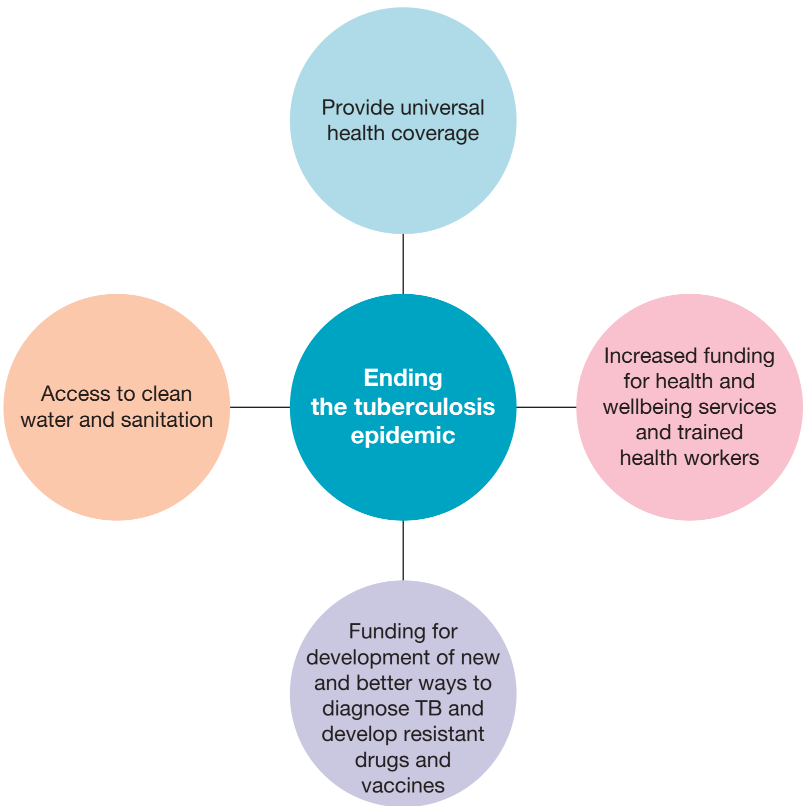


TABLE 11.5 Actions needed to end the TB epidemic

Action needed	How it will help end the epidemic of tuberculosis
Provide universal health coverage	This would mean that all people would have access to vaccination, early detection and effective treatment, especially those who are poor and are at greater risk.
Increase funding for health and wellbeing services and trained health workers	This will enable the expansion of prevention programs, diagnosis and treatment of the disease. It would also mean that all cases of TB are reported and accurate data can help inform health decisions.
Fund the development of new and better ways to diagnose TB and develop resistant drugs and vaccines	Better vaccines are currently being developed to prevent TB in adults and to better treat drug-resistant TB.
Access to clean water and sanitation	This is important in preventing the spread of TB, particularly through access to sanitation.

11.5.4 Neglected tropical diseases

Neglected tropical diseases (NTDs) are a broad group of 20 diseases and conditions that mainly occur in tropical and subtropical environments (see **FIGURE 11.23**). The range of diseases are transmitted differently and caused by a variety of pathogens, including viruses, bacteria, parasites, fungi and toxins.

NTDs include: Buruli ulcer; Chagas disease; dengue and chikungunya virus; dracunculiasis; echinococcosis; foodborne trematodiases; human African trypanosomiasis; leishmaniasis; leprosy; lymphatic filariasis; mycetoma, chromoblastomycosis and other deep mycoses; onchocerciasis; rabies; scabies and other ectoparasitoses; schistosomiasis; soil-transmitted helminthiases; snakebite envenoming; taeniasis and cysticercosis; trachoma and yaws.

These diseases are referred to as neglected because they have received very little funding from governments and other organisations for research, prevention and control. Neglected tropical diseases thrive in the poorest, most marginalised communities, where people:

- lack access to clean water and sanitation
- have limited access to health services
- live in close contact with domestic animals and livestock
- are in contact with infectious vectors such as mosquitoes, ticks, fleas and other carriers that transmit viruses or parasites.

FIGURE 11.23 Neglected tropical diseases affect the poorest communities who lack access to clean water, medical care and are in contact with vectors such as worms, mosquitoes and flies.

Women and children are particularly at risk from neglected tropical diseases for the following reasons:

- Women are responsible for water collection, which can expose the collector to contaminated water and infectious disease vectors.
- Children without access to safe water for drinking and bathing can contract a wide range of water-borne diseases.
- Young children do not have fully developed immune systems and are susceptible to disease.

Why ending the NTD epidemic is a key feature

- These diseases have a significant impact on health and wellbeing and human development, causing severe pain and permanent disability, and have social and economic consequences for more than one billion people.
- NTDs cost developing communities billions of dollars each year in health costs, loss of productivity and reduced socioeconomic and educational attainment.
- While there has been progress in reducing NTDs, in 2021, 1.65 billion people needed treatment and care.
- In low-income countries in 2021, 46 per cent of the population required treatment and care for NTDs.
- Two parasitic conditions that are responsible for considerable morbidity and disability are **schistosomiasis**, which affects over 220 million people, and **trachoma**, which is responsible for an estimated 1.9 million people being visually impaired.

More work is needed if the target of reducing the number of people needing treatment for these diseases by 90 per cent by 2030 is to be achieved (see **FIGURE 11.24** and **TABLE 11.6**).

schistosomiasis a worm infection that occurs when people swim, bathe or have contact with fresh water contaminated with human excreta

trachoma a bacterial infection of the eye that can cause complications including blindness

FIGURE 11.24 Ending the NTD epidemic is possible but needs a range of actions to be taken.

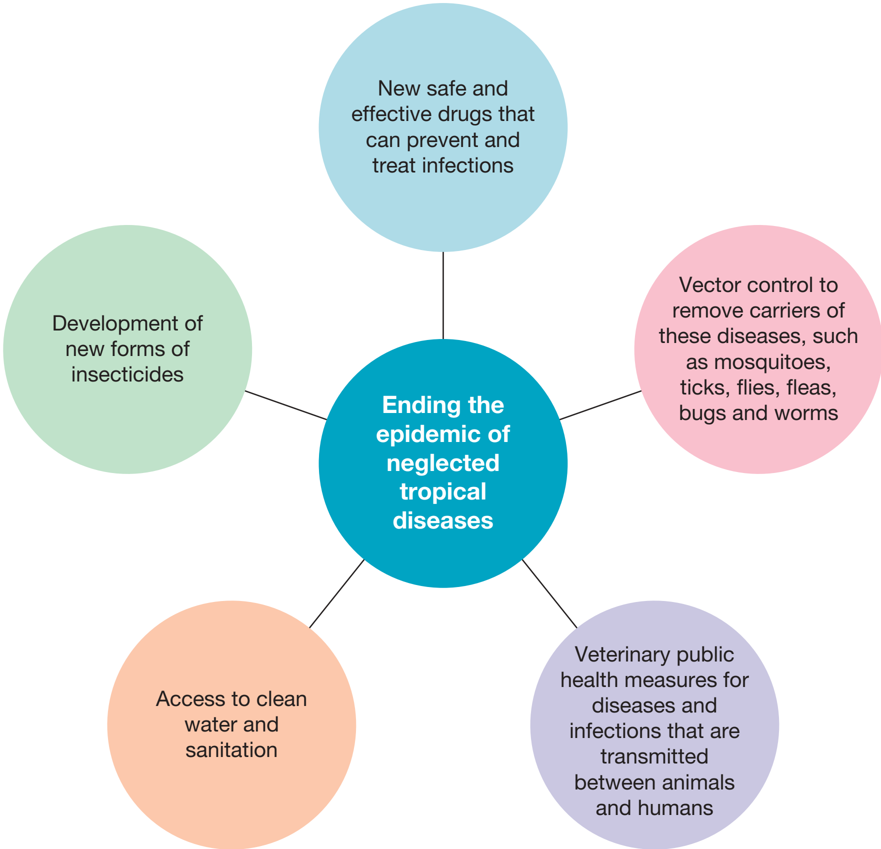


TABLE 11.6 Actions needed to end the NTD epidemic

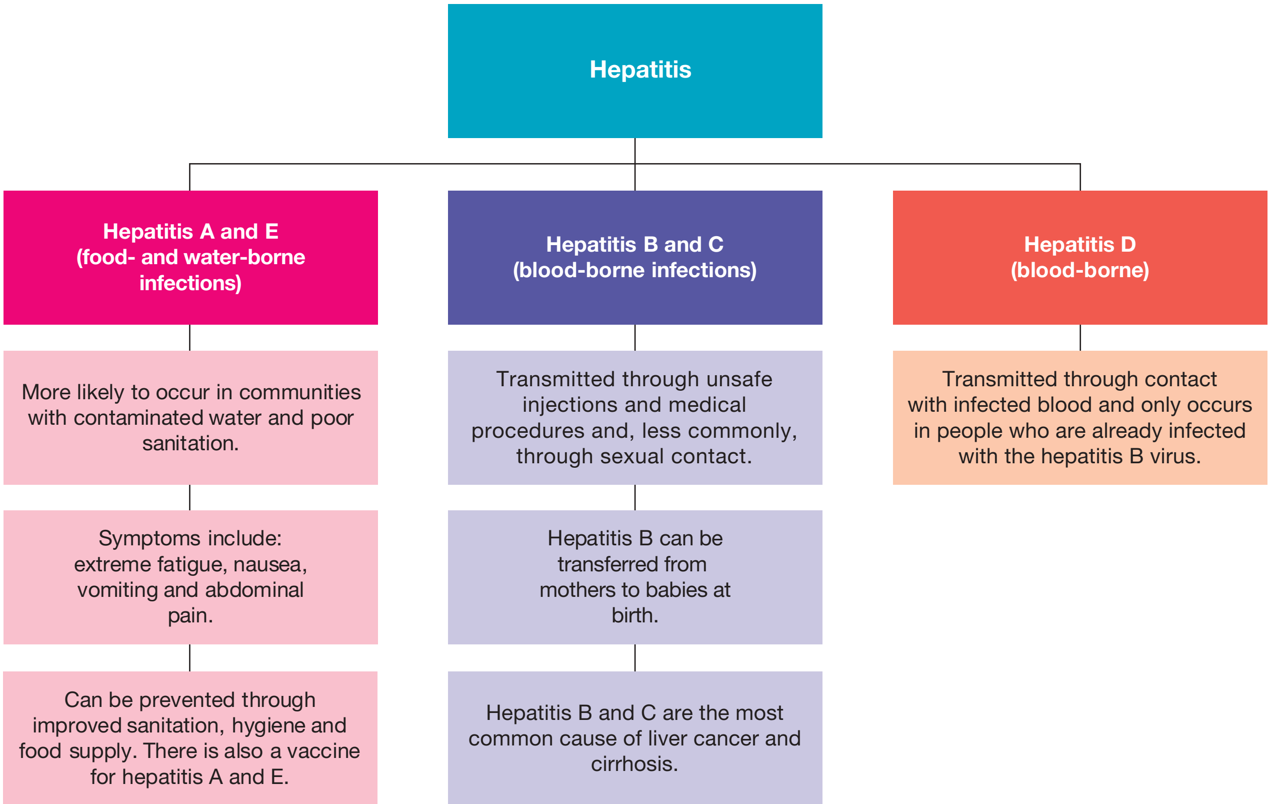
Action needed	How it will help end the epidemic of NTDs
New safe and effective drugs that can prevent and treat infections	This means those who are affected can be safely treated and, where possible, diseases can be prevented, which will prevent the spread of the diseases.
Vector control to remove carriers of these diseases, such as mosquitoes, ticks, flies, fleas, bugs and worms	Removing the carriers of the disease means people will be protected from developing these diseases in the first instance.
Veterinary public health measures for diseases and infections that are transmitted between animals and humans	Animals that carry pathogens can transfer these to people who live and work in close contact with them. Veterinary practices can remove microbes or prevent them spreading. Examples include: • mass vaccination of dogs to prevent rabies • securing dogs to prevent contamination of the environment for dracunculiasis • deworming dogs and safe disposal of offal during the killing of animals to prevent cystic echinococcosis • treatment of livestock and other domestic animals, and keeping them away from transmission sites for schistosomiasis.
Access to clean water and sanitation	Many NTDs are spread through contaminated water or breed in stagnant water. Clean water and sanitation will help to limit the breeding of pathogens.
Development of new forms of insecticides	Many of the pathogens that cause NTDs are developing resistance to the current insecticides, which will therefore reduce their effectiveness in controlling them.

FIGURE 11.25 Spraying insecticide can help remove carriers of many NTD, such as mosquitoes, ticks, flies and fleas.

11.5.5 Hepatitis

Hepatitis is an inflammation of the liver caused by a viral infection. There are five types of hepatitis that contribute to the global burden of disease, and have the greatest potential for outbreaks. These are referred to as types A, B, C, D and E. The five hepatitis viruses are very different — they differ in the way they are transmitted, how they affect people and their impact on health and wellbeing (see **FIGURE 11.26**).

FIGURE 11.26 Types of hepatitis: causes, symptoms and transmission

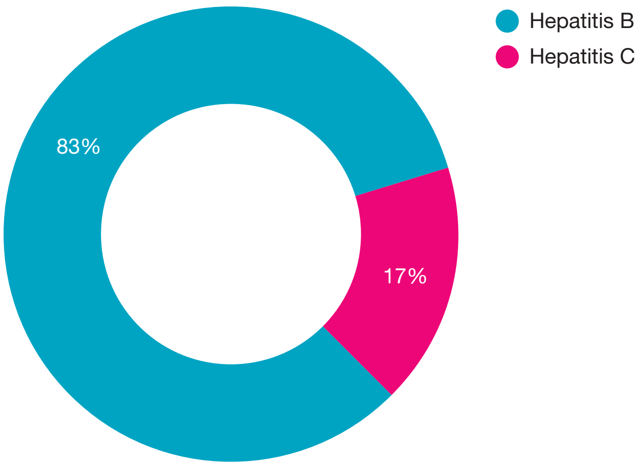


Why combatting hepatitis is a key feature

- Despite improvements, globally, many people die from hepatitis every day.
- All forms of hepatitis are responsible for more than one million deaths per year, which is similar to the death rates from HIV and tuberculosis.
- Hepatitis B accounts for the majority of deaths, followed by hepatitis C (see **FIGURE 11.27**).
- Globally, people live with hepatitis infection, and it is a growing cause of death among people with HIV.
- The prevalence of hepatitis B is higher in sub-Saharan Africa and East Asia.

A range of actions are needed to combat hepatitis (see **FIGURE 11.28** and **TABLE 11.7**).

FIGURE 11.27 Percentage of deaths attributed to hepatitis viral infections, 2022



Source: WHO, *Global hepatitis report 2024: action for access in low- and middle-income countries*, 2024

FIGURE 11.28 A range of actions must be taken combat hepatitis.

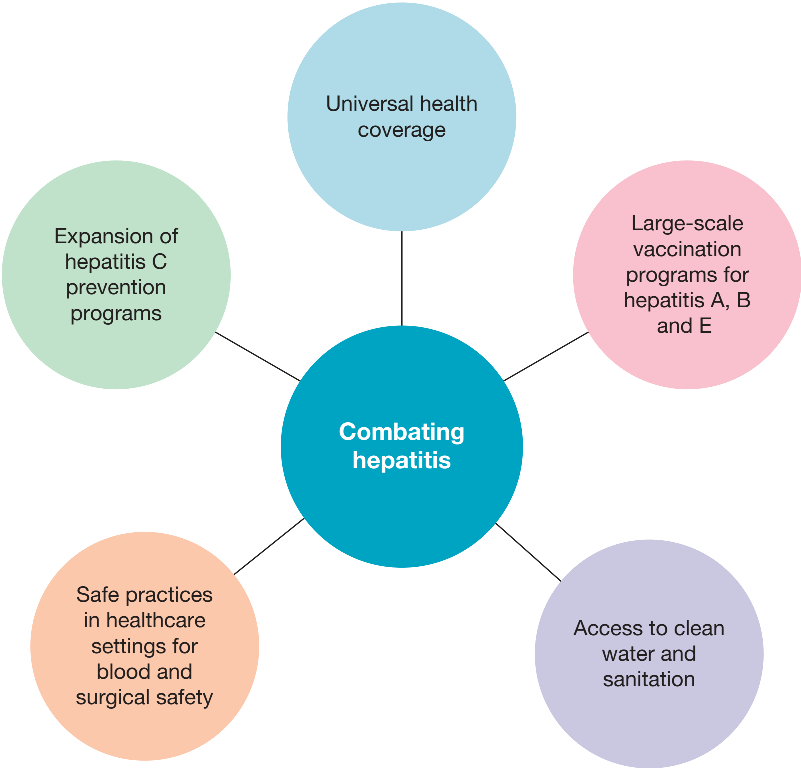


TABLE 11.7 Actions needed to combat hepatitis

Action needed	How it will help combat hepatitis
Provide universal health coverage	This ensures everyone can access free hepatitis testing and treatment, particularly those living in low- and middle-income countries who are often poor. Increased awareness and blood screening is important for hepatitis B and C, which are often not recognised until the disease is well-advanced and results in many more people dying due to complications.
Large scale vaccination programs for hepatitis A, B and E	Hepatitis A, B and E can be prevented through immunisation, particularly hepatitis B vaccinations, which can be given to newborns in the first 24 hours.
Safe practices in healthcare settings to ensure blood and surgical safety	This will reduce the chances of people getting hepatitis B and C through unsafe injections and medical procedures. Blood supplies can be screened and confirmed safe before being used for blood transfusions.
Expand hepatitis C prevention programs	There is no treatment or cure for hepatitis C and many people are unaware of the disease. Prevention is the most effective way to reduce hepatitis C infections.
Access to clean water and sanitation	Hepatitis A and E can be prevented with access to clean water and sanitation.

11.5 Activities

1. Work individually or in pairs to research one neglected tropical disease. Include a description, how it is transmitted, its impact on health and wellbeing and the regions or countries where most people are affected. Share with the rest of the class.

2. Use concept mapping software to create a concept map illustrating each disease group covered in this subtopic. For each disease group, include a description of the disease, how it is transmitted, its impact on health and wellbeing and actions taken to reduce its spread.

11.5 Exercises

11.5 Quick quiz on | **11.5 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
2, 4, 6, 8, 10	1, 3, 5, 7, 9, 11	12

Test your knowledge

1. State the relationship between HIV and AIDS.
2. Describe how HIV is transmitted.
3. Explain how investment in healthcare services could help end the AIDS epidemic.
4. What is malaria and how can it be prevented?
5. Provide two reasons for why ending the malaria epidemic is a key feature of SDG 3.
6. How can TB be prevented and treated?
7. Explain one reason for why ending the TB epidemic is a feature of SDG 3.
8. What are neglected tropical diseases?
9. Explain how neglected tropical diseases can be reduced through vector control.
10. Identify which forms of hepatitis cause the greatest number of deaths.

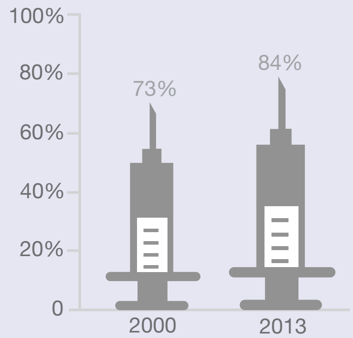
Apply your knowledge

11. Refer to **FIGURE 11.13** and outline the change in the HIV incidence rate between 2010 and 2021.
12. 'All forms of hepatitis can be treated and prevented.' Discuss this statement.

11.5 Exam questions

Question 1 (1 mark)

In relation to the image, **identify** one key feature of SDG 3 that could be achieved.



Question 2 (3 marks)

Identify three examples of communicable diseases.

Question 3 (2 marks)

Malaria can be prevented by controlling and eradicating mosquitoes. This is known as vector control. **Identify** two examples of vector control techniques.

Question 4 (3 marks)

Outline three key actions that are needed to combat hepatitis.

Question 5 (2 marks)

Identify two reasons that would explain why ending the AIDS epidemic would promote global health and human development.

More exam questions are available in your learnON title.

11.6 SDG 3 Key feature of non-communicable diseases

Key knowledge	Key skill
Key features of SDG 3 ('Ensure healthy lives and promote wellbeing for all at all ages')	Describe the key features of SDG 3

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- the non-communicable diseases that are included in this key feature
- why each of the following are included as key features of SDG 3:
  - the reduction of premature mortality from non-communicable diseases
  - reducing deaths and injuries from road traffic accidents
  - deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- the causes of, and actions that can be taken to reduce them:
  - non-communicable diseases and mental health issues
  - deaths and injuries from road traffic accidents
  - deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

You need to be able to:
- explain the reasons why each of these causes of illness, injuries and deaths are an issue globally
- provide examples of how these diseases and injuries can be reduced
- explain how each of these causes of illness, injuries and deaths could be reduced.

This is the key feature of SDG 3: End deaths from non-communicable diseases and promote mental health.

11.6.1 Reduce premature mortality from non-communicable diseases and promote mental health and wellbeing

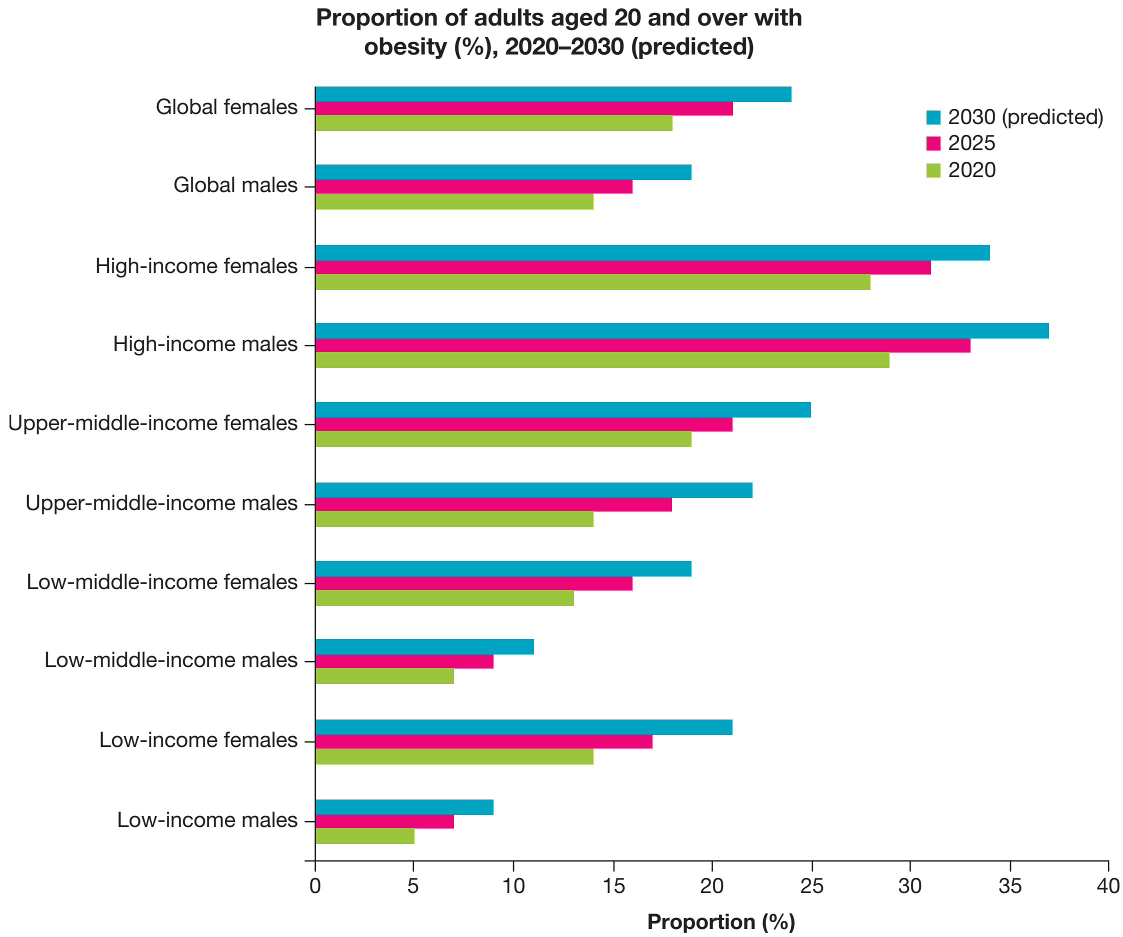
Another feature of SDG 3 is to reduce premature deaths from non-communicable diseases (NCDs) that are due to lifestyle and environmental factors. The four non-communicable diseases that are the focus of this subtopic account for 74 per cent of deaths globally. These are:
- cardiovascular diseases (kills 17.9 million people each year)
- cancers (kills 9.3 million people)
- respiratory diseases (kills 4.1 million people)
- diabetes (including kidney disease caused by diabetes) (kills 2 million people).

Traditionally, non-communicable diseases were a problem only for high-income countries. However, 85 per cent of the burden of these diseases now affects low- and middle-income countries, where people become ill more quickly, suffer more serious illnesses and die earlier than those in high-income countries.

Why reducing premature mortality from non-communicable diseases is a key feature

- Non-communicable diseases account for a very high global burden of disease and, although there have been improvements over time, the world is a long way from achieving the target for reducing mortality.
- Changes in lifestyle have contributed to the increased incidence of non-communicable diseases. Levels of physical activity have declined and we are eating more energy-dense foods, which has led to a rise in obesity rates.
- Rates of adult and childhood obesity are increasing in almost all regions globally (see **FIGURE 11.29**). Obesity is a main risk factor for non-communicable diseases.

FIGURE 11.29 The proportion of adults with obesity across all income countries is expected to increase over time, which is likely to increase the prevalence of NCDs globally.



Source: Prevalence of obesity projections 2020 to 2035, projections undertaken by RTI International (Okunogbe, 2021, 2022; World Obesity Federation 2022i) based on the Non-communicable Disease Risk Factor Collaboration (NCD-RisC). Additional analyses undertaken by Dr A Okunogbe at RTI International on behalf of World Obesity Federation.

- Tobacco use, physical inactivity, the harmful use of alcohol, unhealthy diets and air pollution all increase the risk of dying from an NCD. Most of these risk factors can be prevented.
- More than 5 million deaths from non-communicable diseases are the result of tobacco use and more than 600 000 deaths are due to passive smoking.
- The global marketing of tobacco, alcohol and processed foods has contributed to the increase in non-communicable diseases.
- Non-communicable diseases are costly for healthcare systems. Some countries spend up to 15 per cent of their total health budget on the treatment of diabetes and its complications. Low-income countries are less able to prevent and control non-communicable diseases because many are already dealing with the high burden of disease from infectious diseases.
- In low- and middle-income countries, the rise in non-communicable diseases has reversed many of the economic gains achieved through the reduction in infectious diseases.

The goal to reduce premature mortality from non-communicable diseases through prevention and treatment requires a lot more action if it is to be achieved by 2030 (see **FIGURE 11.30** and **TABLE 11.8**).

FIGURE 11.30 Reducing premature mortality from non-communicable diseases is a global problem and needs a range of actions to be taken.

TABLE 11.8 Actions to reduce premature mortality from non-communicable diseases

Action needed	How it will help reduce premature mortality from non-communicable diseases
Increase funding for universal health coverage, including affordable access to essential medicines	This is particularly important in low-income countries that have less capacity to prevent and control these diseases. Everyone needs access to basic medical care and medication that can address risk factors such as high blood pressure, which is more prevalent in low-income countries than in high-income countries. Treatment, management and curative actions are available when these diseases are identified early. Medication can reduce the risk of heart disease and stroke.
Increase the priority for the prevention and control of these diseases in all countries, but particularly low- and middle-income countries	Many non-communicable diseases can be prevented by addressing the major risk factors. In low- and middle-income countries, the focus has mainly been on addressing infectious diseases.
Implement the WHO Framework on Tobacco Control in all countries	Nearly 80 per cent of the world's smokers live in low- and middle-income countries, but there are fewer services there to help people quit smoking or prevent the uptake of smoking. The actions included in the Tobacco Framework, such as passing laws requiring plain packaging or health warnings on packages, have shown to be successful in reducing tobacco smoking and tobacco-related deaths.
Place taxes on alcohol and tobacco products	Alcohol and tobacco are major risk factors for non-communicable diseases. Implementing taxes increases the price of these products, which is known to decrease their consumption.
Develop laws for easy-to-understand food labelling	Many people are unaware of the nutritional contents of packaged foods and food labels are often confusing. If people had clear nutrition information about the food they eat, it would help people make healthy food choices. A poor diet is a risk factor for non-communicable diseases.
Encourage schools and workplaces to find ways to support people to undertake regular physical activity	Lack of physical activity is a risk factor for non-communicable diseases so it is important to support people to increase their physical activity levels.
Tax sugar-sweetened drinks, remove them from schools and restrict their marketing	These actions will reduce children's exposure to unhealthy drinks and reduce the intake of sugars, which are a leading cause of obesity for children. This will help address a major risk factor for non-communicable diseases.

11.6.2 Promote mental health and wellbeing

When people experience good mental health and wellbeing, they are able to achieve their potential, cope with the normal stresses of life, work productively and contribute to their communities. Unfortunately, there are many people globally who do not enjoy good mental health and wellbeing.

Poor mental health and wellbeing is associated with rapid social change, stressful work conditions, gender discrimination, social exclusion, an unhealthy lifestyle, risks of violence, physical ill health and wellbeing and human rights violations. Poor mental health can lead to mental disorders such as depression.

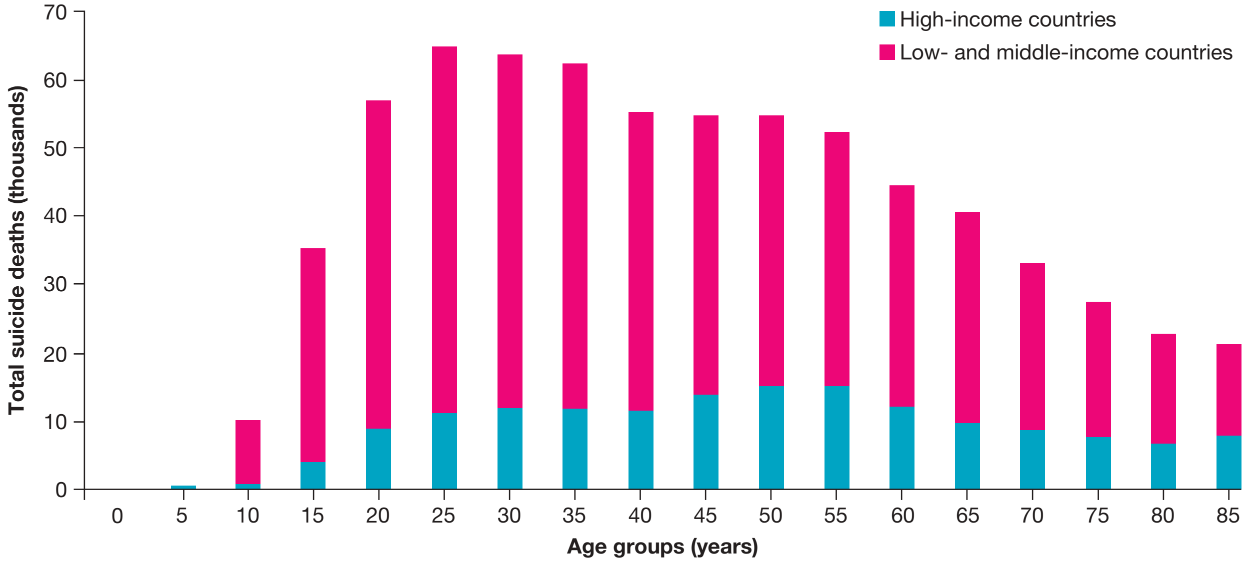
FIGURE 11.31 Good mental health and wellbeing is important so people are able to reach their potential, work productively and contribute to their community.

Mental disorders can be treated effectively with appropriate medication and psychological support. An environment that respects and supports people's rights and provides strong social support is important for good mental health and wellbeing and can help prevent some mental disorders.

Why promoting mental health and wellbeing is a key feature

- The burden of depression and other mental health and wellbeing conditions is on the rise globally and is among the 20 leading causes of disability worldwide.
- Poor mental health is a leading cause of suicide globally.
- Globally, the suicide rate is more than two times higher in males than in females, it is the second leading cause of death in 15- to 29-year-olds and is more common in low- and middle-income countries (see **FIGURE 11.32**).
- Mental disorders contribute to poverty and homelessness. People with mental disorders are often stigmatised, suffer discrimination and are denied their basic human rights.
- Mental disorders often affect, and are affected by, other diseases such as cancer, cardiovascular disease and HIV/AIDS. As a result, those who suffer from mental disorders often experience higher rates of morbidity and mortality and lower life expectancy.
- Trauma, conflict, disaster, violence, abuse, loss and a sense of isolation are strongly linked with suicidal behaviour. Rates are also high among vulnerable groups who experience discrimination, such as refugees and migrants; indigenous peoples; lesbian, gay, bisexual, transgender and intersex (LGBTI) persons; and prisoners.

FIGURE 11.32 Global suicides, by age and country income level* (thousands), 2019



* World Bank income groups, 2020

Source: *Suicide worldwide in 2019: global health estimates*, p. 7, World Health Organization 2021, https://iris.who.int/bitstream/handle/10665/341728/9789240026643-eng.pdf?sequence=1

To promote mental health and wellbeing, a range of actions are needed globally (see **FIGURE 11.33** and **TABLE 11.9**).

FIGURE 11.33 Actions to promote mental health and wellbeing

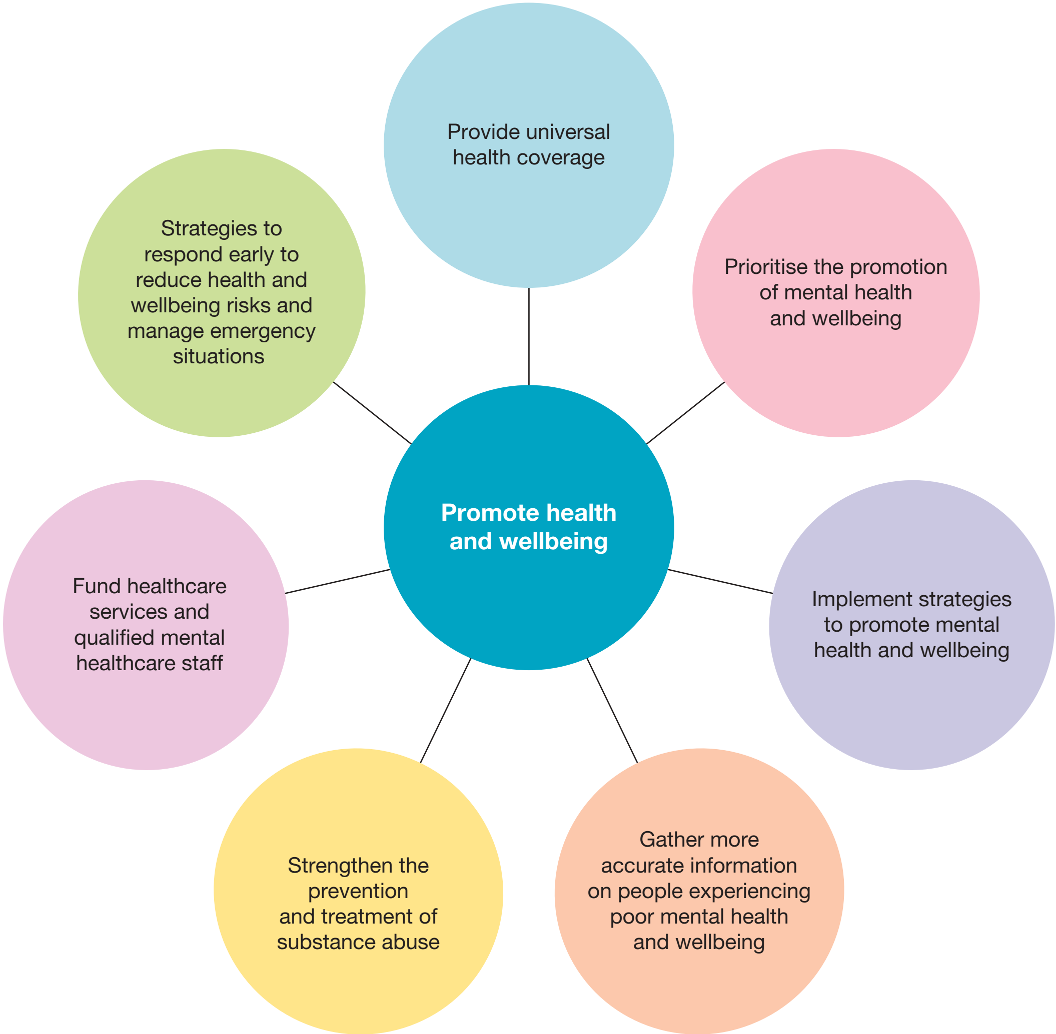


TABLE 11.9 Actions needed to promote mental health and wellbeing

Action needed	How it will help promote mental health and wellbeing
Increase funding for universal health coverage, including affordable access to essential medicines	Depression can be treated with antidepressants, however, fewer than half of those affected worldwide have access to these treatments (in many countries it is less than 10 per cent).
Increase the priority for the promotion of mental health and wellbeing	Governments need to prioritise mental health and wellbeing, including those in low- and middle-income countries. This includes putting in place anti-discrimination laws and social protection for those who suffer from mental health conditions.
Put in place a range of strategies that promote good mental health and wellbeing	Conditions such as depression can be prevented by including positive thinking programs in school curriculums and providing support programs for parents of children with behavioural problems.

Action needed	How it will help promote mental health and wellbeing
Provide more accurate information on the number of people who experience mental health and wellbeing issues	Often the data reported are incomplete, particularly on service availability and use, which can be difficult to track. The stigma surrounding poor mental health means it goes unreported. To promote mental health and wellbeing, accurate data is necessary to ensure appropriate action is taken to promote mental health and wellbeing.
Put in place strategies so all countries can respond early to reduce risks and manage emergency situations and health and wellbeing risks	Natural disasters, conflict and pandemics such as the recent COVID-19 outbreak are extremely stressful and contribute to significant loss of life and trauma, which affects people's mental health and wellbeing. Being able to respond to these situations quickly and efficiently can help promote mental health and wellbeing.
Increase funding for healthcare services and qualified mental healthcare staff especially in relation to mental health issues, particularly in low- and middle-income countries	The availability of specialist and general mental health workers is very low in low- and middle-income countries, with almost half the world's population living in an area where there is only one psychiatrist for approximately 200 000 people.
Strengthen the prevention and treatment of substance abuse	There is a relationship between the use of alcohol and other drugs with poor mental health and suicide, so it is important to support people to address drug and alcohol issues.

11.6.3 Reduce deaths and injuries from road traffic accidents

Poor quality roads, lack of laws and law enforcement, unsafe vehicles and driver behaviour are responsible for most of the road traffic accidents worldwide. Driver behaviour is a major factor. Speed, driving while under the influence of alcohol and drugs, and other risk-taking behaviours increase the risk of injury, disability or death, and not just to those in vehicles. More than half of all road traffic deaths involve pedestrians, cyclists and motorcyclists, with almost three-quarters of all deaths being males. Other driver behaviours that contribute to death and injuries from road accidents include not wearing motorcycle helmets, seat belts and child restraints, and being distracted by things like mobile phones while driving. Poor quality roads and a lack of footpaths, cycling lanes and pedestrian crossings are also contributing factors.

Delays in detecting and providing care for those involved in a road traffic crash increase the severity of injuries. While this can be an issue for all countries, it is particularly relevant in many low- and middle-income countries, which have fewer resources.

Why reducing global deaths and injuries from road traffic accidents is a key feature

- More than one million people die each year from road traffic accidents, and 92 per cent of deaths occur in low- and middle-income countries.
- Many more people suffer non-fatal injuries, with many suffering long-term disability as a result. The majority of road traffic accidents can be prevented.
- Road traffic injuries are the ninth leading cause of death globally, and the leading cause of mortality among people aged 5–29 years.
- Each year there are more vehicles on the road, which increases the risk of people being injured and killed due to road accidents (see **FIGURE 11.34**).
- Road traffic injuries are costly not only to individuals and their families, but also nationally. The costs associated with treatment are high and can place stress on healthcare systems, especially those in low- and middle-income countries, which are also dealing with the high costs of infectious diseases. Road traffic accidents cost most countries almost 3 per cent of their GDP. Costs are also associated with lost productivity for those killed or disabled by their injuries and are unable to work, and for family members who need to take time off work or school to care for injured family members.

FIGURE 11.34 The aim to halve the number and deaths and injuries from road accidents becomes more difficult with an increasing number of vehicles on the roads each year.

To reduce deaths and injuries from road traffic accidents, a range of actions are needed globally (see **FIGURE 11.35** and **TABLE 11.10**).

FIGURE 11.35 Actions needed to reduce deaths and injuries from road accidents

TABLE 11.10 Actions needed to reduce deaths and injuries from road traffic accidents

Action needed	How it will help reduce deaths and injuries from road traffic accidents
Increase funding for driver education programs	A large proportion of road accidents are due to driver behaviours and risk-taking on the road. Education must be provided so young people, in particular, are aware of the importance of driving responsibly and to change behaviour.
Invest in road infrastructure	Improving the quality of roads and providing footpaths, cycling lanes and pedestrian crossings will increase safety for all road users.
Ensure vehicles on the road are safe and in good working condition	Vehicles must be safe on the road to minimise the risks of poorly maintained cars causing road accidents.
Implement a range of healthy public policies, such as speeding restrictions, alcohol limits and compulsory wearing of helmets and seat belts, and ensure the laws are enforced	Policies that support all road users have been shown to change driver behaviours and reduce road accidents. These laws and policies are often lacking in low- and middle-income countries, or are not enforced, which limits their effectiveness.
Invest in emergency services and quality health care	Immediate emergency response is critical to reducing the severity of injuries and deaths when an accident occurs. Hospital care and treatment services are also necessary to save lives and reduce disability, but this can be difficult for many countries, particularly low- and middle-income countries where there are fewer resources.

11.6.4 Reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

As more people move to cities, pollution from heavy traffic, poor housing and limited access to water and sanitation services bring about significant health and wellbeing risks. Environmental risk factors contribute to more than 100 diseases and injuries, two-thirds of which are due to indoor and external air pollution.

Low- and middle-income countries experience the largest environment-related disease burden.

Why reducing deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination is a key feature

Every year, more than 12 million people die from diseases associated with environmental hazards, such as air, water or soil pollution. This represents one in four deaths worldwide. In addition, 22 per cent of the global disease burden (in DALYs) is attributable to environmental risks that can be prevented. Children under five and adults aged 50–75 are at the greatest risk.

Air pollution

Ninety-one per cent of the world's population does not breathe clean air, and more than half of those living in cities are exposed to external air pollution levels at least 2.5 times above the safety standard set by the WHO.

Indoor and external air pollution has resulted in around 7 million deaths, mainly from heart and lung diseases such as stroke, heart disease, respiratory infections and cancer (see **FIGURE 11.36**).

Indoor air pollution

Around 3 billion people, mainly in low- and middle-income countries, cook and heat their homes using solid fuels, such as wood, charcoal, coal and dung, in open fires and poorly functioning stoves. These fuels produce small soot particles that penetrate deep into the lungs. Exposure to indoor air pollution almost doubles the risk for childhood pneumonia and acute lower respiratory infections. In adults, indoor air pollution is responsible for premature deaths from stroke, ischaemic heart disease, chronic obstructive pulmonary disease (COPD) and lung cancer deaths.

FIGURE 11.36 Air pollution is responsible for around 7 million deaths, in particular stroke, heart disease and diseases of the lungs, including lung cancer.

External air pollution

External air pollution is caused by energy production and traffic fumes, which release deadly air pollutants, such as black carbon and greenhouse gases. External air pollution contributes to increased morbidity and mortality. As cities become larger, the quality of air in many of them is becoming a global concern. Reducing air pollution relies on the use of clean technologies and fuels for cooking, heating and lighting and for transport, as well as improved urban design and energy-efficient housing.

Water pollution

Contamination of drinking water and soil, mainly through poor sanitation, is responsible for an estimated many thousands of deaths, half of which occur in Africa. Unsafe water, sanitation and hygiene is responsible for many deaths from diarrhoeal diseases, as well as contributing to deaths from malnutrition, intestinal worm infections and schistosomiasis. As global access to clean water and sanitation increases, deaths resulting from these diseases are declining.

To reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution, a range of actions are needed globally (see **FIGURE 11.38** and **TABLE 11.11**).

FIGURE 11.37 As people move into cities, the cities become larger and levels of air pollution is becoming a global concern.

FIGURE 11.38 Actions needed to reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution

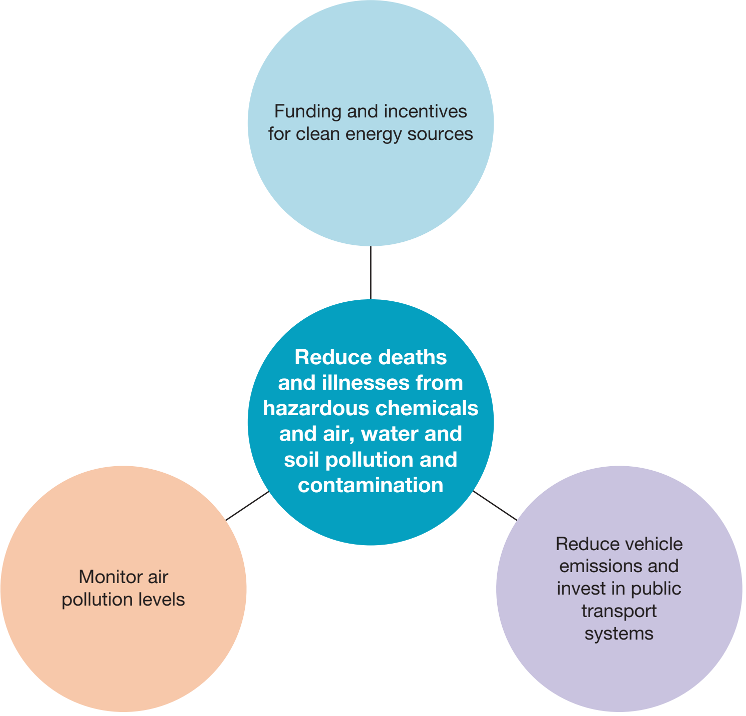


TABLE 11.11 Actions needed to reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Action needed	How it will help reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Funding and incentives for clean energy sources to decrease the world's reliance on fossil fuels	Air pollution is responsible for many deaths and much of the external air pollution comes from the burning of fossil fuels. Clean fuels will help reduce contaminants in the air.

(continued)

TABLE 11.11 Actions needed to reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination *(continued)*

Action needed	How it will help reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Reduce vehicle emissions and invest in public transport systems.	People use cars for transportation, particularly when there is no public transport available. Public transport systems that can efficiently and effectively move large numbers of people around will reduce the number of cars on the road and vehicle emissions.
Monitor air pollution levels	People can be informed when air pollution levels get high and they can remain indoors or take other preventive action to reduce the breathing in of contaminated air.

11.6 Exercises

11.6 Quick quiz on | **11.6 Exercise**

Learning pathways

- LEVEL 1: 1, 5, 6, 7, 8
- LEVEL 2: 2, 3, 4
- LEVEL 3: 9, 10

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Test your knowledge

1. What is meant by non-communicable diseases?
2. Identify the four major risk factors that account for most of the burden of disease associated with non-communicable diseases worldwide.
3. Outline three ways that premature mortality from non-communicable diseases could be reduced globally.
4. Outline three reasons why reducing non-communicable diseases is a key feature of SDG 3.
5. Explain how mental health and wellbeing can be improved.
6. What factors are responsible for road traffic accidents?
7. Identify which type of environmental contamination is responsible for the largest burden of disease worldwide.
8. Identify what diseases can be attributed to environmental contamination.

Apply your knowledge

9. Using **FIGURE 11.32**, explain why the trends are an issue for low- and middle-income countries.
10. ‘Reducing road traffic accidents requires a coordinated approach.’ Discuss.

11.6 Exam questions

Question 1 (3 marks)

Identify three non-communicable diseases.

Question 2 (2 marks)

Explain why most mental disorders in low- and middle-income countries go undiagnosed and untreated.

Question 3 (2 marks)

Explain what has led to the increase in non-communicable diseases.

Question 4 (4 marks)

Explain how addressing non-communicable diseases would help promote global health and human development.

More exam questions are available in your learnON title.

11.7 The relationships between SDG 3 and SDG 1

Key knowledge	Key skill
Relationships between SDG 3 and SDG 1	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- the meaning of SDG 1
- the features that are included as part of SDG 1
- the relationship between SDG 1 and SDG 3
- how SDG 1 affects global health and human development.

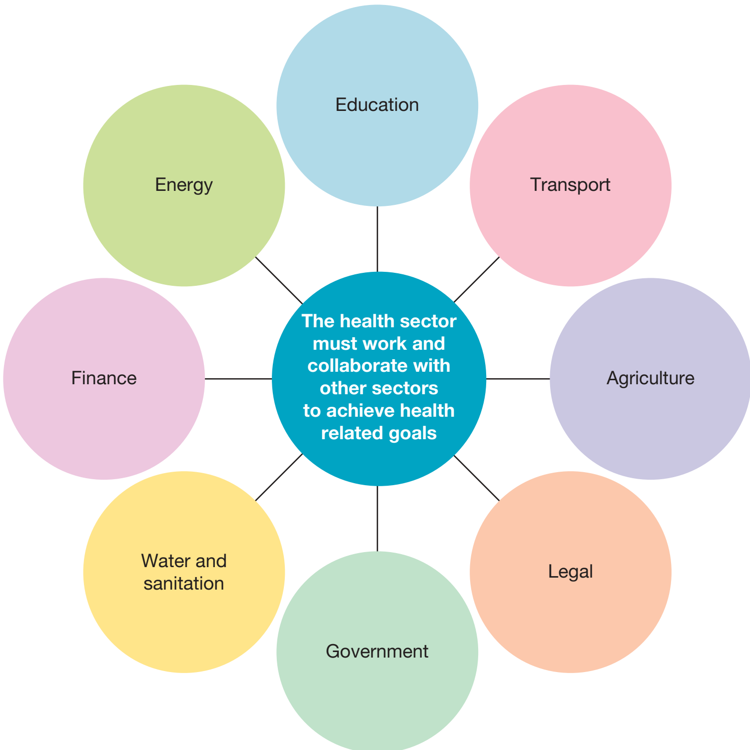
You need to be able to:
- describe poverty and its causes
- provide meaningful connections between specific features of SDG 1 and key features of SDG 3
- provide specific examples of global health and human development that show the impact of SDG 1.

11.7.1 The relationships between SDG 3 and other SDGs

SDG 3: Good health and wellbeing can be explored as a single goal but, as you saw previously in this topic, the SDGs are all connected. It is therefore important to consider how achieving SDG 3 is connected to the achievement of other SDGs. Without good health and wellbeing, achieving many of the SDGs will be difficult. Similarly, the achievement of SDG 3 is dependent upon the achievement of other SDGs.

Health and wellbeing is determined by a range of economic, sociocultural and environmental conditions. This means good health and wellbeing is connected to issues such as poverty, good nutrition, gender equality, education, access to safe water and sanitation, and sustainability. Political decisions and policies in areas such as water and sanitation, food and agriculture, education, urban planning, transport and social protection, are all connected to the achievement of SDG 3 (see **FIGURE 11.39**).

FIGURE 11.39 A range of areas must work together to achieve health-related goals and improve health and wellbeing and human development globally.

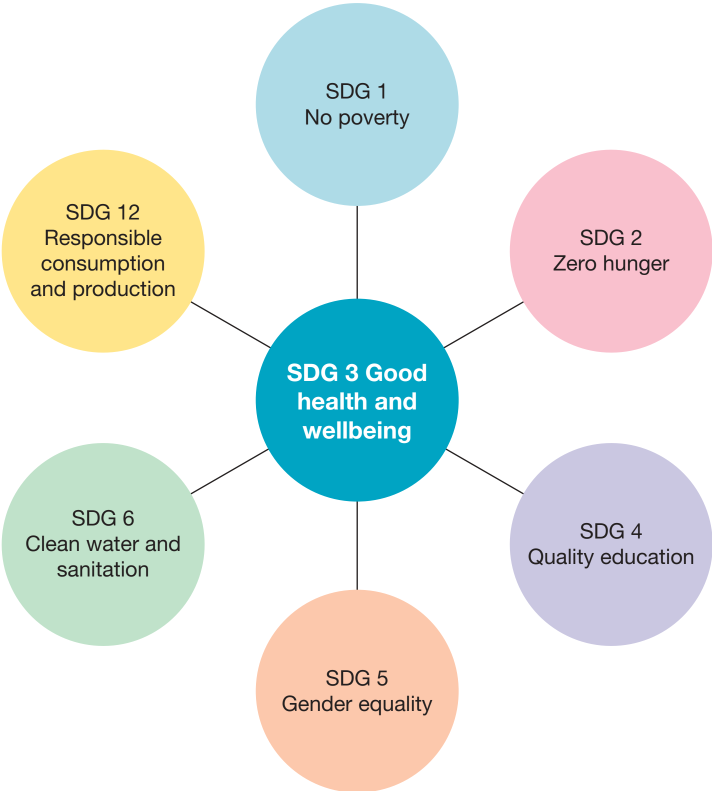


The next few subtopics will focus on the relationship between SDG 3: Good health and wellbeing and SDGs 1, 2, 4, 5, 6 and 12 (see **FIGURE 11.40**) and the role they play in promoting health and human development globally.

EXAM TIP

When discussing health, the concepts of both health status and health and wellbeing are included. Because many of the features of SDG 3 relate to improvements in health status, you can use examples of the features to show how health status can be promoted. For example, one of the features of SDG 3 is to reduce maternal mortality. This is also an example of health status.

FIGURE 11.40 The achievement of SDG 3 is interconnected with the achievement of other Sustainable Development Goals.



Resources

Teacher-led video Interrelationships between the SDGs (tlvd-0257)

EXAM TIP

When showing the relationship between actions taken to achieve SDG 3 and actions taken to achieve other SDGs, it is important that you are familiar with the key features of other SDGs so you can show how they are interdependent.

When discussing relationships between SDG 3 and other SDGs, it is important to extend this discussion beyond just re-stating the name of the goal (e.g. Clean water and sanitation). You need to link the discussion to a specific feature of the goal you are referring to.

For example:

Ending preventable deaths of newborns and children under five ⇄ **SDG 6: Clean water and sanitation**

Actions taken to end preventable deaths of newborns and children under five will not be successful unless actions are taken to address SDG 6: Clean water and sanitation. One of the major causes of deaths in newborns and children under five is dehydration due to diarrhoea caused by drinking contaminated water. Therefore, ensuring everyone has access to safe and affordable drinking water, which is a feature of SDG 6, is important if SDG 3 is to be achieved.

11.7.2 The relationship between SDG 3 and SDG 1: No poverty

NO POVERTY: END POVERTY IN ALL ITS FORMS EVERYWHERE

SDG 1 is about taking action to end poverty and inequality within and among countries. The features of this goal are:

- ending extreme poverty, which is measured as people living on less than PPP$2.15 a day
- reducing the proportion of men, women and children living in poverty by half
- putting in place social protection systems
- ensuring equal rights and making sure everyone has access to essential resources, services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including **microfinance**
- building the resilience of those living in vulnerable situations and reducing exposure to environmental disasters that result in poverty.

Almost 700 million people around the world live in extreme poverty. However, poverty can be caused by more than a lack of income and resources. It can arise due to discrimination and social exclusion. In many countries, women, youth, the elderly, migrants and those with a disability are often poor due to discrimination. Women are more likely than men to live in poverty due to less access to paid work, fewer educational opportunities, a lack of rights in relation to property ownership and inheritance, and a lack of access to natural resources, technologies and finance.

Natural disasters and outbreaks of disease can result in people, communities and countries being plunged into poverty. Collaborative approaches are needed to end poverty and achieve good health and wellbeing. Countries must have strategies in place to help reduce risks from natural disasters and outbreaks of disease and minimise the impact of events and ensure people do not experience poverty as a result. This was evident during the COVID-19 pandemic when many countries, particularly low-income countries, did not have the resources or infrastructure needed to protect people from the disease. As a result, many people were plunged back into poverty. **Social protection measures** are important to ensure that, regardless of their economic situation, all people will have access to high-quality health care at no cost, will be able to care for their children and provide food, shelter and education, and will have income security in the event of unemployment, illness, pregnancy, disability or old age.

microfinance small, low-cost financial services for poor people that involve low-interest loans to develop small businesses

social protection measures measures put in place to prevent individuals and families from suffering from poverty because of a crisis or another unexpected event. Measures include the provision of health care, and income security for children, those who become sick or disabled and the elderly.

Relationship between SDG 1 and SDG 3

Poverty is a major cause of ill health and ill health is a major cause of poverty. When individuals and families are poor, they can't afford to purchase food, clean water, clothing, shelter and health care. They also struggle to afford to educate themselves and their children, are less able to find and remain in a job, and to access services that would help them escape poverty.

FIGURE 11.41 In many countries, women are poor due to discrimination.

Without the necessary resources, people are unable to access medical care and protect their children through vaccination. Poverty, therefore, is the main factor contributing to low levels of childhood immunisation, low levels of literacy and high death rates from infectious diseases such as tuberculosis, measles, whooping cough (pertussis), cholera, malaria and tetanus. Children born into poverty are almost twice as likely to die before the age of five compared to children born to wealthier families.

Therefore, the achievement of many features of SDG 3 is related to the achievement of SDG 1 (see **TABLE 11.12**).

TABLE 11.12 Relationship between key features of SDG 1 and achievement of SDG 3

Key features of SDG 1	Relationship to achievement of key features of SDG 3	Explanation
• End extreme poverty • Reduce the proportion of men, women and children living in poverty • Implement social protection systems	Reduce maternal mortality	• Women will be able to afford prenatal care and to give birth in a medical clinic. • Women will be able to afford nutritious food and clean water to enjoy a healthy pregnancy.
	Reduce U5MR	• Being born in a medical clinic will reduce the risk of infections such as tetanus, which leads to many deaths of newborns • Being able to afford clean water and nutritious food will improve immune systems and reduce the incidence of diarrhoea and death from dehydration, which is one of the leading causes of death in children under five • Being able to access health care and ensure children are vaccinated against infectious diseases such as measles, which is a major cause of death for children
	End epidemics of AIDS, TB, malaria and neglected tropical diseases	• Being able to afford clean water and improved sanitation will reduce exposure to malaria and a range of neglected tropical diseases. • Being able to afford health care enables the early diagnosis of conditions and the appropriate medication and treatment such as ART to reduce the incidence of AIDS. Access to antibiotics and antimalarial medication will help reduce cases of TB, malaria and many NTDs.

Impact on health and human development

Achieving SDG 1 will promote global health and wellbeing and human development.

Impact on health

Ending poverty means governments will have more money to spend on resources such as water, education, health care and social protection. This can reduce the global risk of children dying from a range of infectious diseases. Having access to health care will also help women enjoy a healthy pregnancy and reduce the risk of complications, improving maternal mortality.

Fewer people living in poverty means that more people are able to afford adequate food, clean water and access to health care. This increases the ability to fight off disease and reduces the risk of infectious diseases such as cholera, hepatitis and TB. Mental health and wellbeing is promoted because it reduces the level of stress that people experience.

Achieving SDG 1 means that all children are likely to stay in school. This can prevent females from being forced into marriage at a young age. This can reduce adolescent pregnancies, which reduces global maternal mortality rates.

Impact on human development

Achieving SDG 1 will also promote human development. Being able to afford to send children to school enhances their capabilities and choices in life with regard to employment. Greater income increases the ability to afford resources that are needed to enjoy a decent standard of living and live a long and healthy life. This means they have more choices and can live according to their values. Educated people are more empowered and are therefore more likely to feel connected to their community and participate in decision-making processes.

Achieving the goals of SDG 1 therefore helps achieve SDG 3 and contributes to promoting health and human development globally.

EXAM TIP

When discussing the impact on health and human development, you may be asked specifically to relate your description to the global context. In this instance, the concepts and impacts are similar but you will need to look beyond the individual and consider the impact at a broader global level. For example, ending poverty will ensure resources are available to fund education, which means children will attend school and develop relationships. By providing educational opportunities for all children globally, the level of social health and wellbeing will be increased globally. This tip will apply when discussing each of the SDGs that are studied in this topic.

11.7 Activity

Access the **Neglected tropical diseases** weblink and worksheet in the Resources tab and then complete the worksheet that demonstrates the interrelationships between good health and wellbeing and poverty.

on Resources

Digital document Neglected tropical diseases worksheet (doc-32231)

Weblink Neglected tropical diseases

11.7 Exercises

11.7 Quick quiz on | **11.7 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2	3, 4	5, 6, 7, 8

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Test your knowledge

1. Define ‘extreme poverty’.
2. Apart from income, what are two other causes of poverty, and who is most at risk?
3. What are social protection measures and why are they important?
4. Explain how poverty affects health and wellbeing.

Apply your knowledge

5. Explain why children born into poverty are almost twice as likely to die before the age of five compared to those born into wealthier families.
6. Explain why poverty is a major cause of ill health and why ill health is a major cause of poverty.
7. Explain how the achievement of SDG 1 contributes to improved human development.
8. Outline examples that show how the achievement of SDG 1 contributes to the achievement of key features of SDG 3.

11.7 Exam questions

Question 1 (6 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.13.a*; © VCAA

Using examples, **analyse** how the achievement of SDG 3, ‘Good health and wellbeing’, and SDG 1, ‘No poverty’, are interrelated.

Question 2 (4 marks)

Source: *VCE 2017, Health and Human Development Exam, Q.10.b;* © VCAA

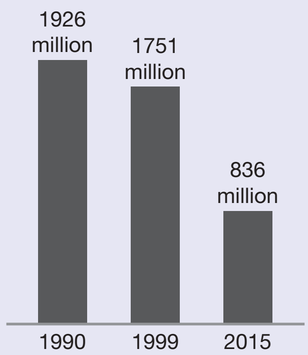
‘Globally, the number of people living in extreme poverty has declined by more than half, falling from 1.9 billion in 1990 to 836 million in 2015.’

Source: United Nations, ‘The Millennium Development Goals Report 2015’, United Nations, New York, 2015, p. 4

Discuss two ways in which this decline in global poverty could have contributed to the reduction in maternal deaths between 1990 and 2015.

Question 3 (2 marks)

The figure shows the global number of extreme poor over time.



Identify what can be concluded from this data about the global number of extreme poor.

Question 4 (1 mark)

Outline what SDG 1: No poverty is about.

More exam questions are available in your learnON title.

11.8 The relationships between SDG 3 and SDG 2

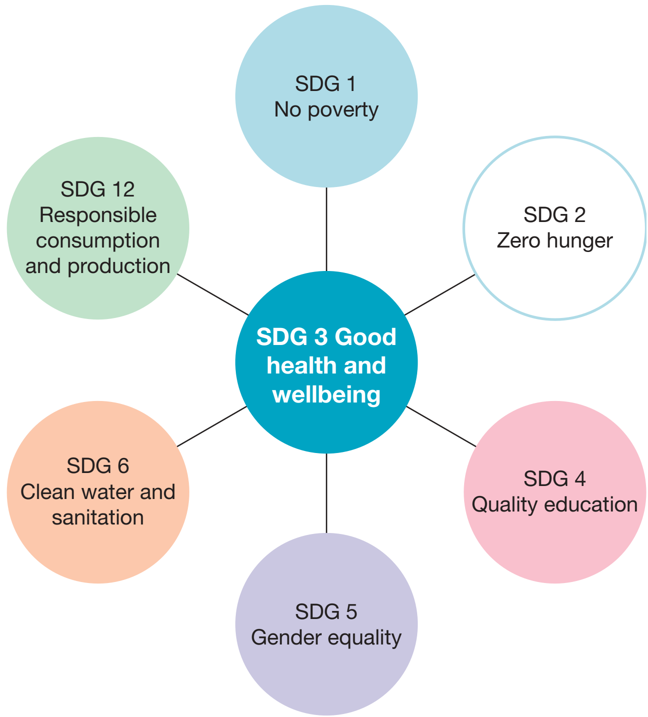
Key knowledge	Key skill
Relationships between SDG 3 and SDG 2	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- the meaning of SDG 2
- the features that are included as part of SDG 2
- the relationship between SDG 2 and SDG 3
- how SDG 2 affects global health and human development.

You need to be able to:
- describe hunger and its causes
- provide meaningful connections between specific features of SDG 2 and key features of SDG 3
- explain the impact of SDG 2 on global health and human development using specific examples.

FIGURE 11.42 SDG 2: Zero hunger and SDG 3 are interconnected.



ZERO HUNGER: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION, AND PROMOTE SUSTAINABLE AGRICULTURE

SDG 2 aims to end all forms of hunger and malnutrition, making sure all people — especially children and the more vulnerable — have access to nutritious food all year round by promoting **sustainable agriculture**. The features of this goal are:
- end hunger and ensure access for all people, in particular the poor and people in vulnerable situations, such as infants, to safe, nutritious and sufficient food
- end all forms of malnutrition, including under- and over-nutrition, particularly in children under five
- improve agricultural practices so everyone has equal access to land, sustainable practices are in place, the genetic diversity of seeds, plants and animals is maintained, and they are able to adapt to climate change and extreme weather
- increase investment in agriculture, infrastructure, research and technology
- address trade restrictions that disadvantage farmers, particularly in low- and middle-income countries.

sustainable agriculture
the capacity of agricultural practices over time to provide sufficient food in ways that are economically efficient and profitable, socially responsible and environmentally sound

SDG 2 aims to end all forms of hunger and malnutrition by ensuring that everyone has access to nutritious food. This is referred to as food security. Hunger is defined as the continuing lack of food needed for an active and healthy life. Globally, 690 million people are hungry and do not have enough food. Because hunger causes poor health and wellbeing, stunted growth, low levels of energy and reduced mental functioning, it can lead to poverty by reducing people's ability to work and learn. Extreme hunger and malnutrition are major barriers to human development.

Hunger and malnutrition are the biggest contributors to child mortality, causing 45 per cent of the preventable deaths in children under five.

FIGURE 11.43 Globally, 690 million people are hungry, many of which are children. Hunger and malnutrition is one of the main causes of death in children under five.

Malnutrition in infants can be prevented by mothers exclusively breastfeeding their babies for the first six months. Micronutrients, especially iron, vitamin A and iodine, are particularly important for good health and wellbeing.

According to the WHO, deficiencies in iron and vitamin A rank among the top ten leading causes of death and disease in low-income countries (see **FIGURE 11.44**).

FIGURE 11.44 Effects of deficiencies in iron, iodine and vitamin A

Iron	Iodine	Vitamin A
• Deficiency in pregnancy can lead to maternal death and impairs children's physical and cognitive development • Contributes to 20 per cent of all maternal deaths	• Deficiency in pregnancy can result in stillbirth, spontaneous abortion and cretinism, a form of mental impairment • Affects 780 million people world wide	• Deficiency can lead to blindness, poor immunity and reduced growth • Pregnant women and children with vitamin A deficiency have higher rates of morbidity and mortality

SDG 2 also seeks to reduce levels of childhood overweight and obesity. These conditions increase the risk of obesity and non-communicable diseases in adulthood, including cardiovascular diseases, cancers and some respiratory diseases such as asthma and type 2 diabetes. Globally in 2000, 33 million children under five years of age were overweight. In 2022, this number increased to 37.0 million.

Relationship between SDG 2 and SDG 3

Actions designed to achieve zero hunger will also help achieve SDG 3. Maternal and child health and wellbeing will be improved with access to nutritious food, contributing to reductions in under-5 and maternal mortality rates. Well-nourished mothers are more likely to give birth to healthier babies and to experience good health and wellbeing during pregnancy and childbirth, which will reduce deaths in children under five. Hunger and malnutrition weaken immune systems, which leaves children at risk of dying from pneumonia, measles, malaria and diarrhoea. Therefore, achieving zero hunger will also reduce under-5 mortality rates. Therefore, the achievement of many features of SDG 3 is dependent upon achievement of SDG 2 (see **TABLE 11.13**).

TABLE 11.13 Relationship between key features of SDG 2 and achievement of SDG 3.

Key features of SDG 2	Relationship to achievement of key features of SDG 3	Explanation
• End hunger and ensure access to safe, nutritious and sufficient food • End all forms of malnutrition	Reduce maternal mortality	• Having access to nutritious food during pregnancy prevents death from a range of micronutrient deficiencies, including iron, vitamin A and iodine.
	Reduce U5MR	• Hunger weakens the immune system and children become too weak to fight off disease. • Children suffering from hunger have increased frequency and severity of diseases such as pneumonia, measles, malaria and diarrhoea, and are at greater risk of dying from these conditions. • Hunger is an underlying cause in 61 per cent of deaths from diarrhoea, 57 per cent from malaria, 52 per cent from pneumonia and 45 per cent from measles.
	Reduce non-communicable diseases and promote mental health and wellbeing	• Reducing levels of childhood obesity reduces the risk of obesity in adulthood, which can reduce the risk of developing non-communicable diseases such as cardiovascular diseases, cancer, respiratory diseases and type 2 diabetes.

Impact on health and human development

Having access to food is essential for achieving good health and wellbeing and for improving human development.

FIGURE 11.45 Well-nourished mothers are more likely to experience good health and wellbeing during pregnancy, give birth to healthier babies and have healthier children.

Impact on health

Food scarcity and hunger results in malnutrition and ill health. Being malnourished can lead to an inadequate intake of micronutrients such as iron, vitamin A, iodine and zinc, as well as contribute to wasting and stunting, which affects physical health and wellbeing. Globally, an estimated 45 million children under the age of five suffer from wasting and 148 million children have stunted growth, and this is increasing over time. Hunger and malnutrition lead to decreased levels of energy and a lack of motivation to engage in social interactions, which reduces social health and wellbeing, and creates a sense of sadness and hopelessness, which reduces the level of emotional and spiritual health and wellbeing.

Childhood obesity can lower the level of physical activity that children are involved in. This can reduce fitness and potentially interfere with normal sleep patterns. This impacts physical health and wellbeing. If the lower level of physical activity leads to fewer social interactions with their peers, social health and wellbeing can be impacted. Obesity during childhood can sometimes lead to social isolation, loneliness and bullying, which can reduce self-esteem and confidence, and increase levels of anxiety and therefore reduce levels of mental health and wellbeing.

Impact on human development

When people are malnourished and suffer ill health, human development is impaired. Without food, people are unable to live a long and healthy life and pursue their interests. They will be unable to achieve a decent standard of living and lack the basic human right of having adequate food. Children who are hungry and malnourished will not be able to attend school, and will not have the opportunity to develop the skills and knowledge needed to get decent work and to participate in the social and political lives of their communities.

Therefore, the achievement of SDG 2 is important to promote global health and human development. A well-nourished population is a healthier one, which may help reduce the demand for health services and corresponding costs to the healthcare system. Achieving good health and wellbeing will also contribute to the achievement of zero hunger. Adults who enjoy good health and wellbeing are able to work and produce their own food for the family or to work and earn an income. Earning an income means that families can purchase healthy food to eat, which helps reduce the global level of hunger.

EXAM TIP

SDG 2 is not only focused on malnutrition due to lack of food, which leads to hunger and malnutrition, it is also concerned with the increasing levels of obesity, especially in children under five. While we often think of increased levels of childhood obesity being associated with high-income countries, it is now becoming much more common in many middle- and low-income countries.

11.8 Activities

1. Access the **Malnutrition: Domino effect** weblink and worksheet in the Resources tab and then complete the worksheet.
2. Access the **SDG 2** weblink and worksheet in Resources tab and then complete the worksheet.

on Resources

Digital documents	Malnutrition: Domino effect worksheet (doc-41619) SDG 2 worksheet (doc-41620)
Weblinks	Malnutrition: Domino effect SDG 2

11.8 Exercises

11.8 Quick quiz on | **11.8 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3	4, 5	6, 7

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Test your knowledge

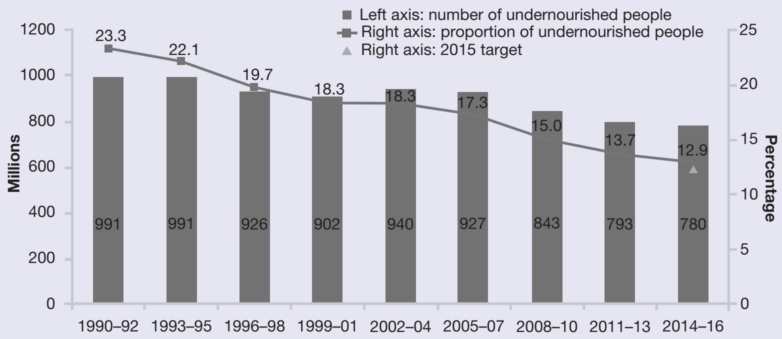
1. What is hunger?
2. Outline what is meant by food security.
3. Identify which micronutrients are of concern when people are undernourished.
4. Describe how hunger and malnutrition affects human development.

Apply your knowledge

5. Outline how SDG 2 and SDG 3 are interrelated.
6. Explain how the achievement of SDG 2 will help achieve two key features of SDG 3.
7. Discuss how the achievement of SDG 2 promotes global health and human development.

11.8 Exam questions

Question 1 (1 mark)



Using the graph, **identify** the proportion of people who are undernourished in 2014–16.

Question 2 (1 mark)

What is the aim of SDG 2: Zero hunger?

Question 3 (3 marks)

Explain how the relationship between SDG 3: Ensure healthy lives and promote wellbeing for all ages and SDG 2: Zero hunger can promote human development.

Question 4 (3 marks)

Explain how SDG 3: Good health and wellbeing assists in the achievement of SDG 2: Zero hunger.

Question 5 (3 marks)

Explain how SDG 2: Zero hunger assists in the achievement of SDG 3: Good health and wellbeing.

More exam questions are available in your learnON title.

11.9 The relationships between SDG 3 and SDG 4

Key knowledge	Key skill
Relationships between SDG 3 and SDG 4	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- the meaning of SDG 4
- the features that are included as part of SDG 4
- the relationship between SDG 4 and SDG 3
- how SDG 4 affects global health and human development.

You need to be able to:
- describe quality education
- provide meaningful connections between specific features of SDG 4 and key features of SDG 3
- explain the impact of SDG 4 on global health and human development using specific examples.

QUALITY EDUCATION: ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

SDG 4 addresses the need for all children, regardless of sex or gender, to have equal access to high quality education at all levels, from pre-primary through to tertiary, and to develop the vocational skills needed for employment. The features of this goal are:
- ensure all children complete free, equitable and quality primary and secondary education
- ensure all children have access to quality early childhood development, care and pre-primary education

- ensure all adults have equal access to affordable and quality technical, vocational and tertiary education
- increase the number of youth and adults who have relevant skills for employment
- eliminate all disparities in education and vocational training, including for people with disabilities, indigenous people and vulnerable children
- ensure all youth and adults have adequate literacy and numeracy skills
- ensure all learners are taught curriculum that promotes sustainable development
- build and upgrade education facilities, including digital infrastructure
- expand the number of scholarships available to low- and middle-income countries for essential skills training
- increase the number of qualified teachers.

FIGURE 11.46 SDG 4: Quality education and SDG 3 are interconnected.

SDG 4 addresses the importance of all children having equal access to high quality education at all levels, from pre-primary (early childhood) through to tertiary, and to develop the vocational skills needed for employment. The emphasis is on the completion of 12 years of publicly funded, high-quality primary and secondary education, of which at least nine years are compulsory. Girls are less likely to enrol in or complete primary and secondary education and this goal seeks to change this.

This goal also focuses on building a qualified teacher workforce and the delivery of a relevant curriculum to ensure the educational experience is productive and helps build the necessary knowledge and skills.

FIGURE 11.47 SDG 4 recognises the importance of all children having access to free education, from pre-school to secondary education.

Relationship between SDG 4 and SDG 3

Actions to achieve SDG 4 will also help achieve many of the features of SDG 3, therefore, areas such as health and education need to work together. Quality education increases opportunities for employment and income. An income provides the capacity to purchase nutritious food, shelter, clean water and health care, all of which contribute to a healthier population and reduces maternal mortality and under-5 mortality rates.

An educated and skilled workforce improves economic growth, which provides more resources for governments to invest in universal health coverage, essential medicines and social protection measures. People are able to access preventative and curative health services, which help reduce global morbidity and mortality from communicable and non-communicable diseases.

Educating women and girls also results in falling fertility rates and stable population growth. A mother's income has 20 times more impact on child survival than a father's income. Educated mothers have fewer and healthier children, they are 50 per cent more likely to immunise their children than uneducated mothers, and their children have a 40 per cent higher survival rate. They are also twice as likely to send their own children to school than mothers without an education. Educated girls marry later, are less likely to experience sexual violence, and are more likely to be able to protect themselves from HIV/AIDS and other diseases, all of which contribute to the achievement of many of the key features of SDG 3 (see **TABLE 11.14**).

TABLE 11.14 Relationship between key features of SDG 4 and achievement of SDG 3

Key features of SDG 4	Relationship to achievement of key features of SDG 3	Explanation
All children have equal access to high quality education at all levels	Reduce maternal mortality	• Having an education improves opportunities for employment and an income, which allows families to purchase nutritious food, clean water and health care, which promotes a healthy pregnancy and safer birth. • Educated mothers have fewer children, which reduces the stress on their bodies and improves the chances of having a safe pregnancy and fewer birth complications.
	Reduce U5MR	• Educated mothers have fewer and healthier children because their bodies are more likely to be physically ready to support a healthy pregnancy. • Educated mothers are more likely to immunise their children and their children have a 40 per cent higher survival rate.
	End epidemics of AIDS, TB, malaria and neglected tropical diseases	• Educated mothers are less likely to be victims of trafficking and violence and are more likely to protect themselves from diseases such as HIV/AIDS. • A skilled workforce promotes economic growth and provides income for governments to invest in universal health coverage. • People are able to access preventative and curative health services, which address many infectious diseases.
	Reduce non-communicable diseases and promote mental health and wellbeing	• With greater access to health care, early diagnosis of many of the risks associated with non-communicable diseases is possible and these diseases can be managed or treated.

Impact on health and human development

Impact on health

Education provides opportunities for employment, which means families can purchase nutritious food, water, clothing, shelter and health care when needed. This promotes physical health and wellbeing. Improved physical health and wellbeing brings opportunities to develop relationships with others, which improves social health and wellbeing. People are more likely to be happier, feel more empowered and confident, which promotes mental health and wellbeing. Education and employment can provide a sense of purpose and belonging, which promotes spiritual health and wellbeing.

Impact on human development

Quality education is important for promoting human development and, as you saw in topic 8, education is one of the factors used to determine the Human Development Index. Education increases knowledge and skills, creating opportunities for employment and expanding the choices that people have, which enhances their capabilities. When people are educated, they are more likely to have an interest in, and participate in, decisions impacting their community. Education for all children, including girls, helps ensure equity in opportunity and therefore increases the ability to make choices and to live their life according to their needs and interests.

FIGURE 11.48 It is important for youth, particularly girls, to obtain the skills needed to gain employment, which is important for promoting human development.

Quality education is important for improving people's lives and achieving good health and wellbeing. Similarly, good health and wellbeing is essential to achieving high levels of educational attainment for all people and for increasing opportunities for employment and income.

11.9 Activity

Access the **Quality education** weblink and worksheet in Resources tab and then complete the worksheet.

on Resources

Digital document Quality education worksheet (doc-32233)

Weblink Quality education

11.9 Exercises

11.9 Quick quiz on

11.9 Exercise

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Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 5	2, 3, 4	6, 7

Test your knowledge

1. Identify the focus of SDG 4.
2. Outline why it important for all children, including girls, to complete primary and secondary education.
3. Explain how the achievement of SDG 4 helps achieve universal health coverage.
4. State two examples of how education promotes human development.
5. How does education lead to improved social health and wellbeing?

Apply your knowledge

6. Explain how SDG 3 and SDG 4 are interrelated.
7. Explain how actions taken to achieve SDG 4 will also contribute to the achievement of two features of SDG 3.

11.9 Exam questions

Question 1 (2 marks)

Increasing the number of children who have access to preschool and kindergarten facilities is one aim of SDG 4: Quality education. **Justify** why this feature is important.

Question 2 (1 mark)

Other than increasing the number of children who have access to preschool and kindergarten facilities, **state** one other feature of SDG 4: Quality education.

Question 3 (2 marks)

Describe how achievement of SDG 4: Quality education can promote human development.

Question 4 (3 marks)

Explain how SDG 4: Quality education assists in the achievement of SDG 3: Ensure healthy lives and promote wellbeing for all ages.

Question 5 (3 marks)

Explain how SDG 3: Ensure healthy lives and promote wellbeing for all ages assists in the achievement of SDG 4: Quality education.

More exam questions are available in your learnON title.

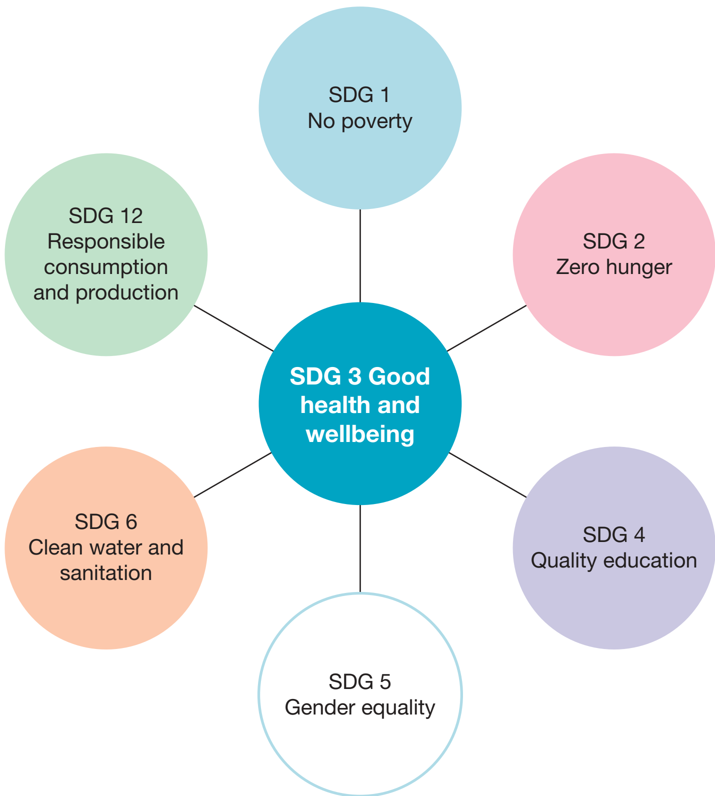
11.10 The relationships between SDG 3 and SDG 5

Key knowledge	Key skill
Relationships between SDG 3 and SDG 5	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the meaning of SDG 5 • the features that are included as part of SDG 5 • the relationship between SDG 5 and SDG 3 • how SDG 5 affects global health and human development.	• describe gender equality • provide meaningful connections between specific features of SDG 5 and key features of SDG 3 • explain the impact of SDG 5 on global health and human development using specific examples.

FIGURE 11.49 SDG 5: Gender equality and SDG 3 are interconnected.



GENDER EQUALITY: ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

This goal seeks to end discrimination and violence against women and girls by addressing the barriers that exist to gender equality. Gender equality is not only a social issue but also an economic one. The features of this goal are:

- end all forms of discrimination against all women and girls, including putting in place laws that protect the rights of woman and girls
- end all forms of violence against women and girls, including human trafficking and sexual exploitation
- eliminate harmful practices, such as child, early and forced marriage, and female genital mutilation

- recognise and value unpaid domestic work and promote shared responsibility within households
- ensure women's participation in decision-making in political, economic and public life and that they are given leadership opportunities
- ensure woman have control over their sexual and reproductive health and can access sexual and reproductive healthcare services
- ensure women have equal rights to economic resources, and access to ownership and control over land and other forms of property, financial services, inheritance and natural resources
- improve access to and the use of information and communication technologies, such as mobile phone technology to support equality and empower women.

SDG 5 aims to end discrimination and violence against women and girls by addressing the barriers that exist to gender equality. Women face discrimination in all areas of political, economic and social life. Many countries do not allow women to vote and lack laws and policies that help protect the rights of women and girls. Women lack representation in leadership positions in government and private industry, which means their voice is not heard, making changes much more difficult.

Women's inequality puts them at high risk of sexual exploitation, violence and early and forced marriages. SDG 5 seeks to address these barriers and put in place opportunities for women to have equal rights to resources, inheritance and economic resources, such as financial loans, which would empower women to establish small businesses and create opportunities for employment and income. Women earn 10–30 per cent less than men for the same work and women and girls are 16 per cent less likely to have access to information and communication technologies, such as mobile phones and computers. Mobile phones help women feel safer and more connected, save time and enable access to services such as mobile finances and health information. They offer a way of delivering services and have the potential to increase access to employment opportunities.

Actions taken to achieve gender equality empower women and girls. This is important for economic growth, ending poverty and promoting health and human development.

CASE STUDY

Digital technologies can reduce the gender gap

Eighty per cent of the population in developing countries owns a mobile phone, but few of these are women. On average, women are 14 per cent less likely to own a mobile phone than men and this increases to 38 per cent in south Asia.

The gender gap is more pronounced in the use of the internet. In Africa, women are 50 per cent less likely to use the internet than men. In addition to ownership and access, lack of control over the use of technology is an additional barrier for women. In India, it has been found that 12 per cent of women did not access the internet more often because they did not think it was appropriate, and more than 8 per cent did not access it more often because family or friends would disapprove.

However, digital technologies have the potential to reduce gender inequality in relation to employment because they can make work arrangements more flexible, can connect women to work, and generate new opportunities in online work, e-commerce and the sharing economy. Digital technologies can also promote women's voices and agency. Social media can be an outlet for women to participate in public discussions and voice their opinions, which helps empower women and reduce the gender gap.

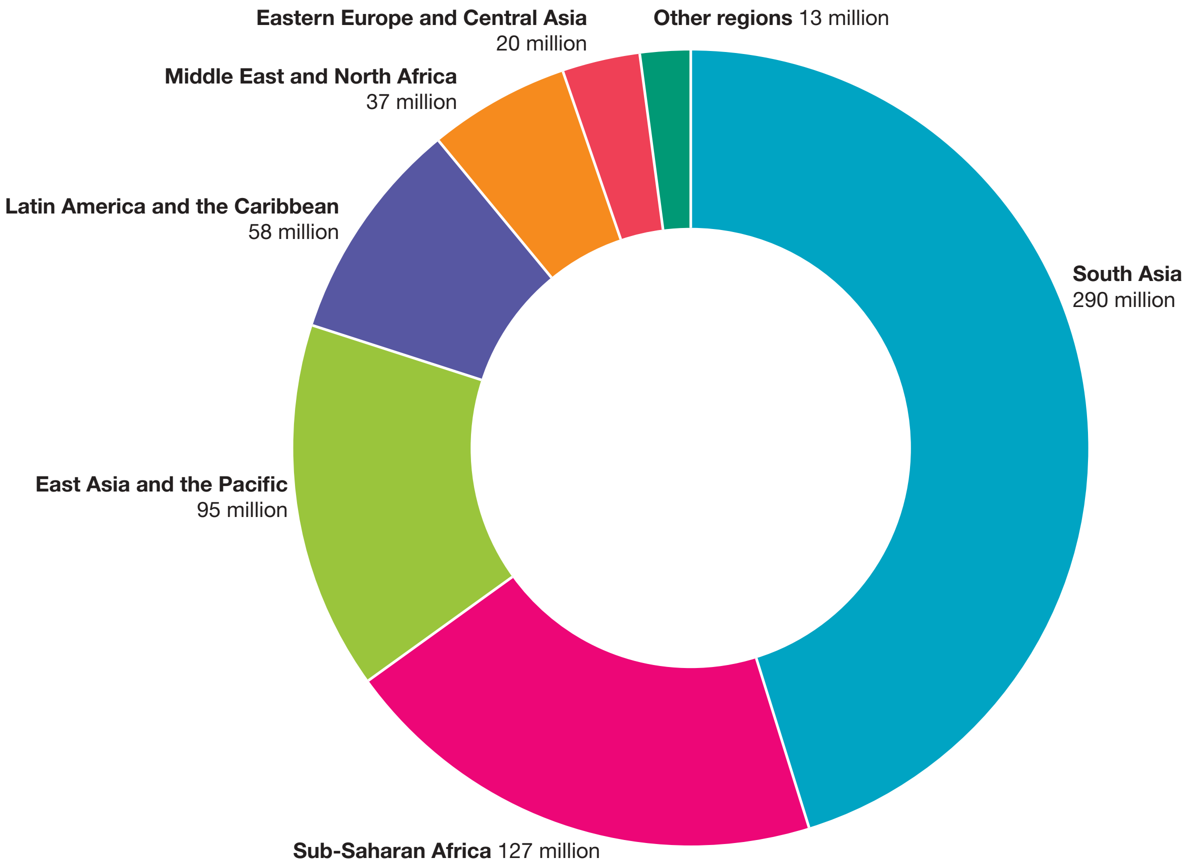
CASE STUDY REVIEW

1. Discuss how digital technologies, in particular mobile phones, could help reduce the gender gap between men and women.
2. Explain how access to technologies such as mobile phones could promote human development in a global context.
3. Outline how mobile phone technology has the capacity to promote the health and wellbeing of women, particularly in low-income countries.

Relationship between SDG 5 and SDG 3

- One in three women worldwide has been subject to physical or sexual violence. This increases the risk of contracting sexually transmitted diseases such as HIV/AIDS. Girls are also at greater risk of early pregnancy when their bodies are not yet ready to have a child, which increases the risk of maternal and child mortality.
- Women are underrepresented in political and economic decision-making processes and lack access to work beyond the agricultural sector, where they tend to undertake almost 80 per cent of the unpaid work such as preparing meals, fetching firewood, collecting water and caring for children, the sick and elderly. This work is undertaken even when a woman is pregnant, which can lead to exhaustion and higher rates of maternal mortality.
- In some countries, the law discriminates against women. Women are not permitted to vote, own property, take out loans from banks or take ownership of possessions arising from an inheritance. For example, if a woman's husband dies, she does not have the legal right to take ownership of any land he owned. In some countries, women and girls are the property of their husband or father. A man has the right to marry off his daughters at a young age or sell them into prostitution (see **FIGURE 11.50**).
- With no legal right to ownership of property or access to finance, women can find themselves victims of human trafficking and sexual exploitation.

FIGURE 11.50 Gender inequality means girls are often sold or married off early. Around 640 million girls and women alive today were married in childhood and this varies across the regions.



Source: United Nations Children's Fund, *Is an End to Child Marriage within Reach? Latest trends and future prospects*. 2023 update, UNICEF, New York, 2023, p.5

- Women are often denied access to sexual and reproductive health services and the power and control over sexual activity or the use of contraception and family planning. This places them at higher risk of maternal mortality because they cannot access antenatal care or control the timing and spacing of births. It can also increase their risk of developing sexually transmitted diseases such as HIV/AIDS.
- SDG 5 also aims to end violent and harmful practices, such as female genital mutilation, which has serious effects on girls' physical, emotional and mental health and wellbeing. It can increase the risk of contracting HIV and cause complications during pregnancy and childbirth, leading to the death of the mother and baby.

Achieving SDG 5 is important for the achievement of key features of SDG 3 (see **TABLE 11.15**).

TABLE 11.15 Relationship between key features of SDG 5 and achievement of SDG 3

Key features of SDG 5	Relationship to achievement of key features of SDG 3	Explanation
• End all forms of discrimination against women and girls • End all forms of violence against women and girls, including human trafficking and sexual exploitation • Eliminate harmful practices such as child, early and forced marriages and female genital mutilation • Ensure women have control over their sexual and reproductive health and can access reproductive health services	Reduce maternal mortality	• Having an education improves opportunities for employment and an income, which allows families to purchase nutritious food, clean water and healthcare, which promotes a healthy pregnancy and safer birth. • Ending violence against women, human trafficking and child marriages improves maternal mortality because children's bodies are not developmentally ready to deal with pregnancy and childbirth and they are more likely to die during delivery. • With control over their sexual and reproductive health and the ability to access reproductive health services, women are able to obtain antenatal care and time and space their births, which helps with a healthy pregnancy and a safer delivery.
	Reduce U5MR	• Eliminating female genital mutilation will reduce the risk of complications during pregnancy and the premature death of newborns. • Control over sexual and reproductive health contributes to a healthier pregnancy, and fewer complications and deaths of newborns.
	End epidemics of AIDS, TB, malaria and neglected tropical diseases	• Achieving gender equality reduces the risks of trafficking and violence, which reduces the risks of contracting and spreading diseases such as HIV/AIDS. • With control over their sexual and reproductive health and the ability to access reproductive health services, there is less risk of contracting and spreading HIV/AIDS. • Eliminating female genital mutilation will reduce the risk of contracting and spreading diseases such as HIV/AIDS.

Impact on health and human development

Impact on health

Action taken to end violence against women and girls promotes good physical, mental and spiritual health and wellbeing. Violence results in injuries and, at its worst, death for women and children. Living in fear reduces mental, spiritual and social health and wellbeing. Ending violence will also help end the sexual assault of women and children, which will promote good physical, spiritual, social and mental health and wellbeing.

Impact on human development

Achieving gender equality means women and girls will have greater access to resources that are needed to enjoy a decent standard of living and improved health. They will be able to enjoy opportunities for employment and an income, which will increase their ability to lead a productive life and be in control of the decisions they make. With gender equality, women and girls will have access to knowledge, which will expand their choices and capabilities. Women will be empowered to participate in their community, to vote and become leaders. This promotes human development, as well as social and spiritual health and wellbeing.

SDG 5 promotes health and wellbeing and human development, is clearly interconnected with the achievement of other SDGs, particularly SDG 3.

FIGURE 11.51 Achieving gender equality provides women with equal rights to vote and participate in decision-making processes.

EXAM TIP

There is a common misunderstanding that the education of girls is an aspect of SDG 5. However, it is important to remember that the education of girls is part of the features of SDG 4: Quality education.

11.10 Activity

Access the **Gender equality** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Gender equality worksheet (doc-32234)

Weblink Gender equality

11.10 Exercises

11.10 Quick quiz on | **11.10 Exercise**

Learning pathways

■ LEVEL 1	■ LEVEL 2	■ LEVEL 3
1, 2, 3	4, 5, 6	7, 8

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Test your knowledge

1. What is the aim of SDG 5?
2. Identify in what areas women face discrimination.

3. Explain why women are often victims of trafficking and sexual exploitation.
4. Describe why is access to technology such as mobile phones is important for achieving gender equality.

Apply your knowledge

5. Why do women have less time than men for paid work and education?
6. Explain why it is important for women to have leadership roles in government.
7. Refer to **FIGURE 11.50**.
   a. Identify the region that had the highest number of children and youth married before the age of 18.
   b. Analyse why it is important to reduce the rates of child marriage.
8. Discuss how the achievement of SDG 5 will help achieve two features of SDG 3.

11.10 Exam questions

Question 1 (3 marks)

Explain how SDG 5: Gender equality assists in the achievement of SDG 3: Ensure healthy lives and promote wellbeing for all ages.

Question 2 (3 marks)

Explain how achieving SDG 5: Gender equality could promote human development.

Question 3 (1 mark)

In some low- and middle-income countries, women and girls are often fed after the male members of their family.

Identify to which Sustainable Development Goal this relates.

Question 4 (2 marks)

Read the following text, which is relevant for both questions 4 and 5.

> In 2005, Mozambique signed a new law that gave women equal rights as members of a household. Women finally received the legal right to divorce, create pre-nuptial agreements and inherit property.
> The Family Law legally redefined the status of women and overhauled marriage laws.
> The law also limited marriage to women of 18 years of age and older. Men were now no longer the defacto head of household, and women are able to work outside the home without acquiring permission and can buy and manage financial assets.

Source: Adapted from: http://endpoverty2015.org/goals/genderequity

Describe how the changes mentioned in the text might improve the health and wellbeing of Mozambique's women.

Question 5 (1 mark)

Identify the Sustainable Development Goal that is the main focus in the text in question 4.

More exam questions are available in your learnON title.

11.11 The relationships between SDG 3 and SDG 6

Key knowledge	Key skill
Relationships between SDG 3 and SDG 6	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the meaning of SDG 6 • the features that are included as part of SDG 6 • the relationship between SDG 6 and SDG 3 • how SDG 6 affects global health and human development.	• describe clean water and sanitation • provide meaningful connections between specific features of SDG 6 and key features of SDG 3 • explain the impact of SDG 6 on global health and human development using specific examples.

CLEAN WATER AND SANITATION: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

This goal is about ensuring that all people are able to access clean water and adequate sanitation. The features of this goal are:

- ensure everyone has access to safe and affordable drinking water, sanitation and hygiene
- improve water quality by reducing pollution, eliminating dumping and minimising the release of hazardous chemicals and materials
- use water efficiently and sustainably
- implement water resource management
- protect and restore water-related ecosystems
- support the participation of local communities in water and sanitation management.

FIGURE 11.52 SDG 6: Clean water and sanitation and SDG 3 are interconnected.

SDG 6 is about ensuring that all people can access clean water and adequate sanitation. Each person requires 20–50 litres of water for drinking, cooking and hygiene each day. Having access to clean water and sanitation is a basic human right, yet more than 700 million people, most of them living in low-and middle- income countries, do not have access to clean water and 1.5 billion people do not have access to sanitation facilities such as toilets (see **FIGURE 11.53**).

Water transmits disease when it is contaminated by bacteria, viruses, parasites or other microorganisms. These contaminants enter drinking water through animals and humans excreting into water sources, contaminated water leaking into damaged pipes in a distribution system, and from unhygienic handling of stored household water. Contamination from industrial and agricultural waste, such as pesticides, arsenic and other chemicals, also causes water to become unsafe. Therefore, SDG 6 also focuses on improving water quality.

Water scarcity also affects one in five people globally. It can be caused by drought, conflict or the lack of adequate infrastructure, which means women and children must walk long distances to collect water. This is also why it is important to use water efficiently and sustainably and implement water resource management.

For everyone to have access to safe water and sanitation by 2030, countries need to invest in water infrastructure, provide sanitation facilities and encourage hygiene practices. Infrastructure on its own will not solve the problem. People need to be educated so they understand the links between clean water, sanitation and health and wellbeing. This is more likely to be successful with participation from local communities to ensure culturally appropriate communication tools are used and school-based programs are implemented.

FIGURE 11.53 Improving the quality of water and sanitation services contributes to poverty reduction and is critical for the achievement of SDG 3: Good health and wellbeing.

Source: https://unstats.un.org/sdgs/report/2018/overview/

Relationship between SDG 6 and SDG 3

Clean water and sanitation is essential for the health and wellbeing of individuals and communities. It reduces the risk of communicable diseases, including diarrhoeal and vector-borne diseases. It also prevents infection and helps contain the spread of viruses such as COVID-19. Diarrhoea is the most widely known disease linked to contaminated water, contributing to high U5MR. A range of neglected tropical diseases, such as schistosomiasis and other worm infestations, as well as cholera, dysentery, hepatitis A, typhoid and trachoma, are all caused by unsafe water and sanitation. Lack of access to clean water and sanitation is a major contributor to malnutrition and poverty.

FIGURE 11.54 Safe water reduces the risk of a range of infectious diseases and promotes health and human development.

Actions taken by the water and sanitation area to achieve SDG 6 are essential to also achieve key features of SDG 3. Without clean water and sanitation, reductions in maternal and child mortality, communicable diseases and neglected tropical diseases will not be achieved (see **TABLE 11.16**).

TABLE 11.16 Relationship between key features of SDG 6 and achievement of SDG 3

Key features of SDG 6	Relationship to achievement of key features of SDG 3	Explanation
• Ensure everyone has access to safe and affordable drinking water, sanitation and hygiene • Improve water quality by reducing pollution	Reduce maternal mortality	• Reducing communicable diseases such as diarrhoea, typhoid, cholera and COVID-19 means women will have good health during pregnancy, which will reduce the chances of dying during childbirth. • Safe water and sanitation in medical facilities will reduce the risk of bacterial contamination and infection, which will reduce maternal mortality.
	Reduce U5MR	• Diarrhoea is a major cause of mortality for newborns and children. Clean water and sanitation will contribute to significant improvements in U5MR. • Clean water and sanitation will help reduce cases of malnutrition in children, which will help reduce U5MR.
	End epidemics of AIDS, TB, malaria and neglected tropical diseases	• Contaminated water is a major cause of many neglected tropical diseases. Ending the epidemic of neglected tropical diseases is dependent upon improving water quality and ensuring there is safe water and sanitation. • The incidence of malaria can be greatly reduced with safe water and sanitation because it removes stagnant water that provides a breeding ground for malaria mosquitoes.

Impact on health and human development

Impact on health

Action taken to ensure everyone has access to safe water, sanitation and hygiene promotes good physical, social, mental and spiritual health and wellbeing at a global level. Safe water promotes physical health and wellbeing by preventing illness and disease and helps build healthy immune systems. When people are healthy, they can interact with others, which promotes social interactions, relationships and communication skills. Healthy communities are much more positive, optimistic and cohesive, which promotes mental health and wellbeing. Cohesive communities promote a sense of belonging and connectedness, which enhances spiritual health and wellbeing.

As demonstrated above, global health outcomes are dependent upon everyone having access to clean water and sanitation. Global U5MR can only be reduced if children have access to clean water to drink. Similarly, infectious diseases can only be reduced by ensuring safe water and sanitation. Equity in health outcomes globally can only be achieved with actions taken to achieve SDG 6.

Impact on human development

Water and sanitation is a basic resource that allows people to enjoy a decent standard of living and improved health and wellbeing. Healthy children can attend school and adults gain employment, which provides access to knowledge, which will expand their choices and provide opportunities to exercise control over decisions relating to their life. Improved water and sanitation, along with better management of water resources, can increase economic growth and contribute to poverty reduction. Every $1 spent on sanitation brings a $5.50 return from keeping people healthy and productive. These economic gains provide greater capacity for countries to invest resources into providing universal health coverage, sexual and reproductive health services, and access to essential and affordable medicines and vaccines. Therefore, the achievement of SDG 6 promotes global health and human development.

11.11 Activity

Access the **Clean water and sanitation** weblink and worksheet in the Resources tab and then complete the worksheet.

on Resources

Digital document Clean water and sanitation worksheet (doc-41621)

Weblink Clean water and sanitation

11.11 Exercises

11.11 Quick quiz on | **11.11 Exercise**

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Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5, 6, 7	8, 9

Test your knowledge

1. Identify how much water does each person need each day. Describe what this water is used for.
2. Outline what is meant by the term ‘sanitation’.
3. Describe the ways in which water can become contaminated.
4. Identify diseases associated with a lack of access to safe water and sanitation.
5. Identify why water scarcity is a problem.
6. Explain what is needed to ensure everyone has access to safe water and sanitation by 2030.

Apply your knowledge

7. Justify why is access to safe water and sanitation is a basic human right.
8. Explain how the achievement of SDG 6 promotes human development.
9. Discuss how the achievement of SDG 6 contributes to the achievement of two features of SDG 3.

11.11 Exam questions

Question 1 (2 marks)

Outline the focus of SDG 6.

Question 2 (2 marks)

Outline how the achievement of SDG 6: Clean water and sanitation will assist in the achievement of SDG 3: Ensure healthy lives and promote wellbeing for all ages.

Question 3 (3 marks)

Explain how the achievement of SDG 6: Clean water and sanitation can promote global health and human development.

Question 4 (4 marks)

The Sustainable Development Goals are interrelated and impact on each other.

Explain the interrelationship between SDG 3: Ensure healthy lives and promote wellbeing for all ages and SDG 6: Clean water and sanitation.

Question 5 (4 marks)

Identify the actions needed to ensure everyone has access to safe water and sanitation by 2030.

More exam questions are available in your learnON title.

11.12 The relationships between SDG 3 and SDG 12

Key knowledge	Key skill
Relationships between SDG 3 and SDG 12	Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Source: Adapted from *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:
- the meaning of SDG 12
- the health-related features that are included as part of SDG 12
- the relationship between SDG 12 and SDG 3
- how SDG 12 affects global health and human development.

You need to be able to:
- describe responsible consumption and production
- provide meaningful connections between specific health-related features of SDG 12 and key features of SDG 3
- explain the impact of SDG 12 on global health and human development using specific examples.

FIGURE 11.55 SDG 12: Responsible consumption and production and SDG 3 are interconnected.

RESPONSIBLE CONSUMPTION AND PRODUCTION: ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

SDG 12 seeks to ensure sustainable consumption and production patterns, which are key to sustaining the livelihoods of current and future generations. The features of this goal are:

- develop and implement policies that help support a move to sustainable consumption and production
- make efficient use of our natural resources
- reduce food waste
- ensure the responsible management of chemicals and waste
- reduce waste and increase recycling
- encourage companies to adopt sustainable practices and sustainability reporting
- reduce our reliance on fossil fuels and remove subsidies
- monitor the economic and environmental aspects of sustainable tourism
- promote understanding of sustainable lifestyles.

Our planet has provided us with a huge diversity of natural resources but we have not used them responsibly and we currently consume far more than our planet can provide. SDG 12 seeks to address these issues and reduce our **material footprint**.

If the global population reaches 9.8 billion by 2050, almost three planets will be required to provide the natural resources needed to maintain current lifestyles.

People must change their consumption habits, and we need to shift energy supplies to more alternative and renewable ones. However, there are many subsidies or financial benefits associated with the use of fossil fuels and these must be reduced if countries are to be encouraged to invest in alternative energy sources.

As the world produces more waste, there are issues about how it is managed. SDG 12 is concerned with implementing environmentally sound management of chemicals and all wastes throughout their life cycle. This will reduce their release to the air, water and soil and minimise their negative impacts on human health and the environment.

material footprint the total amount of raw materials used to meet final consumption demands. It is one indication of the pressures placed on the environment to support economic growth and to satisfy the material needs of people.

circular economy a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling and composting.

Food waste is another sign of over-consumption. Each year more than 900 million tons of food is wasted either in households or through food manufacturing and retail (see **FIGURE 11.56**). This is approximately 120 kilograms per person. This is happening at the same time as over 800 million people face hunger and malnutrition.

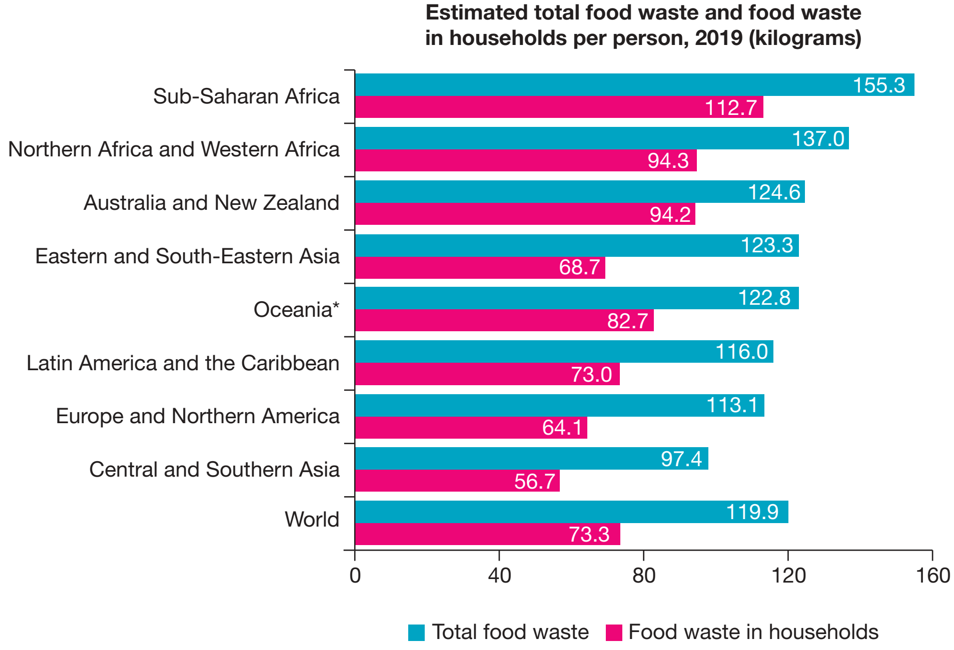
We must make changes to use our natural resources in a way that is sustainable, increase recycling and encourage the **circular economy** to preserve our precious resources. This needs investment in education and greater understanding of how to live a sustainable lifestyle.

Relationship between SDG 12 and SDG 3

Responsible consumption and production are essential for achieving SDG 3. If we continue our current use of natural resources, we will eventually deplete our food sources and reduce the biodiversity of our plants and animals. Hunger and malnutrition will increase, resulting in higher U5MR.

A failure to reduce and manage waste in an environmentally safe way will increase air, soil and water pollution. This will result in higher rates of both communicable diseases, due to contaminated water systems, and non-communicable diseases such as cancer, cardiovascular diseases and poor mental health. The continued use of fossil fuels will contribute to the depletion of the ozone layer and to global warming, which will result in an increase in communicable diseases such as malaria and many neglected tropical diseases. Therefore, actions taken to address SDG 12 will also help achieve many of the features of SDG 3 (see **TABLE 11.17**).

FIGURE 11.56 Food waste occurs in households, during the food manufacturing process and through the retail and food service industry.



*Excluding Australia and New Zealand

Source: United Nations, *Sustainable Development Report 2023*, p. 37, https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf

FIGURE 11.57 A food waste recycling facility in action, with employees sorting organic waste for composting, highlighting sustainable waste management practices

TABLE 11.17 Relationship between key features of SDG 12 and achievement of SDG 3

Key features of SDG 12	Relationship to achievement of key features of SDG 3	Explanation
• Make efficient use of our natural resources • Reduce food waste • Ensure the responsible management of chemicals and waste • Reduce waste and increase recycling • Reduce our reliance on fossil fuels	Reduce maternal mortality	• The responsible management of chemicals and waste will help keep water sources clean, reducing communicable diseases such as diarrhoea, typhoid, cholera and typhoid. This means women will have good health during pregnancy, reducing the chances of dying during childbirth. • Reducing food waste and maintaining food supplies lessens the risk of nutrient deficiencies, particularly iron and vitamin A. This reduces the risk of mothers dying during pregnancy and childbirth.
	Reduce U5MR	• Managing the disposal of chemicals and waste will reduce water pollution and deaths of children under five from diseases such as diarrhoea, cholera, typhoid and malaria.
	End epidemics of AIDS, TB, malaria and neglected tropical diseases and combat hepatitis	• Responsible management of chemicals and waste will help reduce the epidemics of malaria, neglected tropical diseases and hepatitis. • The incidence of malaria can be reduced through safe water and sanitation and a reduction in global warming from increased carbon emissions.
	Reduce death and illness from chemicals, air, water and soil pollution	• The responsible management of chemicals and waste will prevent pollutants from being emitted into the air, water ways and soil. This will help reduce deaths from diseases such as stroke, heart disease, lung cancer and other respiratory conditions, as well as infectious diseases such as diarrhoeal diseases.
	Reduce preventable deaths from non-communicable diseases and promote mental health and wellbeing	• Reducing air, water and soil pollution will help reduce deaths from cancer, cardiovascular diseases and respiratory diseases such as asthma. • A depletion of the earth's resources will create traumatic events such as famine, floods and bushfires. Sustainable practices that reduce global warming and pollution will help promote mental health and wellbeing.

Impact on health and human development

Impact on health

Action taken to ensure responsible consumption and production promotes global physical, social, mental and spiritual health and wellbeing. Sustainable practices will ensure our natural resources continue to be available for future generations, which helps guarantee we will have sufficient food to eat, safe water to drink and sanitation. This will promote physical health and wellbeing by preventing illness and disease from contaminated water such as cholera, typhoid, malaria and several neglected tropical diseases. Reducing food waste will ensure everyone has access to sufficient food, which will reduce malnutrition and childhood stunting.

Responsible management of waste and hazardous chemicals will also promote physical health and wellbeing by keeping toxic waste away from humans. Promoting physical health and wellbeing creates opportunities to interact with others, which promotes social health and wellbeing through building relationships and communication skills. When people feel socially connected, they often feel a greater sense of cohesion and purpose, which promotes spiritual health and wellbeing. Healthy people are also more likely to be happy, promoting emotional health and wellbeing, and are much more likely to positive and optimistic, which promotes mental health and wellbeing. Responsible production and consumption promotes global health by reducing inequities in relation to access to food. There is sufficient food to feed everyone in the world but it is not evenly distributed.

Impact on human development

Responsible consumption and production will promote human development because the earth's resources will be used sustainably and will be able to be used for many generations. These resources will allow people to enjoy a decent standard of living and lead a long and healthy life. Healthy children can attend school and adults can gain employment, which provides access to knowledge, expanding their capabilities and enabling them to live their life according to their needs and interests. Sustainable practices can increase economic growth and contribute to poverty reduction. This can provide funding for governments to invest in universal health coverage, social protection, and infrastructure such as schools, roads and health services, which will further promote human development. Therefore, the achievement of SDG 12 promotes global health and human development.

11.12 Exercises

11.12 Quick quiz on | **11.12 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 3, 4	2, 6	5, 7

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Test your knowledge

1. Identify the goal of SDG 12.
2. Outline why it is important for people to change their consumption patterns.
3. What is meant by 'the circular economy'?
4. Identify how much food is wasted each year.

Apply your knowledge

5. Refer to **FIGURE 11.56**.
   a. Identify which region had the highest total food waste in 2019.
   b. Outline where food waste occurs.
   c. Why is it important to reduce food wastage?
6. Explain how the achievement of SDG 12 promotes human development.
7. Discuss how the achievement of SDG 12 contributes to the achievement of two features of SDG 3.

11.12 Exam questions

Question 1 (3 marks)

Tackling food loss and waste is urgent and needs government policies to be put in place and investment in technologies, infrastructure, education and monitoring.

a. **Identify** the SDG this information relates to.
b. **Discuss** how tackling food loss and waste promotes human development.

Question 2 (4 marks)

One of the aims of SDG 12 is to ensure the responsible management of chemicals and waste

Explain how achieving this aim could help achieve two features of SDG 3.

Question 3 (3 marks)

Explain how the achievement of SDG 12 will help reduce deaths from cancer, cardiovascular diseases and respiratory diseases such as asthma.

Question 4 (4 marks)

Consider the following image.

a. **Identify** which aim of SDG 12 is represented in the image above.
b. **Explain** why the achievement of this aim of SDG 12 will help achieve one key feature of SDG 3.

More exam questions are available in your learnON title.

11.13 KEY SKILLS

11.13.1 Discuss the importance of the UN's SDGs for global health and human development

tlvd-11390

KEY SKILL Discuss the importance of the UN's SDGs for global health and human development

Tell me

To address this skill, you need to understand what the SDGs are and why they are important.

Show me

An example of how you might address this skill is:

The Sustainable Development Goals (SDGs), also known as the global goals, were developed by the United Nations and commenced in 2016. They direct global action until 2030.[1]
They provide a set of goals and targets that are relevant for all countries, not just low- and middle-income countries. They work together to end poverty and hunger, address diseases and promote health and wellbeing, empower women and girls, tackle climate change, fight inequalities, promote peace and protect human rights. Their achievement is therefore important if improvements in global health and human development are to occur.[2]

[1] An understanding of what the Sustainable Development Goals are is shown.

[2] A discussion of their importance is provided.

Practice the key skill

Read the following information and then answer the questions.

Since their introduction in 2016, there has been some success with the SDGs, with improvements in key areas such as poverty reduction, child mortality, electricity access and the battle against certain diseases. However, there is still considerable work that needs to be done if the goals are to be achieved.

1. Identify what the SDGs are.
2. The SDGs were implemented in 2016. When is the target set for their achievement?
3. Outline why they are important.

11.13.2 Describe the key features of SDG 3

tlvd-11391

KEY SKILL Describe the key features of SDG 3

Tell me

To address this skill, you need to be able to name each of the key features of SDG 3 and understand what each feature means. Some of the features include targets around improving health status, while other indicators reflect actions that need to be taken to ensure that improvements in health occur. Developing a table that lists each of the features and a description would be a good way to summarise these.

Show me

An example of how you might address this skill is shown in the example question below.

Example question:

a. Refer to the following table, which shows some of the key features of SDG 3 and their descriptions. Complete the relevant gaps by accurately naming the key feature and providing a description.

b. Outline two examples of features of SDG 3 that refer to actions that need to be taken to help achieve health outcomes.

To answer this question, you need to provide the accurate feature of the SDG and describe the key feature to show you understand what it includes and what it means. This is shown in the annotated example below.

Show me

a.

Key feature of SDG 3	Description
Reduce maternal mortality	This refers to reducing the number of deaths of mothers who die due to complications related to pregnancy and childbirth.[3]
End preventable deaths of newborns and children under five[4]	Many child deaths occur in the neonatal period, which is the first 28 days of life, and many die before they reach their fifth birthday. This feature seeks to reduce these deaths.
End epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases, and combat hepatitis, waterborne diseases and other communicable diseases	Communicable diseases are those that can be transferred from one person to another. AIDS is caused by the human immunodeficiency virus, which damages and weakens the body's immune system, making it difficult to fight infections and a person eventually develops AIDS. Malaria is caused by parasites that are transmitted to people when bitten by infected female mosquitoes. It destroys the body's red blood cells and if left untreated can lead to death. Tuberculosis is a disease that affects the lungs and is caused by bacteria that spreads through the air via coughing and sneezing.

Key feature of SDG 3	Description
	Neglected tropical diseases are a group of conditions that occur in tropical and subtropical environments and are transmitted differently and are caused by a variety of pathogens such as viruses, bacteria, parasites, fungi and toxins. Hepatitis is an inflammation of the liver caused by a viral infection. There are many types of hepatitis.[5]
Reduce premature mortality from non-communicable diseases and promote mental health and wellbeing	Globally, diseases such as cardiovascular diseases, cancers, respiratory diseases and diabetes are responsible for many deaths in low-, middle- and high-income countries. This feature also addresses mental health and wellbeing.
Reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	Pollution from heavy traffic, poor housing and limited access to water and sanitation contribute to deaths and illnesses due to poor quality air, indoor and external air pollution, contaminated water supplies and soil pollution.
Reduce deaths and injuries from road traffic accidents	Many people die and many more are injured as a result of road crashes. More than half of these involve pedestrians, cyclists and motorbikes.

[3] A description of maternal mortality is provided.
[4] The relevant key feature is accurately identified.
[5] A description of all aspects of the feature are included.

b. To achieve these targets, it will be necessary to achieve universal health coverage[6] so all people have access to preventative and curative medical services at an affordable cost. This includes essential medicines and vaccines. This will help achieve a reduction in both communicable and non-communicable diseases.[7]
Implementing the WHO Framework on Tobacco Control[8] in all countries would see a range of measures introduced to reduce the number of smokers and help those that do smoke to quit. This would help reduce premature mortality from communicable diseases, particularly cardiovascular diseases, cancers and respiratory diseases.[9]

[6] Achieving universal health coverage is one action feature of SDG 3.
[7] Links the action feature to improving health outcomes

[8] Implementing the WHO Framework on Tobacco Control is a second example of an action feature of SDG 3.
[9] The action feature is linked to the achievement of health outcomes.

Practice the key skill

Read the following information and answer the questions:

Right now, 250 million women and girls in low- and middle-income countries who want to avoid pregnancy are not using contraceptives, whether due to lack of access or lack of support. Today, 800 women will die from preventable causes related to pregnancy and childbirth. And every year, 12 million girls across the world are married before the age of 18.

Source: Adapted from World Bank blogs: https://blogs.worldbank.org/investinpeople/deliver-future-catalyzing-opportunities-women-children-and-adolescents?cid=ECR_E_NewsletterWeekly_EN_EXT&deliveryName=DM190583

4. Use examples to identify and describe the key features of SDG 3 that are reflected in the information.

11.13.3 Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

tlvd-11392

KEY SKILL Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally

Tell me

To address this skill, you must analyse the relationships between SDG 3 and other selected SDGs that you have studied.

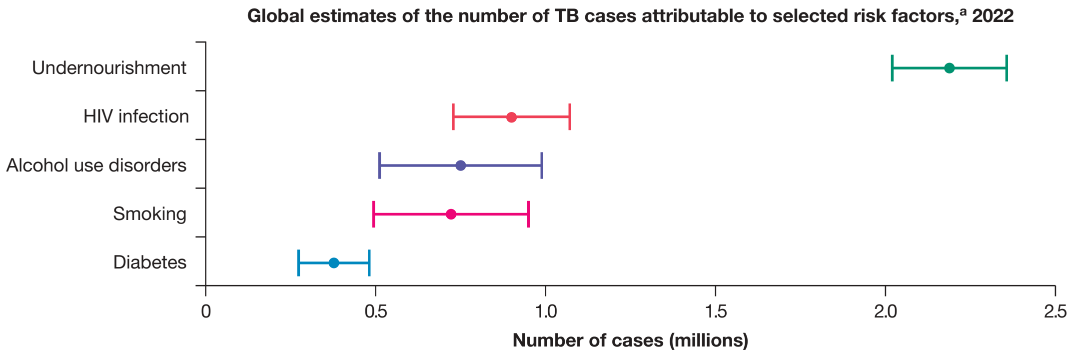
- This relationship could relate to information about a feature of SDG 3 and ask you to show your understanding of how action is needed in another SDG to bring about improvements.
- You could also be provided with information relating to another SDG and be required to analyse the relationship to the achievement of one or more features of SDG 3.

There are four components to this skill:

1. You must be able to accurately name each of the SDGs and not list them by number.
2. You should know the key features of SDG 3 and the major features in each of the other SDGs, although you are not required to know them word-perfect.
3. You need to analyse the relationships between key features of other SDGs and the achievement of key features of SDG 3 by providing specific examples that show how the achievement of other SDGs help achieve relevant key features of SDG 3.
4. The last part of the skill requires you to explain how the relationship helps promote health and human development globally. Health can include health status and health and wellbeing. Remember to extend the explanation of the impact beyond the individual and consider all people everywhere in relation to global health and human development.

The following example can be used to illustrate this.

FIGURE 11.58 TB deaths and risk factors



Source: Global tuberculosis report 2023. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO. P23

Example question:

a. Identify the key feature of SDG 3 represented in **FIGURE 11.58**.

b. Based on the information in the graph, use one example to explain how the achievement of SDG 12 would help to further reduce the global number of TB cases.

c. Explain how reducing TB will help improve global health and human development.

Show me

The key feature represented is to end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases, and combat hepatitis, water-borne diseases and other communicable diseases.[10] SDG 12 relates to sustainable consumption and production.[11] It includes the need for people to reduce food waste.[12] This is important because it will help reduce the level of malnutrition and undernourishment,which is the highest risk factor for tuberculosis. Each year, 931 million tons of food is wasted either in households or through food manufacturing and retail. This is approximately 120 kilograms per person. This is happening at the same time as more than 800 million people face hunger and malnutrition. Reducing food waste will help make sure that everyone in the world has enough to eat. It will also reduce our use of natural resources and help ensure our food sources are sustainable. This will help to decrease the level of undernourishment and therefore help reduce the global number of tuberculosis cases.[13]

[10] The key feature is identified and accurately stated.

[11] Another SDG is identified and accurately named.

[12] A key feature of SDG 12 is identified.

[13] A link to a risk factor in the graph is identified and clearly explained.

Reducing the number of TB cases will promote health and wellbeing and human development. TB is a life-threatening disease. It causes a persistent cough, tiredness, weight loss and coughing up blood. If untreated it destroys lung tissue and results in death. Therefore, reducing TB will improve physical health and wellbeing. Without TB, adults will be able to work and develop relationships and communication skills, which will promote social health and wellbeing. When people are healthy they are more likely to feel happy, which promotes emotional health and wellbeing, as well as more confident and optimistic and have greater purpose in life, promoting mental and spiritual health and wellbeing.[14] Healthy adults are able to work and earn an income, which allows them to purchase food, clean water, sanitation, housing and health care, resources that will contribute to a decent standard of living and a long and healthy life. When people earn an income, they can contribute to economic growth, which provides funding for governments to invest in universal health coverage and infrastructure that in turn promotes human development globally.[15]

[14] An explanation of how reducing TB will promote health and wellbeing is provided with links made to each dimension of health and wellbeing.

[15] An explanation of how reducing TB will promote a range of concepts associated with human development is provided.

Practice the key skill

Consider the following information and then answer the questions.

Source: https://www.un.org/sustainabledevelopment/wp-content/uploads/2023/08/3.png

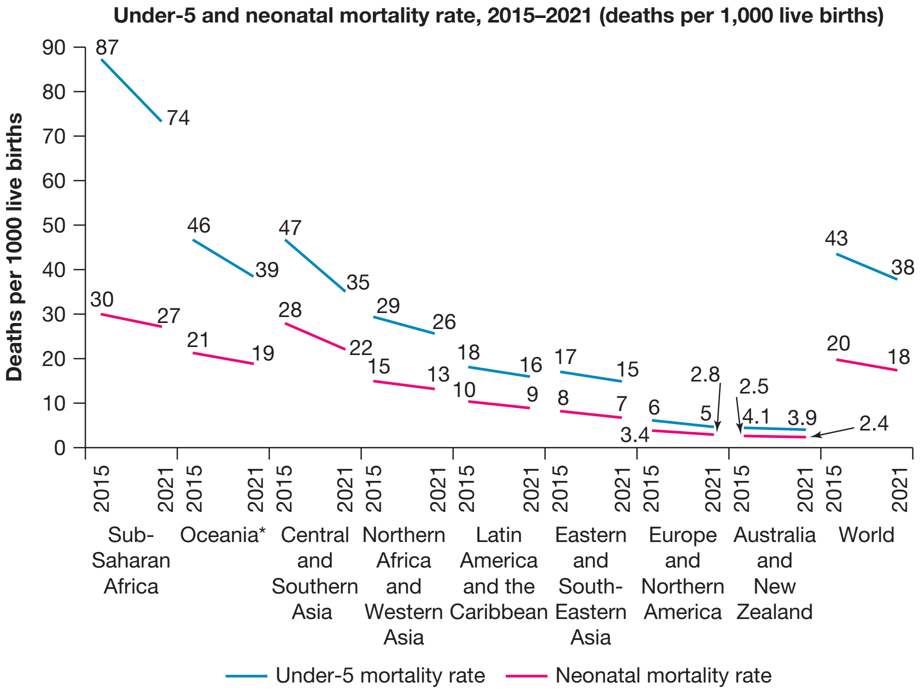
5. Identify the SDG being referred to in the information.
6. Explain how action taken to address this SDG can help achieve two features of SDG 3.
7. Explain how taking action to address this SDG is important to promote health and human development globally.

tlvd-11393

11.14 EXTENDED RESPONSE — Build your exam skills

This extended response subtopic presents three sources and a 15-mark question to practice your skills in answering this type of question. There are tips to help you get started after the question.

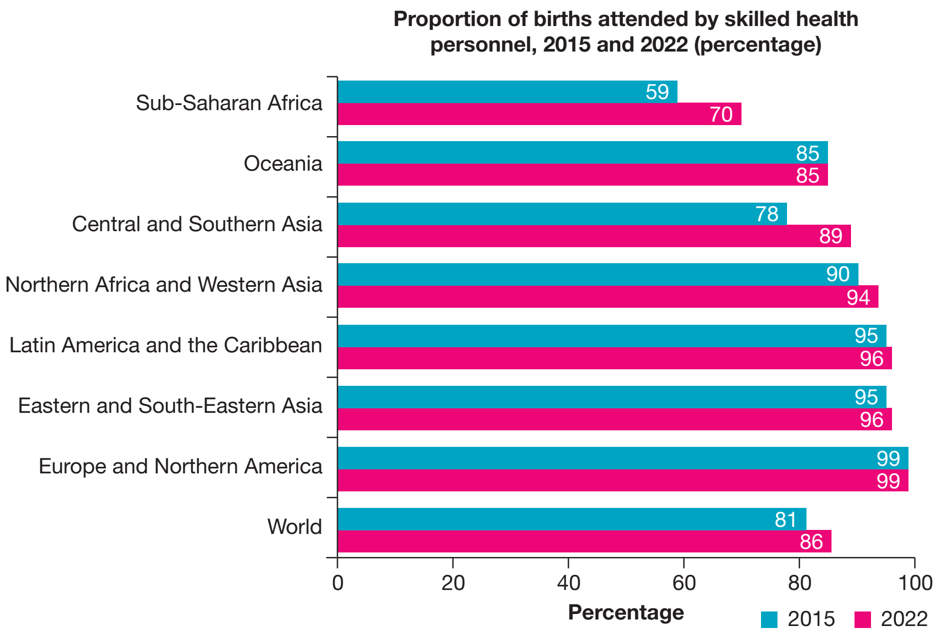
Source 1



*Excluding Australia and New Zealand.

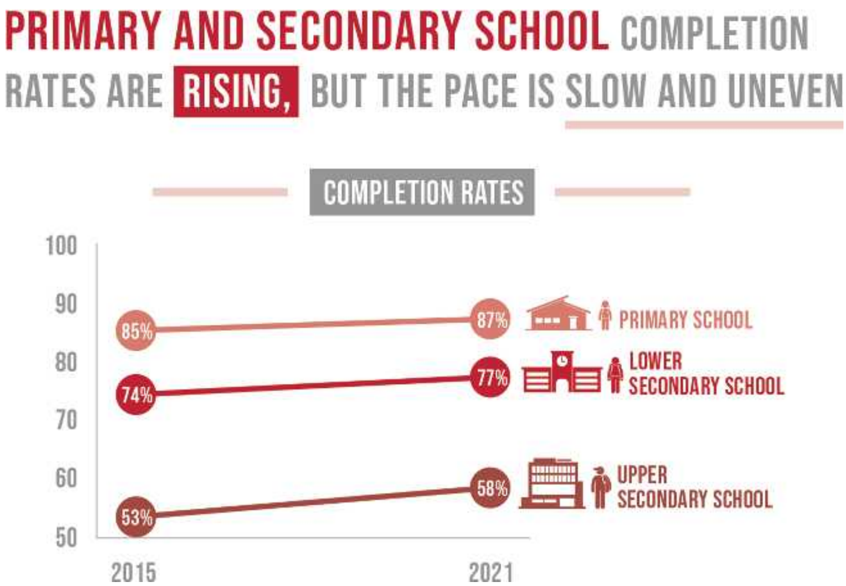
Source: https://unstats.un.org/sdgs/report/2023/Goal-03/

Source 2



Source: https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf, p16

Source 3



Source: Adapted from https://www.un.org/sustainabledevelopment/wp-content/uploads/2023/08/2309739_E_SDG_2023_infographics-4-4.pdf

Use information from each of the sources provided and your knowledge to discuss:

- the relationship between under-5 mortality rates and the proportion of births attended by skilled health personnel
- how actions taken to address one other SDG contributes to the achievement of ending preventable deaths of children under five by 2030
- how achieving this SDG will promote health and human development globally. **15 marks**

TIPS

This question asks about the relationship (or connections) between under-5 mortality rates and the proportion of births attended by skilled health personnel.

- Read the graphs carefully to make sure you are referring to the correct data.
- Think about which data shows information about changes that have occurred over time.
- Use colour-coding to identify relevant points in each source according to the requirements of the question.
- The question does not specifically state which other SDG to select. However, use the stimulus material to identify the relevant SDG for your discussion.
- Identify the changes over time and use them to connect to the changes in under-5 mortality.
- Use examples to show how this will help promote global health and human development.

11.15 Review

Hey students! Now that it's time to revise this topic, go online to:

Review your results

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Practise exam questions

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11.15.1 Topic summary

11.2 Understanding the importance of the Sustainable Development Goals and key features of SDG 3

- The Sustainable Development Goals (SDGs), sometimes referred to as the global goals, lead action from 2016–2030.
- The SDGs aims are to end extreme poverty and hunger, address diseases and promote health and wellbeing, empower women and girls, tackle climate change, fight inequalities within and among countries, build peaceful, just and inclusive societies and protect human rights.
- The SDGs are interconnected and their achievement requires different sectors to work together.

11.3 Key features of Sustainable Development Goal 3: Good health and wellbeing

- SDG 3: Good health and wellbeing contributes to the achievement of many of the SDGs, which in turn help promote the achievement of good health and wellbeing.
- SDG 3 seeks to reduce maternal and child mortality rates; end epidemics of communicable diseases; reduce premature mortality from communicable diseases; reduce substance misuse, particularly from alcohol and tobacco smoking; reduce deaths from air, water and soil pollution; reduce traffic accidents; and promote mental health and wellbeing.
- SDG 3 includes providing universal health coverage and access to essential medicines.
- Universal health coverage has two main elements, which include expanding health services and reducing the costs of health care.

11.4 SDG 3 Key feature of maternal and child health and wellbeing

- Access to reproductive health services helps families control the number of children they have and the timing and spacing of births.
- SDG 3 aims to prevent deaths in newborns and those aged under five. Half of all newborn deaths occur in the first 24 hours after being born and 75 per cent occur in the first week after birth.
- Many actions are needed to reduce maternal and child health and wellbeing

11.5 SDG 3 Key feature of communicable diseases

- Communicable diseases such as HIV/AIDS, tuberculosis, malaria, hepatitis, waterborne diseases and neglected tropical diseases contribute significantly to the global burden of disease.
- AIDS damages and weakens the body's immune system, leaving it unable to fight infections.
- HIV/AIDS is much more common in low-income countries, and there is currently no cure and no vaccine. The use of antiretroviral medication (ART) is successful in delaying and, in some cases, preventing HIV from progressing to AIDS.
- Ending the AIDS epidemic requires access to health care, education, the removal of discrimination and stigma, and the development of a vaccine.
- Malaria is a life-threatening disease transmitted through the bite of an infected mosquito and can be prevented by using insecticide-treated bed nets, spraying insecticides in homes and using antimalarial medicines.
- Tuberculosis is a disease affecting the lungs and can be spread through coughing and sneezing. It can be treated with medication and prevented through vaccination.

- Neglected tropical diseases include 18 different diseases that mainly occur in tropical environments and very poor countries where people lack access to safe water, sanitation and health care.
- Morbidity and mortality from neglected tropical diseases can be reduced by providing drugs that can prevent and treat the diseases, providing vector control and veterinary public health measures when the diseases are caused by animals, and improving water and sanitation.
- Hepatitis is caused by a viral infection that leads to an inflammation of the liver. Hepatitis B and C are spread through contact with infected body fluids. Hepatitis A and E result from ingesting contaminated water and food.

11.6 SDG 3 Key feature of non-communicable diseases

- Non-communicable diseases, such as cardiovascular disease, cancer, diabetes and chronic respiratory disease, affect people in low-, middle- and high-income countries.
- Risk factors for non-communicable diseases include tobacco use, insufficient physical activity, harmful consumption of alcohol and poor diet.
- Good mental health and wellbeing is important in enabling people to achieve their potential and contribute to the community.
- SDG 3 aims to reduce morbidity and mortality rates due to road traffic accidents, which requires a coordinated approach across many sectors, such as health and wellbeing, education, transport and police.
- Environmental hazards such as air, water and soil pollution are responsible for one in four deaths worldwide.
- Air pollution accounts for the greatest burden of disease from pollution.
- Outdoor air pollution is caused by vehicle emissions and greenhouse gases.

11.7 The relationships between SDG 3 and SDG 1

- SDG 1: No poverty — When people are poor, they are unable to afford food, clothing, shelter, safe water, health care and education, and lack opportunities to participate in decisions that affect their lives and their communities.
- When a country is poor, there is not enough money to provide public health services such as safe water and sanitation, health care, education and social security benefits.
- Poverty contributes to low levels of childhood vaccination, low levels of literacy and high death rates from infectious diseases such as tuberculosis, measles, whooping cough, cholera, malaria and tetanus.
- Poverty can occur due to discrimination and social exclusion. People most at risk are women, youth, the elderly, migrants and those with a disability.
- Actions that need to be taken to end poverty and achieve SDG 1 are directly linked to the actions that are needed to achieve good health and wellbeing.

11.8 The relationships between SDG 3 and SDG 2

- SDG 2: Zero hunger — Hunger and malnutrition are the biggest contributors to child mortality, causing 45 per cent of preventable deaths in children under five.
- Deficiencies of micronutrients, especially iron, vitamin A and iodine, are responsible for many deaths and disability, particularly in women and children.
- Actions that need to be taken to achieve SDG 2: Zero hunger are linked to the achievement of SDG 3.

11.9 The relationships between SDG 3 and SDG 4

- SDG 4: Quality education — This aims to ensure that everyone has equal access to quality pre-primary, primary, secondary and tertiary education and develops the vocational skills needed for employment.
- Factors affecting girls getting an education include drought, lack of access to safe water and sanitation, food shortages, conflict, poverty, child labour and HIV/AIDS.
- Actions taken to achieve quality education are linked to the achievement of SDG 3. An educated and skilled workforce means higher economic growth and more funding for the provision of universal health coverage. Child and maternal health and wellbeing will improve because educated girls have fewer children and are more likely to send their children to school.

11.10 The relationships between SDG 3 and SDG 5

- SDG 5: Gender equality is about ending discrimination and violence against women and girls by addressing the barriers that exist to gender equality.
- Gender equality is when women and men have the same level of power and control over all aspects of their lives. Many women face discrimination in all aspects of life.
- Women are underrepresented in political and economic decision-making processes and are often discriminated against by the laws that exist.
- Empowering women increases their chances of getting a job, staying healthy and participating in society.
- Actions taken to achieve gender equality are linked to the achievement of SDG 3. When women are given the same opportunities as men, they are more empowered and can participate in decision-making, which promotes health and wellbeing.

11.11 The relationships between SDG 3 and SDG 6

- SDG 6: Clean water and sanitation — Water transmits disease when it is contaminated by bacteria, viruses, parasites or other microorganisms, or through contamination from industrial and agricultural waste.
- Diarrhoea is the most widely known disease linked to contaminated water, but other diseases caused by contaminated water include parasitic worm infestations, cholera, dysentery, hepatitis A, typhoid and trachoma.
- More than 80 per cent of wastewater due to human activities is discharged into rivers or oceans.
- Ten per cent of the global population is thought to consume food that is irrigated by wastewater, which puts their health and wellbeing at risk.
- Actions taken to achieve clean water and sanitation underpin the ability to achieve SDG 3. Without clean water and sanitation, SDG 3 is difficult to achieve.

11.12 The relationships between SDG 3 and SDG 12

- SDG 12: Responsible consumption and production is about promoting sustainable practices that will support the livelihoods of current and future generations.
- We are currently consuming far more than our planet can provide and we must change our consumption habits and focus on renewable energy sources, recycling and other sustainable practices.
- Food waste is a sign of over-consumption. Each year, 931 million tons of food is wasted, despite more than 800 million people facing hunger and malnutrition.
- Reducing waste and the responsible management of chemicals and waste is important to preserve our water sources and air and soil quality, which supports the growing of our food.
- Actions taken to achieve responsible consumption and production will help achieve many of the key features of SDG 3.

11.15.2 Key terms

antenatal care health care provided to women during pregnancy and just after birth
birth asphyxia a condition in which a baby's brain and other organs do not get enough oxygen before, during or immediately after birth. It can cause temporary or permanent damage.
circular economy a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling and composting.
indivisible unable to be divided or separated
interdependent mutually reliant on each other
material footprint the total amount of raw materials used to meet final consumption demands. It is one indication of the pressures placed on the environment to support economic growth and to satisfy the material needs of people.
maternal mortality death of a mother during pregnancy, childbirth or within six weeks of delivery
microfinance small, low-cost financial services for poor people that involve low-interest loans to develop small businesses
neglected tropical diseases a group of diseases that mainly occur in tropical and subtropical environments and are most common in countries where people lack access to safe water and sanitation

neonatal period the first 28 days after birth
schistosomiasis a worm infection that occurs when people swim, bathe or have contact with fresh water contaminated with human excreta
social protection measures measures put in place to prevent individuals and families from suffering from poverty because of a crisis or another unexpected event. Measures include the provision of health care, and income security for children, those who become sick or disabled and the elderly.
sustainable agriculture the capacity of agricultural practices over time to provide sufficient food in ways that are economically efficient and profitable, socially responsible and environmentally sound
trachoma a bacterial infection of the eye that can cause complications including blindness

on Resources

Digital document Summary (doc-41600)

11.15 Exercises

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11.15 Exam questions

Queston 1 (2 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.12.a*; © VCAA

World AIDS Day 2022

On 1 December 2022, the World Health Organization (WHO) joined its partners to commemorate World AIDS Day. One of the key messages was:

Focus on equality

Inequalities still persist for the most basic services like testing and treatment. We must ensure that everyone, everywhere has equal access to HIV prevention, testing, treatment and care. Health services should be adapted to reach and meet the needs of populations most at risk and affected, and this includes implementing a 'zero tolerance' policy to stigma and discrimination in all health services.

Source: Adapted from World Health Organization, World AIDS Day 2022, <who.int/campaigns/world-aids-day/2022>

Describe one Sustainable Development Goal (SDG), other than SDG 3, that could contribute to the reduction of HIV/AIDS.

Question 2 (4 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.12*; © VCAA

Neglected tropical diseases (NTDs) are part of a key feature of Sustainable Development Goal (SDG) 3. To end the epidemic of NTDs, the World Health Organization has released a new global strategy that aims to achieve a 90 per cent reduction by 2030 in people requiring interventions against NTDs. To achieve this, action within and beyond the health sector will be needed.

Data: World Health Organization, *Ending the Neglect to Attain the Sustainable Development Goals: A Road Map for Neglected Tropical Diseases 2021–2030, Overview*, licence: CC BY-NC-SA 3.0 IGO; © World Health Organization 2021

a. **What** are NTDs? **2 marks**

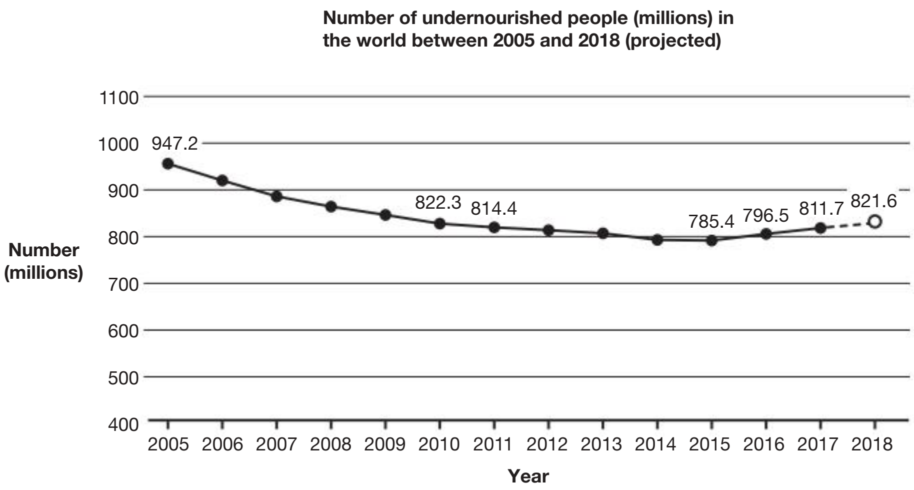
b. Other than SDG 3, **identify** two SDGs that interrelate with NTDs. **2 marks**

Question 3 (8 marks)

Source: *VCE 2020, Health and Human Development Exam, Q.11* © VCAA

Consider the following three sources relating to global trends and other factors.

Source 1



Source: Adapted from FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition in the World 2019: Safeguarding against economic slowdowns and downturns,* Rome, FAO, 2019, P. 6; licence CC BY-NC-SA 3.0 IGO

Source 2

In Yemen, home to Moteab and his family, protracted conflict . . . turned daily life into a 'living hell'. His father's job, transporting goods in a wheelbarrow, provided the family with the bare minimum of food – bread for breakfast, vegetables, usually potatoes, for lunch and anything left over for dinner.

By the time Moteab turned 2 years old, the combination of poverty and protracted conflict left him in a struggle for his life . . . After [Moteab had suffered] seven months of repeated illnesses with vomiting, diarrhoea and weight loss, his mother was directed to a free health centre in Abs, where [Moteab] was diagnosed with SAM [severe acute malnutrition]. Moteab is just one of the 400 000 children in Yemen who suffered from SAM in 2018.

Source: UNICEF, *The State of the World's Children 2019: Children, food and nutrition: Growing well in a changing world*, UNICEF, New York, 2019, p. 116

Source 3

What do young people think about healthy eating?

'We lack money here to stay healthy … Our family is unable to find good jobs.' *Girl, 16, India*

'Meat is not available. We have money to buy meat, but the place is too far away.' *Girl, 14, Ghana*

'Unhealthy food is easier to come by.' *Boy, 17, USA*

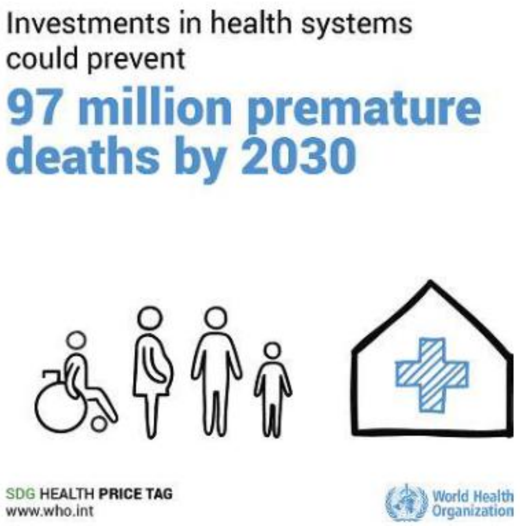
'If I work . . . to have money, then I will buy food for my family.' *Boy, 13, the Sudan*

Source: UNICEF, *The State of the World's Children 2019: Children, food and nutrition: Growing well in a changing world*, UNICEF, New York, 2019, pp. 26 and 27

Use information from all three sources and your own knowledge to **discuss**:

- how global trends and other factors have an impact on achieving SDG 2 'Zero hunger'
- the relationship between SDG 2 and two features of SDG 3 'Ensure healthy lives and promote wellbeing for all at all ages'.

Question 4 (8 marks)



Source: https://www.who.int/sdg/infographics/en/

a. **Outline** the key feature of SDG 3 that is represented in the image above. **2 marks**

b. Select one example of a communicable disease and one example of a non-communicable disease and **explain** how investments in health care systems could help prevent premature deaths. **6 marks**

Question 5 (9 marks)

FIGURE 11.59 shows the gap in the completion of primary education between girls and boys for high-, middle- and low-income countries.

a. **Which** type of country has the highest gender gap in primary school completion? **1 mark**

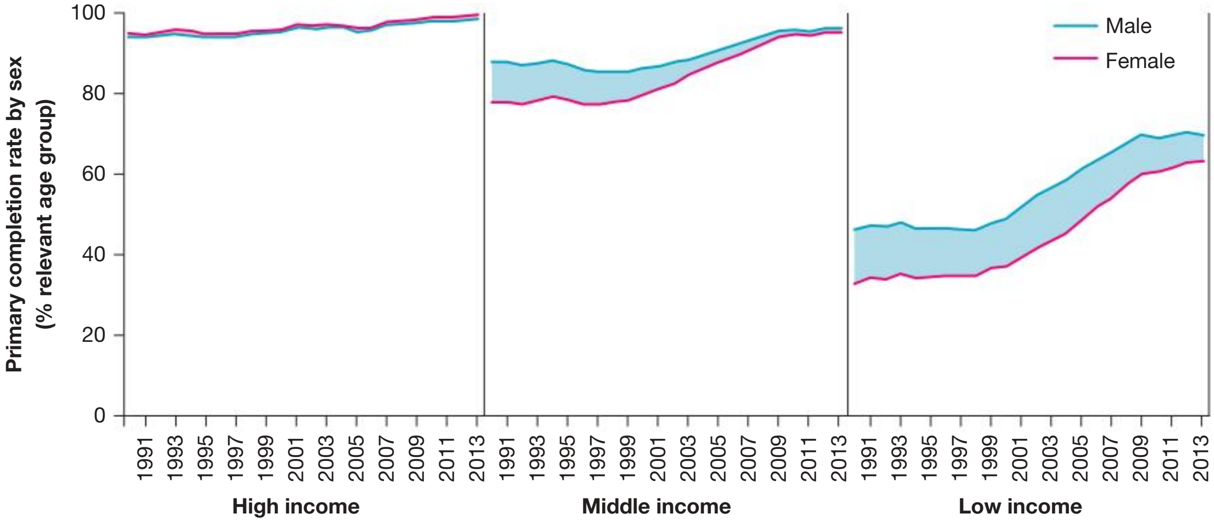
b. **Explain** two reasons for this. **2 marks**

c. **Name** one SDG that this information is related to. **1 mark**

d. **Explain** how reducing the gender gap in primary school completion could assist in achieving SDG 3. **3 marks**

e. **Explain** how reducing the gender gap in primary school completion could improve global health and human development. **2 marks**

FIGURE 11.59 Primary completion rate by sex (percentage relevant age group)



Source: World Bank, 2019

on Resources

Digital document	Key terms glossary (doc-41599)
Interactivities	Crossword (int-9248)
	Definitions (int-9249)
Exam question booklet	Topic 11 Exam question booklet (eqb-0255)

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 11 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

- **11.2** SDG worksheet (doc-41618) ☐
- **11.7** Neglected tropical diseases worksheet (doc-32231) ☐
- **11.8** Malnutrition: Domino effect worksheet (doc-41619) ☐
- SDG 2 worksheet (doc-41620) ☐
- **11.9** Quality education worksheet (doc-32233) ☐
- **11.10** Gender equality worksheet (doc-32234) ☐
- **11.11** Clean water and sanitation worksheet (doc-41621) ☐
- **11.15** Summary (doc-41600) ☐
- Key terms glossary (doc-41599) ☐

Interactivites

- **11.15** Crossword (int-9248) ☐
- Definitions (int-9249) ☐

Teacher-led videos

- **11.2** Features of each SDG (tlvd-11389) ☐
- **11.7** Interrelationships between the SDGs (tlvd-0257) ☐
- **11.13** Key skill: Discuss the importance of the UN's SDGs for global health and human development (tlvd-11390) ☐
- Key skill: Describe the key features of SDG 3 (tlvd-11391) ☐
- Key skill: Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally (tlvd-11392) ☐
- **11.14** Extended response: Build your exam skills (tlvd-11393) ☐

Weblinks

- **11.2** SDG ☐
- **11.7** Neglected tropical diseases ☐
- **11.8** Malnutrition: Domino effect ☐
- SDG 2 ☐
- **11.9** Quality education ☐
- **11.10** Gender equality ☐
- **11.11** Clean water and sanitation ☐

Exam question booklet

- **11.15** Topic 11 Exam question booklet (eqb-0255) ☐

To access these online resources, log on to **www.jacplus.com.au**

12 Promoting global health and human development

LEARNING SEQUENCE

12.1 Overview

	Key knowledge	Key skills	Subtopic
◯	Priorities of the WHO	Explain the priorities of the WHO Analyse how the WHO priorities are reflected in different scenarios	**12.2**
◯	The purpose and characteristics of different types of aid, including bilateral, multilateral and aid provided by non-government organisations (providing humanitarian assistance, reducing poverty, improving human development and promoting health)	Evaluate different types of aid and their effectiveness in providing humanitarian assistance, reducing poverty and improving human development and promoting health	**12.3**
◯	The role of Australia's aid program in supporting the achievement of the SDGs and the partnerships involved	Discuss how Australia's aid program supports the achievement of the SDGs Justify why Australia's aid program is delivered through partnerships	**12.4**
◯	Features of effective aid programs	Evaluate the effectiveness of aid programs in promoting health and human development	**12.5**
◯	Ways in which individuals can engage with communities and/or national and international organisations to take individual and social action that promotes health and human development	Discuss ways of taking individual and social action to promote health and human development	**12.6**

Source*: VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

Key terms

aid

bilateral aid

emergency aid

infrastructure

multilateral aid

Exam terminology

Analyse	Examine the components of; look for links, patterns, relationships and anomalies
Discuss	Give an overall account of
Evaluate	Make a judgement; weigh up the pros and cons
Explain	Make plain, make clear (may require reasons)
Justify	Give reasons and/or evidence to support a point of view

on Resources

Digital document Key terms glossary (doc-41601)

Exam question booklet Topic 12 Exam question booklet (eqb-0256)

12.2 The World Health Organization

Key knowledge	Key skills
Priorities of the WHO	• Explain the priorities of the WHO • Analyse how the WHO priorities are reflected in different scenarios

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the priorities/goals of the World Health Organization • the meaning of each of the WHO priorities/goals.	• accurately name the priorities/goals of the WHO • identify the strategic objectives that are part of each goal • identify the WHO goals that are evident in a range of different examples • apply the WHO goals to suggest actions to address a health-related issue.

The World Health Organization (WHO) is a branch of the United Nations. It was established in 1948 and works with governments and other agencies in 194 countries, in six regions and from 150 offices around the world to achieve better health for everyone, everywhere.

The WHO brings together the world's top health experts to provide leadership in supporting countries to respond to a range of global health issues to improve the health and wellbeing of all people. Its work is relevant to all countries — low-, middle- and high-income — and is based on achieving all SDG 3 targets.

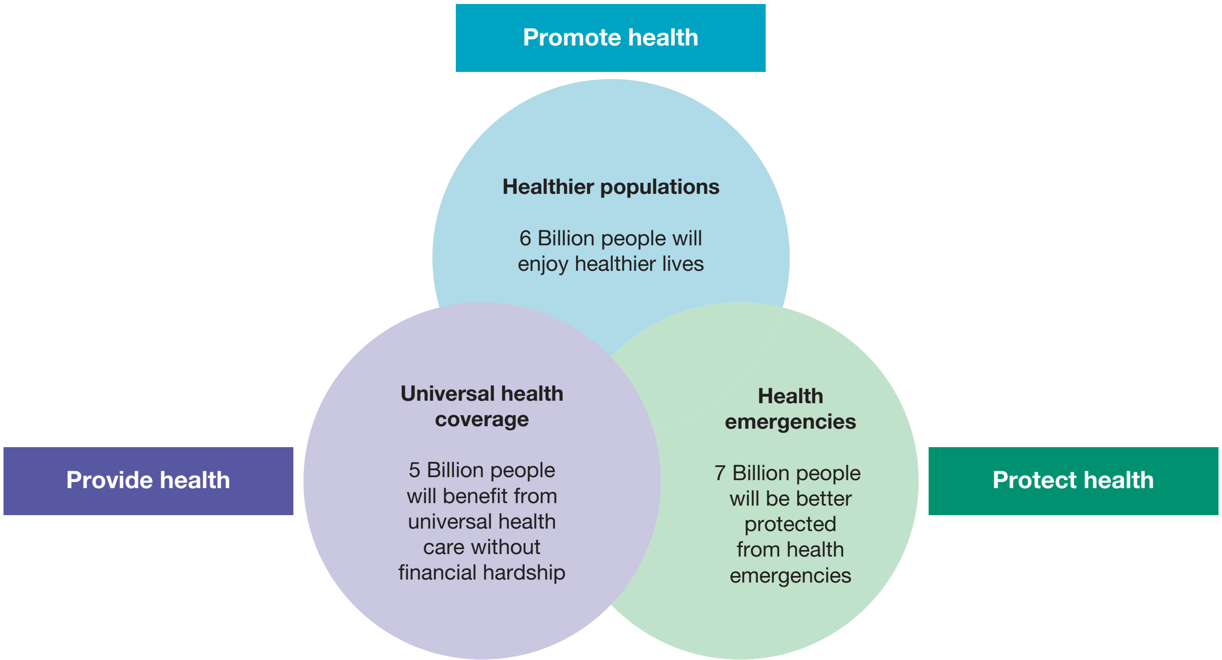
FIGURE 12.1 The World Health Organization works with governments and other agencies in 194 countries to improve the health and wellbeing of all people and achieve the SDG 3 targets.

12.2.1 The focus of the World Health Organization

The WHO's overall goal is to promote, provide and protect health and wellbeing for all people, everywhere. For each of the three parts of the goal there are ambitious targets for achievement by 2028 (see **FIGURE 12.2**). These are:

1. Promote health: healthier populations — 6 billion people will enjoy healthier lives.
2. Provide health: Universal health coverage — 5 billion people will benefit from universal health care without financial hardship.
3. Protect health: health emergencies — 7 billion people will be better protected from health emergencies.

FIGURE 12.2 The World Health Organization focuses its work around achieving three goals, each of which have ambitious targets.



To help understand what is included in each of these three goals, the WHO has developed six strategic objectives that are mapped to the three goals. Together these represent priority areas for collective action to promote health and wellbeing at the regional, national and global levels. These are shown in **TABLE 12.1**.

health determinants factors that have a significant influence on health. These often combine to affect the health of individuals and communities, and include factors such as where we live, the state of our environment, genetics, our income and education level, our access to health care and our relationships with friends and family. Many of these determinants lie outside the control of individuals.

primary health care an approach to health that addresses the broader determinants that affect health and focuses on equity of access to healthcare services. It doesn't just focus on specific diseases; it considers the whole person and all dimensions of health and wellbeing. Primary health care ensures people receive quality care, ranging from health promotion and prevention to treatment, rehabilitation and palliative care, and is provided as close as possible to where people live and work.

TABLE 12.1 The strategic objectives represent priority areas for action.

OVERALL GOAL: To promote, provide and protect health and wellbeing for all people, everywhere.	
	STRATEGIC OBJECTIVES
PROMOTE HEALTH (Healthier populations)	1. Respond to **climate change**, which is an increasing health threat 2. Address **health determinants and the main causes of ill health**
PROVIDE HEALTH (Universal health coverage)	3. Advance **primary health care** and **essential health system capacities** for universal health coverage 4. Improve **health service coverage and financial protection** to address inequity and gender inequalities
PROTECT HEALTH (Health emergencies)	5. **Prevent, mitigate and prepare** for risks to health from all hazards 6. Rapidly **detect and sustain an effective response** to all health emergencies

EXAM TIP

If you are asked to identify or explain one of the goals or priority areas, it is important to use accurate names rather than referring to the targets. For example, refer to 'Promote health: healthier populations' rather than 'healthier populations' or '6 million people will enjoy healthier lives'.

on Resources

Teacher-led video WHO's priority goals (tlvd-11292)

12.2.2 Understanding the goals

Goal 1: Promote health: healthier populations – 6 billion people will enjoy healthier lives

The two strategic objectives associated with this goal are focused on the achievement of the health and wellbeing outcomes in SDG 3. This is done by addressing the many factors or determinants that lead to poor health and wellbeing outcomes. In particular, this includes:

- non-communicable and communicable diseases
- violence and injury
- poor nutrition.

There is also a particular focus on addressing the impact of climate change, which affects all factors influencing health and wellbeing including damage to health facilities and the ability to provide ongoing health care services (see **TABLE 12.2**).

TABLE 12.2 Promote health: healthier populations

WHO objective	Explanation
Respond to climate change	• The world is facing increasing threats to health from climate change with women, children, those who are the poorest and those living in small island developing states being particularly at risk. • This objective focuses on building environmentally sustainable health systems that are resilient to extreme weather and climate-related diseases and increase the ability to prepare, respond to and recover from climate-related events. It helps ensure that health services are not damaged or destroyed and there is no interruption to health service delivery. • The WHO will work in partnership with others in the energy, food, transport, urban systems, environment and finance areas to promote health by improving air quality, reducing carbon emissions, increasing access to healthy and affordable foods and creating environments that promote physical activity and strengthen health, water, sanitation and hygiene (WASH).
Address health determinants and the main causes of ill health	• The conditions in which people are born, grow, work, live and age have a significant effect on their health and wellbeing, and these must be addressed if more people are to enjoy good health and wellbeing. This includes addressing the barriers related to gender equality and discrimination. • Greater efforts are needed to involve and empower people in the decisions that affect their health and wellbeing. • Disease prevention and health promotion can lead to cost savings and result in people living longer, healthier, happier lives; economies are stronger and more sustainable; and the costs associated with health and social security systems can be reduced. • Globally, more than 40% of disease and premature mortality are due to the use of tobacco and nicotine products, the harmful use of alcohol, physical inactivity, unhealthy diet and food insecurity, air pollution, exposure to hazardous chemicals, risks related to WASH, food-borne illness, radiation, and social isolation and loneliness. Taking action to address these is important if health and wellbeing is to be improved.

FIGURE 12.3 Addressing the risk factors for non-communicable diseases, such as through a healthy diet, will contribute to promoting healthy populations.

Goal 2: Provide health: universal health coverage – 5 billion people will benefit from universal health care

This goal is directly related to the SDG action target to provide universal health coverage and is considered important for the achievement of all three goals: promote, provide and protect health.

Universal health coverage has two components:

1. ensuring that all countries have a strong health system that provides everyone with access to healthcare services, including **essential medicines** and vaccines, as well as disease prevention and health promotion
2. ensuring that health care is provided at a cost that is affordable for all.

essential medicines medicines that meet the main healthcare needs of a population and help them to overcome disease and illness more quickly

There are many countries that do not provide affordable health services. This means people are either unable to access the health care they need or face poverty because they have to pay large amounts of money to receive medical assistance. In addition to the high cost, other factors that affect availability include geographical barriers (services are not available in areas where people live) and cultural barriers (the services provided do not have the cultural sensitivity for effective delivery or use).

FIGURE 12.4 It is important that people have access to health services and vaccinations at an affordable cost.

A strong health system provides high-quality care and access to health products that are safe, staffed by a trained workforce, funded appropriately by governments and make full use of digital technologies that are available. These technologies allow for the collection of data, the monitoring of progress and the sharing of health-related information (see **TABLE 12.3**).

Universal health coverage is important in reducing poverty, promoting a stable and secure society, and achieving gender equality, equity in health and wellbeing outcomes.

TABLE 12.3 Provide health: universal health coverage

WHO objective	Explanation
Advance primary health care and essential health system capacities for universal health coverage	• People must be able to access high-quality health services that meet the health and wellbeing needs of the community, regardless of where people live. • Health services must have enough trained health workers to provide high-quality health services. This includes making sure that healthcare workers are provided with decent, safe and healthy working environments, and protecting healthcare workers from gender-based and other forms of violence. • Countries must be supported to fund an effective, efficient and sustainable public healthcare system for everyone. • The use of digital technologies must be maximised to enable the collection of information, monitor health risks, and track morbidity and mortality rates and their risk factors. These digital technologies must be supported by safe and secure systems.
Improve health service coverage and financial protection to address inequity and gender inequalities	• There must be improvements in the equitable access to quality health services for the prevention, early detection, treatment and management of non-communicable diseases, mental health conditions and communicable diseases, especially for vulnerable and marginalised people. • Equitable access to sexual, reproductive, maternal, newborn, child, adolescent and older person health and nutrition services must be provided, with a focus on preventing maternal and neonatal mortality. • Gender-based violence and harmful practices such as female genital mutilation must be addressed. • Equitable access to vaccines, including new vaccines, necessary for the eradication of polio and reducing the risk of vaccine-preventable diseases such as measles, TB and malaria, must be provided. • Antimicrobial resistance, which occurs when microorganisms such as bacteria, viruses and parasites change when they are exposed to drugs such as antibiotics designed to prevent or treat diseases, must be tackled. Medicines that have been used to treat diseases have become less effective and infections no longer respond to treatment. The misuse and overuse of medication such as antibiotics has contributed to this. • Policies and practices must be developed to ensure that people can afford to access health care and do not experience financial hardship when they do so, especially those who are vulnerable, marginalised and are living with rare or chronic diseases.

Goal 3: Protect health: Health emergencies – 7 billion people will be better protected from health emergencies

This goal is directly related to the SDG 3 target of strengthening the capacity for early warning, risk reduction and management of health-related risks.

Early detection, risk assessment, information sharing and a quick response to emergencies are important to avoid illness, injury, death and economic loss on a large scale. Work that will achieve this goal means all countries will be better prepared for health emergencies by building resilient health systems. In many countries, health systems collapse during times of emergencies, conflict and crises, which limits the ability to both respond to and recover from such situations. This was seen in many low- and middle-income countries during the COVID-19 pandemic.

This goal seeks to overcome the challenges and growing threats to health and wellbeing that all countries face due to the rapid changes that are taking place, including the impact of climate change and environmental degradation. These changes increase the frequency of both disasters and infectious disease risks, making urgent responses necessary and increasing the importance of being prepared for all kinds of health emergencies (see **TABLE 12.4**).

TABLE 12.4 Protect health: health emergencies

WHO objective	Explanation
Prevent, mitigate and prepare for risks to health from all hazards	• All countries are at risk of disease outbreaks, many of which can spread quickly and become an epidemic, such as influenza, cholera and COVID-19. Protect health focuses on reducing risks from all hazards and building capacity to keep the world safe from epidemics and health emergencies. • There must be better detection, prevention and responses to new and emerging diseases and other sources of risks and hazards. • Protect health includes the development of public health measures for mass gatherings, travel and trade, as well as improving biosafety and biosecurity practices that also protect health workers and patients. • The WHO developed the International Health Regulations (2005), which recommend actions for countries to implement to reduce the spread of diseases that can cross borders and threaten people worldwide, such as airport control, quarantine and ensuring resources are readily available to treat disease outbreaks. These will be updated to include readiness plans to address specific threats such as those associated with natural disasters, food crises and famines, severe weather and other extreme events resulting from climate change.

Rapidly detect and sustain an effective response to all health emergencies	• All people must have quick access to essential health services during health emergencies.
	• The health impacts of crises must be reduced and equitable and sustainable access to essential health and nutrition services during all emergencies must be ensured.
	• Countries and global partners must have access to current and real-time information to enable immediate and appropriate responses to be implemented, coordinated and managed through emergency operation centres.
	• It must be ensured that life-saving health and nutrition services will reach the most vulnerable people and be maintained over time. Health services include:
	  • sexual and reproductive health services
	  • mental health and psychosocial support
	  • health services for those living with non-communicable diseases
	  • health services for those living with a disability
	  • health services for accessed by women and children.

12.2 Activities

1. Access the **Universal health coverage** weblinks and worksheets in the Resources tab and then complete the worksheets.
2. Select one of the following examples of the work that has been undertaken by the WHO:
   - Framework Convention for Tobacco Control
   - Global Strategy on Diet, Physical Activity and Health
   - Recommendations on the intake of free sugars to reduce the risk of non-communicable diseases in adults and children.

   Research the example selected and then answer the following questions.
   a. Briefly outline your chosen example.
   b. Identify the WHO goal evident in the example.
   c. How does your example promote health and human development?

Resources

Digital documents Universal health coverage: Maya worksheet (doc-32229)
Universal health coverage: Right. Smart. Overdue. worksheet (doc-32230)

Weblinks Universal health coverage: Maya
Universal health coverage: Right. Smart. Overdue.

12.2 Exercises

12.2 Quick quiz on | **12.2 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3	4, 5	6, 7

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Test your knowledge

1. When was the WHO established?
2. What is meant by primary health care?
3. Briefly outline the WHO's three goals and the targets for their achievement.

Apply your knowledge

4. Copy the table below. Complete the gaps to show which goal is associated with the relevant strategic priorities.

WHO goal	Strategic priority
Promote health: Universal health coverage	________________________________ Address health determinants and the main causes of ill health
________________________________	Advance primary health care and essential health systems ________________________________
Protect health: health emergencies	________________________________ Protect and sustain effective responses to all health emergencies

5. Copy the table below. For each of the examples given, list the name of the relevant core goal and a relevant feature of SDG 3 that will be achieved. The first example is provided.

Example	Relevant WHO goal	Related feature of SDG 3
Ensure people can access medical treatment and high-quality essential medicines when they need them at an affordable cost	Provide health	Achieve universal health coverage
Put in place recommended actions to reduce the spread of a new infectious disease		

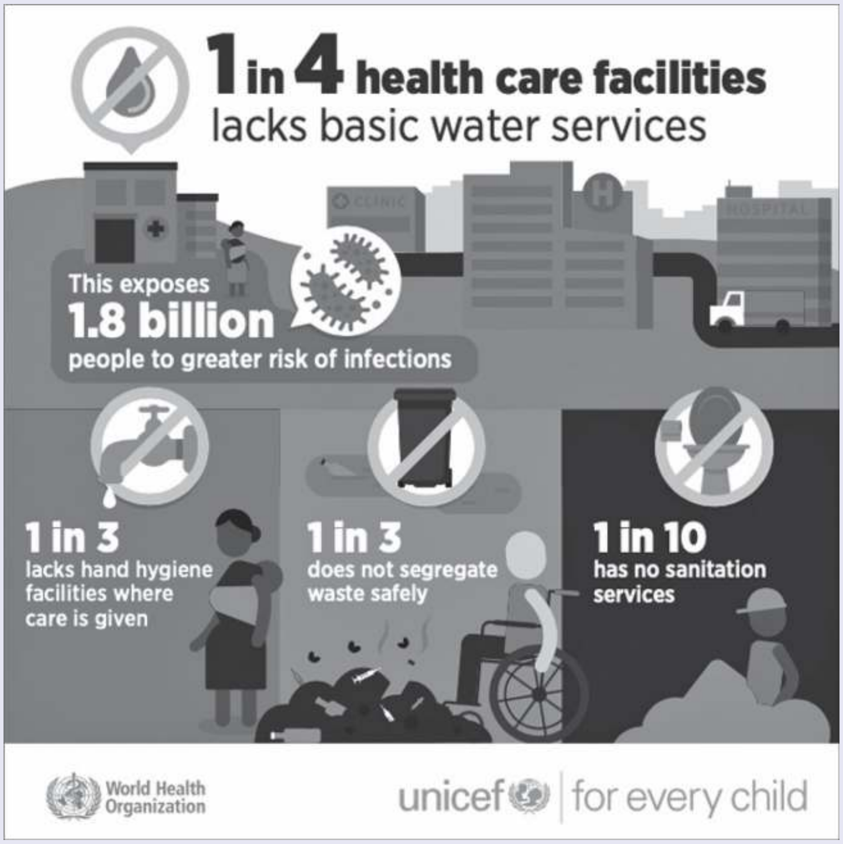
Ensure all people have access to health services during a health emergency		
Address risk factors such as tobacco and alcohol misuse to reduce diseases such as cancer		
Build environmentally sustainable health systems that are resilient to extreme weather and climate-related diseases		
Provide equitable access to sexual and reproductive health services		

6. Explain why the WHO might have categorised the three core priorities as Provide, Protect, Promote.
7. Using the WHO goals, provide examples of how they may work to reduce a disease such as tuberculosis.

12.2 Exam questions

Question 1 (4 marks)

Source: Adapted from *VCE 2021, Health and Human Development Exam, Q.11.a*; © VCAA



Source: World Health Organization, ‘1 in 4 health care facilities lacks basic water services’, graphics (poster), 14 December 2020, <www.who.int/multi-media/details/1-in-4-health-care-facilities-lacks-basic-water-services>

Identify and **describe** the WHO goal represented in the information above.

Question 2 (3 marks)

Source: Adapted from *VCE 2019, Health and Human Development Exam, Q.7;* © VCAA

World Antibiotic Awareness Week aims to increase awareness of global antibiotic resistance and to encourage best practices among the general public, health workers and policy makers to avoid the further emergence and spread of antibiotic resistance.

A global action plan to tackle the growing problem of resistance to antibiotics and other antimicrobial medicines was endorsed at the Sixty-eighth World Health Assembly in May 2015. One of the key objectives of the plan is to improve awareness and understanding of antimicrobial resistance through effective communication, education and training.

Source: World Health Organization, text from <www.who.int/campaigns/world-antibiotic-awareness-week>, infographic from <www.who.int/campaigns/world-antibiotic-awareness-week/world-antibiotic-warenessweek-2018/advocacy-material>

Identify and **describe** one World Health Organization (WHO) goal reflected in the information above.

Question 3 (1 mark)

Source: Adapted from *VCE 2017, Health and Human Development Exam, Q.11.b.i;* © VCAA

Provide health: Universal health coverage is one of the goals of the WHO. **Outline** what is meant by universal health coverage.

Question 4 (2 marks)

Source: Adapted from *VCE 2017, Health and Human Development Exam, Q.11.b.ii;* © VCAA

Explain how achieving universal health coverage can promote global health and human development.

Question 5 (3 marks)

Source: Adapted from http://www.who.int/media/homepage/uhc-infographic.jpg?ua=1

Identify the goal of the WHO represented in the infographic above. Use information from the infographic to **justify** your choice.

More exam questions are available in your learnON title.

12.3 Aid

Key knowledge	Key skill
The purpose and characteristics of different types of aid, including bilateral, multilateral and aid provided by non-government organisations (providing humanitarian assistance, reducing poverty, improving human development and promoting health)	Evaluate different types of aid and their effectiveness in providing humanitarian assistance, reducing poverty and improving human development and promoting health

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• what humanitarian assistance is and how and why it is provided • the three types of aid, their characteristics and the purpose of each • how each type of aid can reduce poverty, improve human development and promote health.	• explain humanitarian assistance and provide examples of how and why it is provided • explain the characteristics of each of the three types of aid and provide examples of each • recognise examples of the different types of aid in a range of scenarios • describe how each type of aid can reduce poverty, improve health and promote human development.

As you have seen in previous topics, there are many similarities and differences in the health status of low-, middle- and high-income countries, but there is a need to improve health outcomes in all countries. The SDGs provide the framework for global action to address inequalities, reduce poverty and achieve sustainable development (see topic 11). Through aid or official development assistance, a range of actions and programs have been put in place, especially in low- and middle-income countries. One such action is the provision of humanitarian assistance.

12.3.1 Humanitarian assistance

Although not officially a type of aid, humanitarian assistance is sometimes called emergency aid and is the immediate assistance given to people or countries in response to a crisis such as a flood, tsunami, earthquake or conflict. It helps relieve suffering and is designed to be short-term. Humanitarian assistance includes:

- the provision of food, water, medicines and shelter
- personnel, such as health workers, doctors or emergency workers from other countries or aid organisations.

Humanitarian assistance is designed to keep people alive and to address the immediate needs of the affected communities but does not directly address the underlying causes of poverty and should end once the emergency is over and people's lives are no longer in danger.

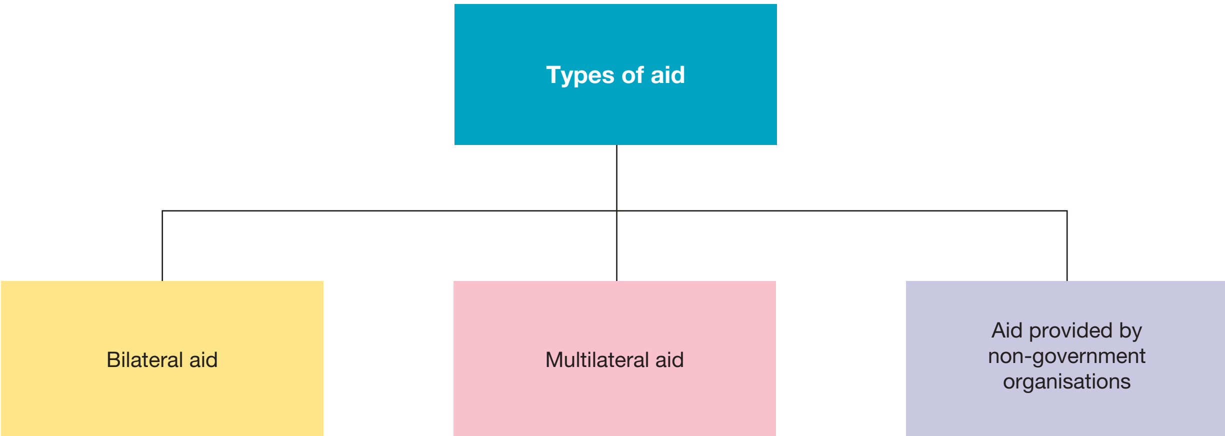
FIGURE 12.5 The provision of food, clean water, blankets and medical equipment is an example of humanitarian assistance provided to countries following a crisis such as an environmental disaster or conflict.

Providing humanitarian assistance beyond this can lead to countries becoming dependent upon handouts rather than being supported to rebuild their communities for longer-term sustainable development.

12.3.2 Types of aid

There are three main types of aid provided to low- and middle-income countries: bilateral aid, multilateral aid and aid provided by non-government organisations (see **FIGURE 12.6**).

FIGURE 12.6 Types of aid



EXAM TIP

Humanitarian assistance is provided through each of the main types of aid: bilateral, multilateral and non-government organisation aid. It is not a type of aid on its own, therefore you cannot use it as an example of a type of aid.

Bilateral aid

With bilateral aid, the government of one country (the donor country) provides support directly to the government of another country (the recipient country). In times of emergency, humanitarian assistance can be provided through bilateral aid. However, the main purpose of bilateral aid is to help reduce poverty, improve health outcomes and bring about long-term sustainable development. It is designed to help the government of a recipient country to rebuild or strengthen their economic, political, health and education systems so that they can become self-sufficient (see **TABLE 12.5**).

The donor country works with the government of the recipient country to make sure the aid provided meets the needs of the country and its people. This can range from small, community-based projects such as immunisation programs to large projects such as building water treatment plants, roads and other **infrastructure**.

infrastructure the physical and organisational structures, facilities and systems (e.g. buildings, roads, power supplies) needed for the operation of a society

An example of bilateral aid is the Australian government providing funding to the government of the Kiribati to implement programs to assist in the recovery from the COVID-19 pandemic. Another example is the response to the landslide in Papua New Guinea (PNG) in 2024, for which the Australian government, in response to a formal request for from the government of PNG, provided humanitarian assistance by providing emergency management coordination to support local planning and recovery.

TABLE 12.5 Summary of bilateral aid

Characteristics	Purpose	Examples	How it promotes health outcomes	How it promotes human development
• The donor country works with the government of the recipient country to ensure the aid that is provided meets the needs of the country and its people. • Aid provided by the government of one country to the government of another country	• Reduce poverty and promote long-term sustainable development by strengthening a country's economic, political, health and education systems and supporting them to become self-sufficient • Build strong relationships with governments of our neighbouring countries, which helps promote regional security	• Support large infrastructure projects • Fund small community-based projects such as immunisation programs • Build schools and provide education programs • In times of emergency, humanitarian assistance is provided.	• Reducing poverty means money is available to buy food, water, clothing, shelter and health care, which reduces communicable diseases and improves physical health and wellbeing. With improved physical health and wellbeing, people are happier, improving emotional health and wellbeing and improving mental health and wellbeing. • Education promotes social health and wellbeing because children and adults come together to learn. • Reducing poverty reduces stress, improving mental health and wellbeing.	• Reducing poverty and improving health and wellbeing helps people to live a long and healthy life by reducing ill health. • Reduced poverty means people have the resources to achieve a decent standard of living. • Schools and education help children and adults develop knowledge. • Improved economic growth and stronger political systems help protect human rights and security and achieve gender equality. • Infrastructure projects such as safe water and sanitation help manage waste and promote environmental sustainability.

Bilateral aid sometimes attracts criticism, because the goods and services may be provided by companies from the donor country, thereby favouring its own economy and political interests. There can also be risks with providing bilateral aid if the government of the recipient country is corrupt and the funds are not spent on their intended purpose. Sometimes bilateral aid projects are focused on urban areas and neglect the poorest people, who are more likely to live in remote rural villages. To minimise the risks associated with bilateral aid, it is important for donor countries to regularly evaluate their aid programs and the effectiveness of the aid provided in terms of poverty reduction and the achievement of health and development outcomes.

Multilateral aid

Multilateral aid is assistance provided through a large global organisation, such as the World Bank, United Nations (UN), Asian Development Bank or the WHO. Governments provide money to multilateral organisations that combine funds from many countries and use these funds to support countries in need. Multilateral aid has the advantage of being less tied to the political interests of individual donor countries. With greater budgets and reach than individual countries, multilateral aid is also able to implement global programs that would be too big for any one government to implement, and has the ability to reach countries and regions that individual countries cannot.

This aid is often used to address global issues, such as:

- humanitarian assistance through the World Food Programme (part of the WHO) during periods of famine
- funding action for global warming and control of diseases such as COVID-19, malaria and tuberculosis
- major infrastructure projects, such as the building of roads and sanitation systems and agricultural programs.

The purpose of multilateral aid is to contribute to the reduction of poverty and the achievement of equity in health outcomes, and promote human development (see **TABLE 12.6**).

TABLE 12.6 Summary of multilateral aid

Characteristics	Purpose	Examples	How it promotes health outcomes	How it promotes human development
• Aid provided through an international organisation, such as the World Bank, WHO, UN or Asian Development Bank • These organisations combine funds from many countries to support countries in need. • This aid is not tied to any political interests from donor countries.	• Reduce poverty, achieve equity in health outcomes and promote long-term sustainable development	• Address global issues such as global warming, control diseases such as COVID-19 and provide infrastructure projects such as roads and sanitation systems • Provide humanitarian assistance through programs such as the World Food Programme	• Reducing poverty means money is available to buy food, water, clothing, shelter and health care, which reduces communicable diseases, improving life expectancy • Addressing global warming contributes to improved physical health and wellbeing and reduces the incidence of diseases such as asthma, stroke, cardiovascular diseases, malaria, malnutrition and diarrhoea • Controlling diseases such as COVID-19 promotes global health and wellbeing by preventing the transmission of the disease within and beyond countries. • Better agriculture and more secure food supplies reduce malnutrition and hunger, reducing U5MR and promoting physical health and wellbeing.	• Reducing poverty helps bring about equity in health outcomes and gender equality. • Greater access to food means people will not be hungry, and will have better health and the energy to work and generate an income, which can provide resources needed to achieve a decent standard of living. • Reducing the transmission of diseases helps people live a long and healthy life and have the opportunity to work and earn an income, which provides taxes for the government to invest in further infrastructure, such as health care and strong political systems. • Infrastructure projects such as safe water and sanitation help manage waste and promotes environmental sustainability. • Reducing global warming means people do not have to relocate and communities remain connected, which supports people to participate in community and political life.

Aid provided by non-government organisations (NGOs)

Non-government organisations (NGOs) are non-profit organisations that work to promote health and human development. They operate independently of governments. Although being an NGO suggests no government involvement, many of these agencies rely on funding from governments, as well as funds from public donations. Globally, there are thousands of NGOs that are involved in providing aid. Some well-known NGOs include World Vision, Caritas, Oxfam and the International Red Cross.

Aid provided by NGOs is an important part of the overall aid program and complements bilateral and multilateral aid. It has many advantages. Rather than focusing on larger projects like bilateral and multilateral aid, it tends to focus on smaller, community-based projects to meet basic health and wellbeing needs and promote community development and participation.

FIGURE 12.7 The International Red Cross is an example of an NGO that can provide aid to areas that are hard to reach and can respond quickly and effectively to a crisis situation to provide humanitarian assistance.

Non-government organisations:
- can work in areas that are difficult to access, such as remote, fragile and conflict-affected regions
- have expertise in working in emergency situations, providing fast and flexible humanitarian assistance
- bring strong connections to local communities, which means trust has often already been established
- have deep knowledge of poverty and its causes at a community level and bring expertise to the aid program (see **FIGURE 12.8**).

FIGURE 12.8 Aid provided by NGOs has many advantages and complements other types of aid.

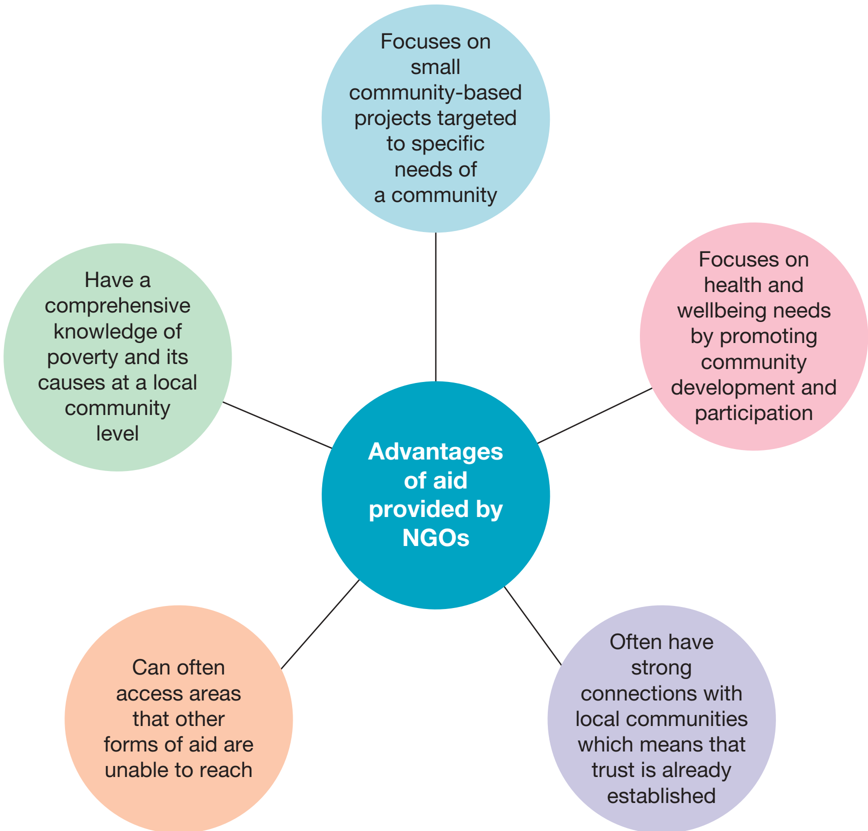


TABLE 12.7 Summary of aid provided by non-government organisations

Characteristics	Purpose	Examples	How it promotes health outcomes	How it promotes human development
• Aid provided is independent of governments, although governments do provide some funding • Funding from governments and public donations is used to support the work of these organisations • The focus is on providing small, community-based projects, which are often not the focus of bilateral or multilateral aid • They have the ability to respond quickly when aid is needed and to reach areas that are often difficult to access • They bring strong connections to local communities where trust has already been established • They understand the needs of the local community and can bring local expertise to an aid program	• Address poverty by working with communities to provide assistance that meets the needs of communities and promotes community development and participation	• Provide humanitarian assistance quickly in times of emergencies and crisis • Implement programs that assist women and girls to develop leadership skills and to speak out and have their voices heard • Provide safe drinking water and sanitation in villages • Lobby governments for action on climate change • Provide education programs for children • Implement maternal and child health programs to support immunisation and the provision of prenatal care	• Providing humanitarian assistance ensures people have water to drink, food to eat, basic medical care and blankets, which keep people alive • Reducing poverty means money is available to buy food, water, clothing, shelter and health care, which reduces communicable diseases, improving life expectancy • Women are often victims of violence, so building leadership skills and empowering women helps reduce the burden of disease due to violence • Access to prenatal healthcare means health checks can occur before, during and after birth, which reduces maternal and neonatal mortality rates • Access to vaccinations reduces communicable diseases and helps reduce the U5MR	• Reducing poverty helps bring about economic growth and more resources for governments to invest in health, education and social welfare programs • Reducing the transmission of diseases helps people live a long and healthy life and enjoy a decent standard of living • With gender equality, women can enjoy a decent standard of living and can participate in the lives of their community. • When people are healthy, they can work and children can attend school, which improves knowledge and creates opportunities for people to participate in the life of their community and be empowered to have control over the decisions that affect their lives

12.3 Exercises

12.3 Quick quiz on | 12.3 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3	4, 5, 7	6, 8, 9

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Test your knowledge

1. What is meant by the term 'aid'?
2. List the three types of aid and give an example of each.
3. For each type of aid, describe its characteristics and purpose.
4. Why does bilateral aid sometimes attract criticism?
5. Why is it important to be able to pool resources to provide multilateral aid?

Apply your knowledge

6. Draw a table like the one below and briefly outline the benefits and limitations of each type of aid.

Type of aid	Advantages	Limitations

7. Emergency or humanitarian assistance is short-term aid and should end once the emergency is over. Explain why.
8. Read the following information.
   Due to floods in Bangladesh, dangerously high river levels forced thousands of people from their homes and many families had to live out in the open. There were shortages of clean water, food, medicine and fuel. The flooding wiped out entire villages and crops, and plunged farmers deeper into debt.
   Examine the three examples of aid below and answer the questions that follow.
   - Local companies worked with the government of Bangladesh to build new schools or classrooms and repair those that were damaged.
   - World Vision worked with local communities to provide clean water and sanitation.
   - Funds provided by the Australian government were used by the government of Bangladesh to fund the building and repair of roads washed away by the floods.
     a. Identify two types of aid represented in the examples.
     b. Select one example that represents the most appropriate response to the situation in Bangladesh and justify your choice.
9. Explain why NGOs often work in collaboration with governments and local aid agencies.

12.3 Exam questions

Question 1 (2 marks)

Source: *VCE 2019, Health and Human Development Exam, Q.13.a;* © VCAA

Describe the difference between bilateral aid and aid provided by non-government organisations.

Question 2 (1 mark)

Source: *VCE 2017, Health and Human Development Exam, Q.13.c;* © VCAA

In addition to working with NGOs, Australia also provides bilateral aid. **Describe** bilateral aid.

Question 3 (3 marks)

Australia's aid program has provided funds to deliver climate resilient infrastructure in Tongan schools through the World Bank managed Safe and Resilient Schools Project.

Source: https://www.dfat.gov.au/sites/default/files/development-cooperation-fact-sheet-tonga.pdf

Identify and **describe** the type of aid represented in the information above.

Question 4 (9 marks)

Strengthening climate and disaster resilience in Nauru

Australia is working in partnership with the Government of Nauru to meet the needs and aspirations of its people to build resilience to climate change and disaster events.

Nauru is highly vulnerable to the impacts of climate change. The country is already facing challenges such as stronger and longer-lasting droughts, heat waves, coastal erosion, increased acidity of ocean waters, sea level rise, wind-driven waves and king tides. These climate-related hazards are projected to get worse over time.

Most of Nauru's population and critical infrastructure is located on the coast. Australia is helping the Government of Nauru to ensure that critical infrastructure, like schools and the power station, are protected.

At least 90 per cent of all food consumed in Nauru is imported. Australia is supporting an upgrade to Nauru's port to facilitate more reliable and secure shipping services, supporting import food security in a changing climate.

Source: Adapted from https://www.dfat.gov.au/about-us/publications/nauru-australias-commitment-to-strengthening-climate-and-disaster-resilience-in-the-pacific

a. **Identify** and **describe** the type of aid evident in the information above. **3 marks**
b. **Explain** two ways the program in Nauru could contribute to improved human development. **4 marks**
c. **Explain** how the program in Nauru could contribute to improved mental health and wellbeing. **2 marks**

More exam questions are available in your learnON title.

12.4 Australia's aid program

Key knowledge	Key skills
The role of Australia's aid program in supporting the achievement of the SDGs and the partnerships involved.	• Discuss how Australia's aid program supports the achievement of the SDGs • Justify why Australia's aid program is delivered through partnerships

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the aim of Australia's aid program • where Australia provides aid • the types of aid provided through Australia's aid program • ways in which Australia's aid program contributes to the achievement of the SDGs • the types of partnerships that are involved in Australia's aid program and why they are important.	• explain why Australia provides aid and the reasons why the focus is on the Indo-Pacific region • use examples from Australia's aid programs to make meaningful connections to the achievement of key features of relevant SDGs • identify and describe the different types of partnerships involved in the delivery of Australia's aid program and the role they play • explain why different partnerships are important for the success of Australia's aid program.

Australia, like most other high-income countries, provides aid to low- and middle-income countries. The Department of Foreign Affairs and Trade (DFAT) manages Australia's aid program. The aim is to reduce poverty and promote a peaceful, stable and prosperous Indo-Pacific region, which is based on achieving sustainable development. The Sustainable Development Goals (SDGs) provide the framework for action.

Where aid is given

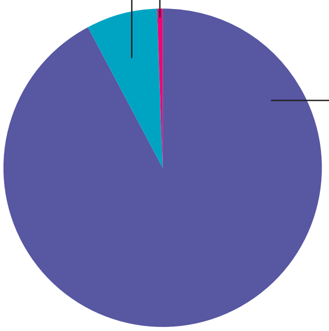
Australia provides aid to many countries, but the majority of our aid is focused on the Indo-Pacific area, of which Australia is a part, especially the Pacific, South-East Asia and South Asia. There are many people living in poverty in our region and many are struggling to meet their basic needs. Many of these countries are also affected by conflict. Stronger growth, prosperity and stability in our region will also benefit Australia. While we support regions beyond this, countries within the Indo-Pacific are our closest neighbours and this is where Australian aid can make the most difference. Papua New Guinea and Indonesia are the two largest recipients of Australian aid.

How much aid Australia gives

Australia's aid program does not cost Australians very much but can bring big benefits to people in low- and middle-income countries. In 2023–24, Australia allocated approximately $4.77 billion, which is around 0.19 per cent of our Gross National Income (GNI) and only 0.7 per cent of the entire federal budget spending. This means that taxpayers contributed around $173 per person.

Australian aid helps countries in important ways. Over time, it has helped increase economic development in poorer countries. It has helped the world eliminate smallpox, which has saved over 200 million lives, and contributed to the reduction in global malaria rates, increased access to health services for women and children, which has improved the global U5MR, and contributed to the reduction in poverty.

FIGURE 12.9 As a percentage of all budget spending by the federal government, only 0.7 per cent is spent on foreign aid.



Source: Australian Aid Tracker https://devpolicy.org/aidtracker/trends/#:~:text=The%20percentage%20of%20aid%20from,0.70%25%20in%202023%2D24

Areas of focus — achievement of the SDGs

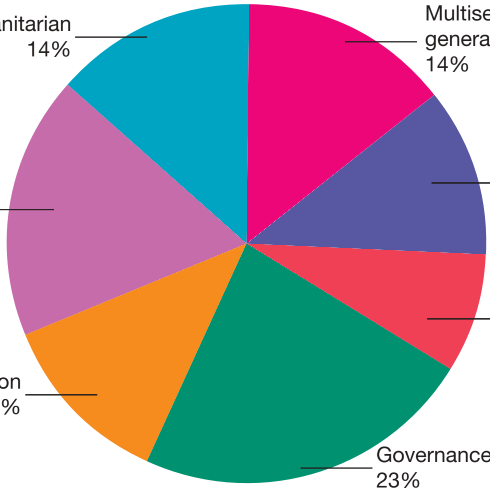
Australia focuses its aid program on a range of issues that contribute to the achievement of the SDGs. These include climate change, health, water, sanitation and hygiene, education and social protection systems, as well as programs that address gender equality by empowering women and girls. Aid is also provided for humanitarian assistance where needed (see **FIGURE 12.10**).

In 2023, DFAT released a new international development policy that outlined the long-term direction for Australia's aid program, which included a commitment to the achievement of the SDGs, in particular:

- gender equality
- climate change
- addressing issues around human rights.

Australia's aid program has identified gender equality as essential for achieving sustainable development and poverty reduction. Gender equality creates opportunities for people to thrive, making countries stronger, more secure and more inclusive. As part of this policy focus, 80 per cent of all development investments must address gender equality. New programs of more than $3 million must include gender equality objectives. Australia will also develop an international gender equality strategy to support this priority.

FIGURE 12.10 Areas of focus of Australian aid (%), 2023–24



ˆMultisector and general support includes: Support for projects which cut across sectors, including general environment protection; debt relief; research; and administrative costs not attributed to another sector.
*Economic infrastructure and services include: water and sanitation services, transport, roads, reliable energy sources and ICT infrastructure
#Governance includes: making sure there are stable and productive governments that use resources to support sustainable development for their citizens, can maintain law and order, promote gender equality and social inclusion, human rights and promote peace.

Source: Adapted from Australia's Official Development Assistance Budget Summary 2023–24, https://www.dfat.gov.au/about-us/corporate/portfolio-budget-statements/australias-official-development-assistance-budget-summary-2023-24

However, the achievement of all SDGs remains a focus of our aid program. For example, through bilateral aid, we work with the government of Papua New Guinea on programs to enhance health by:

- targeting maternal and child health
- addressing communicable diseases
- strengthening health security
- helping to build a more effective health system.

Australia also supports:

- the training of specialist non-communicable disease nurses in Tonga
- improvements to family planning and maternal health services in Timor-Leste
- the provision of free essential healthcare to the poorest 20 per cent of Cambodians
- the upgrading of the water supply system in Vanuatu, which improved access to safe drinking water for more than 2500 people.

Almost one-third of Australia's aid budget is allocated to multilateral aid. The Australian government provides multilateral funds to international aid organisations such as the World Bank, Asian Development Bank, United Nations Development Program, UNICEF and the WHO, which provide funds for a range of global programs that support the achievement of the SDGs. Other multilateral organisations supported by Australia's aid program include:

- The Global Fund to Fight AIDS, Tuberculosis and Malaria
- Gavi, the Vaccine Alliance, which helps reduce childhood deaths by ensuring low-income countries can access vaccines at an affordable cost

FIGURE 12.11 Australia's aid program through DFAT assists those living in low- and middle-income countries to have improved access to healthcare services, in particular maternal and child health services.

- the Global Partnership for Education, which supports children to achieve primary and lower secondary school education.

Action to achieve the SDGs is also reflected in the aid provided to NGOs that deliver programs directly to people in need. These programs usually focus on the reduction of poverty by addressing education needs, improving water and sanitation, supporting communities to implement food and nutrition programs, and working to empower women and girls.

Why Australia works with partners to deliver aid

The aims of Australia's aid program cannot be achieved by working alone. To achieve maximum effectiveness, Australia works with and delivers aid through a range of partnerships, which are shown in **FIGURE 12.12**. Different partners bring different and valuable connections, knowledge, expertise and partnerships with local communities, which build strong relationships, networks and knowledge. These partnerships are necessary to:

- maximise the impact, geographic reach and influence of our development activities
- learn from, and make use of, the experience and innovation that each partnership brings to improve results
- avoid duplication of efforts and programs
- ensure the needs of the Indo-Pacific region are represented internationally and are not overlooked.

FIGURE 12.12 The Australian government aid program works in partnership with a range of organisations and agencies to deliver aid to achieve maximum benefit.

TABLE 12.8 Different types of partnerships and their important roles

Type of partnership	What it means and why it is important
Bilateral partnerships	• When Australia provides aid to a country or responds to a humanitarian crisis or natural disaster, we do this by working with governments of other countries, such as Canada, Europe, France, Germany, Japan and New Zealand. • When countries work together to coordinate aid programs, it improves the delivery, impact and sustainability of the aid provided by pooling resources and expertise. This promotes health and human development outcomes.
Multilateral agencies	• Working with agencies such as the United Nations or the World Bank extends the reach of Australia's aid program because their large size allows them to implement projects on a larger scale than is possible for Australia to do on its own. • Working with the United Nations and its humanitarian agencies means carefully targeted programs can be put in place for humanitarian assistance and long-term development.
Local communities or civil society	• Working with local community groups or civil society allows local people to have their say on particular topics that affect them and recommend solutions to government for a range of topics. • Involving the community ensures local needs are identified, community leaders are involved in the planning and delivery of programs and sustainable development is promoted. • Small-scale community groups enable the inclusion of women and other minority groups, and fill gaps in essential services, making Australia's aid much more effective.
Other government departments	• While DFAT is responsible for administering our international aid program, it also works with many other government departments and agencies, such as the Australian Centre for International Agricultural Research and the Australian Federal Police. Together, they provide a wide range of expertise that helps Australia to address the development, economic, security and political aspects of partner countries.
Universities	• DFAT works with a range of Australian universities to provide scholarships to students from low- and middle-income countries. These students will study in Australia and hopefully return to their communities with increased knowledge and skills to bring about positive change, reducing poverty and promoting sustainable development.
Business	• Sometimes referred to as the private sector, business has specific knowledge, ideas, capabilities and resources that can help improve the effectiveness of Australia's aid program. • Businesses in low- and middle-income countries are important for the development of jobs, services and income that promotes economic development. • Working with the private sector helps build businesses and prosperity and eradicate poverty.
Non-government agencies	• Non-government agencies maximise the impact and reach of Australian aid, help build sustainable economic growth and reduce poverty. These agencies can bring strong connections to local communities; access to areas that others don't or can't reach, such as in remote, fragile and conflict-affected areas; comprehensive knowledge of poverty in particular contexts and deep development expertise to the aid program.

EXAM TIP

If you are asked to explain one or more examples of partnerships that are associated with Australia's aid program, it is important to name the type of partnership and then explain what it means. It may also be useful to explain why it is important.

Resources

Teacher-led video Partnerships regarding Australian Aid (tlvd-0268)

12.4 Activity

Access the **Together we do better** weblink and worksheet in the Resources tab and then complete the worksheet.

Resources

Digital document Together we do better worksheet (doc-41627)
Weblink Together we do better

12.4 Exercises

12.4 Quick quiz | **12.4 Exercise**

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 4	5, 6	7, 8, 9

Test your knowledge

1. Name the government department responsible for managing Australia's aid program.
2. What is the aim of Australia's aid program?
3. Identify the percentage of Australia's aid budget in 2023–24 that was allocated to health.
4. State how much Australia's aid program costs individual taxpayers each year.
5. Explain why it is important for Australia to develop partnerships for the delivery of our aid program.
6. Explain why it is important to form partnerships with civil society or local communities.

Apply your knowledge

7. Australia's aid is focused on achieving the SDGs. Discuss.
8. Gender equality is essential for achieving sustainable development and poverty reduction. Provide two examples that support this statement.
9. Refer to the **FIGURE 12.10**. Identify what percentage of Australia's aid budget is spent on humanitarian assistance and why is this important for the achievement of SDG 3.

12.4 Exam questions

Question 1 (2 marks)

Source: Adapted from *VCE 2015, Health and Human Development Exam, Q.12.a;* © VCAA

Give two reasons why Australia provides aid to low- and middle-income countries.

Question 2 (2 marks)

Source: Adapted from *VCE 2007, Health and Human Development Exam, Q.4.a;* © VCAA

What is DFAT?

Question 3 (2 marks)

DFAT provides assistance to many countries worldwide.

Which region of the world receives the majority of DFAT funding? **Explain** why.

Question 4 (2 marks)

Outline two reasons why the Australian government allocated 90 per cent of its aid budget to the Indo-Pacific region.

More exam questions are available in your learnON title.

12.5 Features of effective aid programs

Key knowledge	Key skill
Features of effective aid programs	Evaluate the effectiveness of aid programs in promoting health and human development

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

You need to know:	You need to be able to:
• the features that are important for aid to be effective • why each of these features contribute to the effectiveness of an aid program • how aid programs contribute to improved health and human development.	• explain the features of effective aid and why they are important • use the features of effective aid to analyse an aid program and make judgements about its effectiveness • use examples to explain how aid programs promote health and human development.

Providing international aid is complex and involves many partnerships. Without good coordination, there is a risk that some countries may not receive any aid, and others may receive aid that is not as effective as it could be or it duplicates programs that have already been implemented by other organisations. In recognition of this, an international forum with representatives from 160 countries and 50 organisations came together and developed a set of shared, interconnected principles that represent the essential features of effective aid programs. These are grouped into four areas (see **FIGURE 12.13**).

EXAM TIP

When evaluating the effectiveness of aid programs, you are required to make a judgement about the actual or potential effectiveness of an aid program in promoting health and human development. To do this, you need to include a discussion of how selected features reflected in a program will assist in making it effective, or you may be asked to apply one or more features to suggest how a program might be delivered to make it effective. For example, community involvement and ownership might contribute to a program being effective, but you need to explain why.

There are no set criteria or a list of features of effective aid programs, but the framework below provides one example you can use to evaluate an aid program. In most cases, using only one example will not be enough to justify a judgement so you should consider a range of criteria to add depth to your response.

on Resources

Teacher-led video Features of effective aid (tlvd-0269)

You will notice that many of these principles were also relevant when looking at evaluating programs implemented in Australia in topic 6.

The effectiveness of aid is tied closely to why it is given and how it interacts with other policies, which may reduce or even reverse its positive impact. The outcomes of effective aid are to:

- reduce poverty and inequality in low- and middle-income countries
- promote human rights
- move towards a more equal and stable global system
- help achieve the SDGs.

How aid is delivered to low- and middle-income countries is just as important as why it is given. An explanation of these key features is shown in **TABLE 12.9**.

FIGURE 12.13 Features of effective aid

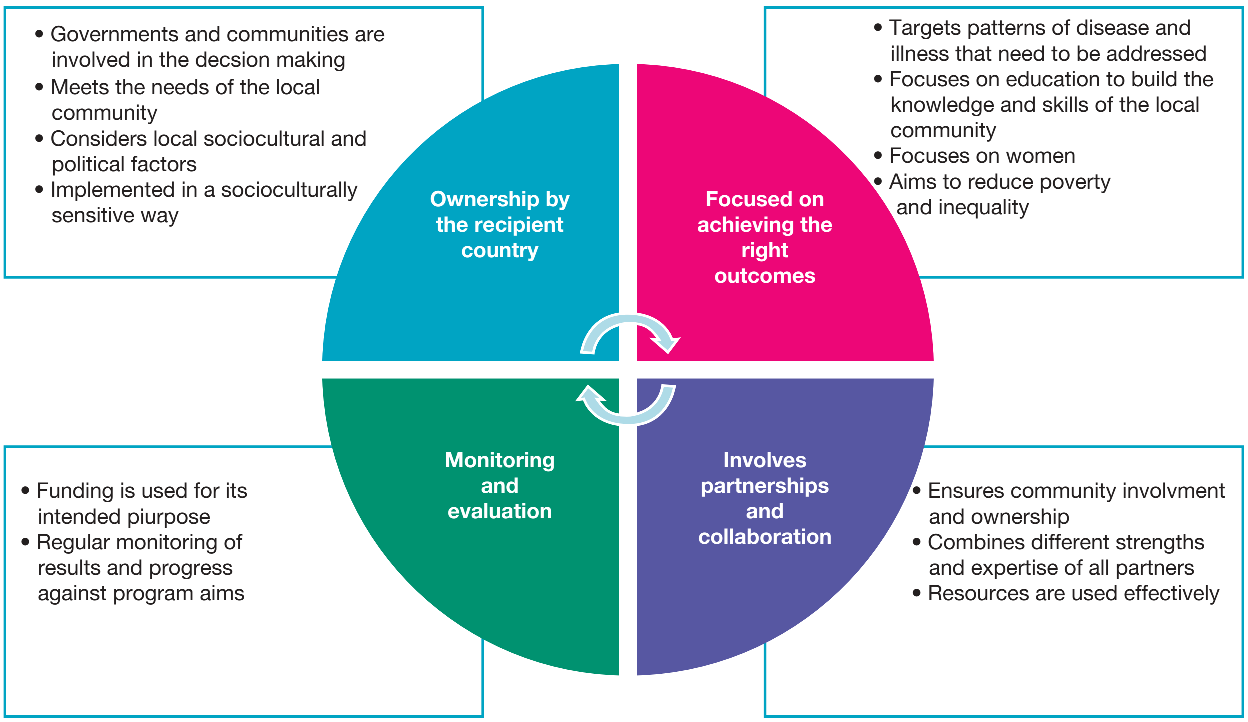


TABLE 12.9 Summary of features of effective aid

Feature of effective aid	How it contributes to effective aid
Ownership by the recipient country	• Recipient countries must be involved in deciding the type of aid that best meets their needs and whether it fits into their longer-term needs and plans for the country. • Aid organisations or governments of donor countries should not make decisions about what they think a country needs or how a program should be implemented. • Programs need to consider the sociocultural and political aspects of the community and be implemented in a socioculturally sensitive way. For example, before implementing an education program, it might be important to consider whether males are more likely to attend school than females. Therefore, encouraging families to send their daughters to school might need separate male and female classes and separate toilet facilities. • Delivering messages in local languages and using visual aids for those who are illiterate demonstrates an understanding of the community.

(continued)

TABLE 12.9 Summary of features of effective aid *(continued)*

Feature of effective aid	How it contributes to effective aid
Focused on achieving the right outcomes	• Making a difference and having a lasting impact on reducing poverty and inequality and promoting health outcomes and human development should be the main purpose for implementing an aid program, which means it must focus on addressing patterns of disease and illness within a country or community. • Programs should also be free or low cost to participants because many families live in poverty and this will help ensure the program benefits those who need it the most. • Focusing on education and women will help ensure social sustainability and positive long-term outcomes. At the end of the program, when aid workers leave the community, an effective aid program should continue to have a positive impact. A focus on women and education helps achieve this. Women are responsible for most of the agricultural and domestic work, including the care of children. When women are educated and empowered, they are better able to care for their children, secure well-paid employment or set up a business that provides a regular income. This helps reduce the level of poverty and improves the health and wellbeing of all community members.
Partnerships and collaboration	• Partnerships could include the government of the recipient country; the government of the donor country; a multilateral aid agency such as the World Bank; an NGO; and the leaders in the local community. • By forming partnerships, the differing strengths of governments, NGOs and local communities can be used to implement effective programs that make efficient use of resources and avoid duplicating other programs. • Local communities need to have input into the design and implementation of a program. Having people in the local community implement the program helps ensure it is socioculturally appropriate. • Focusing on education builds the capacity of the community by training locals to develop the necessary knowledge and skills needed to ensure the program is socially and economically sustainable once outside assistance finishes. In this way, available resources are used efficiently.
Monitoring and evaluation	• Monitoring ensures that funding for the program is used for its intended purpose. • Ongoing evaluation is needed to check that the aims of the program are being met and that it is making a difference to the health and human development of the target community.

EXAM TIP

If you are asked to identify and/or explain one or more features of effective aid, you can refer to:

- any of the categories
- any of the features that are included in each of the categories.

For example, you could say ‘ownership by the recipient country’ or ‘meets the needs of the local community’.

12.5 Exercises

12.5 Quick quiz on | **12.5 Exercise**

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Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3, 5	4, 6	7, 8, 9

Test your knowledge

1. What are the outcomes of effective aid?
2. Identify why was a set of shared principles was developed to reflect the essential features of effective aid programs.
3. List the four categories associated with effective aid programs.
4. Explain why it is important to consider the sociocultural and political aspects of a community when implementing an aid program.
5. Provide one example that helps ensure a program is delivered in a socioculturally sensitive way.
6. Outline who might be involved in a partnership when implementing an effective aid program.

Apply your knowledge

7. 'How aid is delivered to low- and middle-income countries is just as important as why it is given.' Explain what this means.
8. Explain why it is necessary for effective aid to involve partnerships and collaboration.
9. Analyse why it is important to focus on women if an aid program is to be effective.

12.5 Exam questions

Question 1 (4 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.13.d*; © VCAA

Through its aid program, the Australian Government works with organisations such as the World Food Programme, which is a branch of the United Nations, to ensure food security in countries across the Pacific region. The aid program involves working with farmers and small businesses to improve agricultural techniques and increase food production and availability.

What are two features that would make an aid program implemented in low-income or middle-income countries effective? **Explain** your response.

Question 2 (4 marks)

Identify two key features of effective aid programs and briefly **describe** each.

Question 3 (4 marks)

In Kenya's Nyanza province, a safe water and hygiene program supplied 45 public primary schools with clay pots for safe water storage. The schools were also provided with a year's supply of water disinfectant, 200-litre plastic water tanks with taps for handwashing, and soap. Two teachers from each school received educational materials on water treatment, safe storage and good hand-washing practices for use in the classroom. They formed safe water clubs with students, who were encouraged to share the information with their parents. An evaluation of the program in nine schools found that student handwashing in Grades 4–8 improved and increased. Absenteeism declined by 35 per cent, while absences in neighbouring schools without the intervention increased by 5 per cent. Effects in the surrounding community included: household soap ownership increased from 74 per cent to 90 per cent, and 25 per cent of parents and guardians reported changing their handwashing behaviour because of what they learned from their child. In addition, parents of children in the safe water clubs were almost twice as likely to report using the water treatment than parents whose child was not a club member.

Identify two key features of an effective aid program and **outline** how each is evident in the safe water and hygiene program.

Question 4 (1 mark)

One of the key features of effective aid programs is ‘ownership’. **Give an example** of this key feature.

More exam questions are available in your learnON title.

12.6 Taking individual and social action

Key knowledge	Key skill
Ways in which individuals can engage with communities and/or national and international organisations to take individual and social action that promotes health and human development	Discuss ways of taking individual and social action to promote health and human development

Source: *VCE Health and Human Development Study Design* © VCAA; reproduced by permission.

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You need to know:

- the types of actions that individuals can take at a personal level that can help promote health and human development
- what social action means
- the different ways that people can engage with the community to take action to bring about change
- why taking individual and social action is important
- how taking individual and social action can promote health and human development.

</td>
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You need to be able to:

- describe different ways that individuals can take social action at a personal level
- identify and explain examples of individual and social action that are reflected in different scenarios
- suggest and explain how individual and social action could be taken to address a health-related issue
- provide specific examples that show how taking individual and social action can improve health and human development.

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People often feel they would like to be actively involved in bringing about changes and improvements in health outcomes and human development but are unable to be directly involved in aid programs. However, individuals themselves can take action, or they can engage with the community to take social action and advocate for change.

FIGURE 12.14 Taking social action is a way that people can get involved in bringing about change in areas such as gender equality.

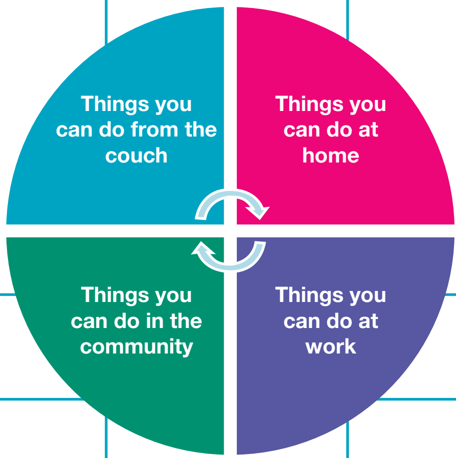
12.6.1 Taking individual action

Change starts with individuals. The personal choices and actions that we make as individuals can have an impact on society as a whole. These actions do not have to be large, take a great deal of time or include others. The United Nations has developed a framework based on actions that people can do:

- from their couch
- from their home
- from their community
- from their workplace.

Examples of these are shown in **FIGURE 12.15**.

FIGURE 12.15 There are many easy actions that people can take to help achieve the SDGs and make a difference to health and human development.



- Save electricity by turning appliances off completely when not in use.
- If you see an interesting social media post about gender equality or climate change, share it so others can see it too.
- Turn off the lights.
- If you notice harassment on a message board or in a chat room, report that person.
- Drink tap water rather than bottled water.

- Let your hair and clothes dry naturally instead of using a dryer.
- Take short showers to save water.
- Eat less meat, poultry and fish. It takes more resources to provide meat than plants.
- Compost food scraps to reduce climate impact and recycle nutrients.
- Recycle paper, plastic, glass and aluminium to stop landfills from growing.
- Buy clothes from second-hand stores, or, when buying new, make sure you wear them many times.
- Put a jumper on in winter or dress in light clothes in summer to avoid using heaters and air conditioners.

- Shop local to keep people employed and help prevent trucks from driving long distances.
- Buy 'funny fruit' — Many fruits and vegetables are thrown out because their size, shape or color are not 'right'.
- Bike, walk or take public transport.
- Donate what you don't use. Local charities will give your used clothes, books and furniture a new home.
- Vote for political candidates with strong environmental policies.

- Encourage your workplace to use energy efficient heating and cooling technology, and adjust the thermostat — lower in winter, higher in summer.
- Speak up against any type of discrimination in your workplace.
- Stay informed and talk to others about global issues.
- Talk to your work colleagues about introducing a recycling program.

Source: Adapted from United Nations https://www.un.org/sustainabledevelopment/takeaction/

Social action

Social action is about using collective action to do something to help bring about positive change. Large-scale social action in the past has been successful in bringing about important social change, such as the suffragette movement of the late 19th and early 20th centuries, which was successful in giving women the right to vote; or the civil rights campaign in Australia from the late 1950s, during which activists came together to fight for equal civil rights for Aboriginal and Torres Strait Islander Peoples.

This is often the image people have of taking social action: being part of demonstrations, rallies and marches and carrying signs and placards. By working together, groups often have more power and influence because of their numbers.

However, social action is not just about being part of large campaigns and demonstrations. There are many ways individuals can get involved and engage with the community to take social action to bring about change that makes a difference. Social action can be used to influence the decisions of people in power. Having a say shows understanding and concern about issues such as poverty, inequality and hunger.

While there are many reasons why people take social action, there are also many different types of social action that can be taken. People can:

- volunteer their time to assist in raising funds or be part of a volunteer program designed to help improve the lives of others and their communities. An example of this could be volunteering to collect money as part of the Red Shield Appeal for the Red Cross. These funds are often used to help people who are disadvantaged in the local community.

- donate money to NGOs such as World Vision, Oxfam, the Red Cross and others to help them continue the work they do in low- and middle-income countries. Through these organisations, people can donate money to fund development programs, provide emergency assistance, sponsor a child or provide microfinance to help families start a small business.
- conduct fundraising events in the school or community to support a social change project
- show support for a social change campaign by signing online petitions, or being involved in online competitions and other social media activities. Community support from around the world can be a powerful way to show the leaders of countries that people are watching and following an the issue.
- find out more about social issues and implement an awareness campaign locally or through social media outlets
- use purchasing power to buy products that support actions to promote social change. Many NGOs provide online shopping, where the profits from selling goods is given back to communities or used to bring about social change.
- lobby governments or decision makers by organising a group of people to write letters to newspapers, send emails to politicians and invite politicians to attend a community gathering to answer questions
- organise a **boycott**, which means people collectively decide not to buy particular products because of how they are made, how the workers are treated or the impact they have on the environment
- start a social enterprise activity. A social enterprise activity is based on identifying and researching a problem, planning a solution, developing an action plan and then taking action to solve the problem.

boycott refusing to buy or use the goods or services of a certain company as a protest

FIGURE 12.16 There are many different ways that people can get involved, engage with community and take social action.

on Resources

Teacher-led video Taking social action (tlvd-0264)

EXAM TIP

You may be asked to show your understanding of both individual actions that can be taken to bring about improvements in health and human development and social action that can be taken. It is important that you can explain each one, provide specific examples of each and discuss how these actions can promote health and human development.

Social enterprises and purchasing power

There are now many examples of social enterprises. Their development has been motivated by a sense of wanting to make a change to existing practices. Social enterprises aim to raise awareness of the injustices in the world and use social action to make changes. Two examples are Who Gives a Crap and Fairtrade.

FIGURE 12.17 Individuals can take action to help bring about changes such as those needed to help meet the SDGs. This can include volunteering at a community kitchen to help feed those who are hungry.

Who Gives a Crap

Who Gives a Crap is a social enterprise that started in 2012 to overcome a global problem. Three university graduates became aware that billions of people across the world didn't have access to a toilet and that diarrhoea-related diseases took up more than half of sub-Saharan African hospital beds and killed many children under five every day. They developed a plan for addressing the problem: sell environmentally friendly toilet paper in a way that was financially sustainable and helped address water and sanitation issues.

To raise the funds needed to start their enterprise, they launched a **crowdfunding campaign** and raised over $50 000. Their first product was delivered in March 2013. For every roll of toilet paper sold, they donate 50 per cent of the profits to water, sanitation and hygiene (WASH) partners, who work to deliver sanitation and hygiene projects in low-income countries.

crowdfunding campaign funding a project or venture by raising many small amounts of money from large numbers of people, usually via the internet

This enterprise focused on changing people's purchasing habits rather than their behaviour, and using purchasing power to bring about change. Purchasing products that can bring about social change enables individuals to take action that can make a difference to global health and human development.

Impact of Who Gives a Crap

Since Who Gives a Crap began, they have donated over $13 million to help fund hygiene and sanitation projects, saved thousands of trees as a result of using forest-friendly paper products and saved millions of litres of water by making the products using eco-friendly materials. By using environmentally cleaner processes to manufacture the products, they have also avoided thousands of tonnes of greenhouse gases being emitted into the environment. Their efforts have also contributed to 400 million more people having access to water, sanitation and hygiene facilities.

FIGURE 12.18 Who Gives a Crap is a social enterprise that uses purchasing power to address the issues of poor sanitation and hygiene in low-income countries.

on Resources

Weblink Who Gives a Crap entrepreneurs

Fairtrade

Fairtrade is another example of using purchasing power as a form of social action to reduce poverty. Their goal is to help producers in low- and middle-income countries achieve better trading conditions and to promote sustainable farming. Fairtrade is an independent certification system that offers farmers and workers in low- and middle-income countries a better deal when they trade their products.

Many existing trade arrangements disadvantage and exclude small farmers, who don't have the resources to compete against the large multinational corporations that tend to control world markets. This puts them at greater risk of poverty because they are unable to receive a fair income for their products. If they do sell their products, the large multinational corporations usually decide the price they will pay, which also disadvantages small farm owners. Many agricultural products are sold by auction, which means when a product is in plentiful supply its selling price goes down. This means having more product to sell does not guarantee more income. There are also extreme changes in prices, making markets unstable.

FIGURE 12.19 Fairtrade takes action to address poverty in low-income countries by making sure that small-scale farmers get a fair price for their products. Fairtrade products show the logo on their packaging so consumers can make choices when purchasing products.

How the Fairtrade system works

Fairtrade is a global organisation that is co-owned by more than 2 million farmers and workers who earn fairer prices, build stronger communities and have control over their futures. Under the Fairtrade system, small producers are organised into cooperatives or groups, and buyers and sellers establish long-term, stable relationships. Buyers must pay the producers the minimum Fairtrade price, or more, and when the market price is higher, they must pay the market price.

Fairtrade also works with farmers to help them produce in more sustainable and ecological ways. Buyers must also pay a social premium. This social premium helps improve standards of living by providing funds that can be invested in community health care, education and training. Producer groups also re-invest their Fairtrade premium into their farms and businesses.

Products covered by Fairtrade

In Australia, the main Fairtrade certified products available are chocolate, coffee, tea, cotton, ice cream, cosmetics, skin care products and, on a smaller scale, soccer balls and roses. Fairtrade certified products carry the Fairtrade logo and many can be found in most supermarkets and independent grocers.

By purchasing Fairtrade certified products, people are helping to reduce poverty through their everyday shopping. They are also helping to end the use of child labour, which is prohibited under the Fairtrade certification standards. If enough consumers begin purchasing Fairtrade products, retailers are more likely to stock and sell these products. Some larger supermarket chains began carrying Fairtrade products, such as coffee, after individual consumers used their power by writing postcards requesting they stock these products. This is an example of the power of individuals taking social action to bring about positive change.

FIGURE 12.20 In Australia, a range of Fairtrade certified products can be purchased.

12.6 Activities

1. Access the **Who Gives a Crap** weblink and worksheet in the Resources tab and then complete the worksheet
2. Use the **What Can YOU Do?** weblink to outline how the resources that are available to individuals who wish to make a difference contribute to the achievement of the global goals.
3. Select one of the SDGs you have studied and summarise the different ways that individuals can take social action. Share your summary with others in the class.
4. Visit your local supermarket and check how many Fairtrade products are stocked. Suggest actions that could be taken to encourage supermarkets to stock these products.

on Resources

Digital document Who Gives a Crap worksheet (doc-32245)

Weblinks Who Gives a Crap
What can YOU Do?

12.6 Exercises

12.6 Quick quiz on

12.6 Exercise

Learning pathways

LEVEL 1	LEVEL 2	LEVEL 3
1, 2, 3	4, 5, 6	7, 8

Test your knowledge

1. What is the difference between taking individual action and taking social action?
2. Provide four examples of actions that represent individual action.
3. Describe why taking social action is effective in bringing about change.
4. Outline three different ways that individuals can take social action.
5. What is meant by using purchasing power to bring about social change? Give one example.
6. Explain the two social enterprises described in this subtopic and outline how they work to bring about change.

Apply your knowledge

7. 'Buying products from producers in low-income countries at a fair price is a more efficient way of promoting sustainable development than traditional charity and aid.' Explain whether you agree or disagree with this statement.
8. Select one global health issue and discuss individual and social action that could be taken to bring about change to improve health and human development.

12.6 Exam questions

Question 1 (2 marks)

Identify two actions that can be taken by individuals in their home and **outline** how they might contribute to improved health and human development.

Question 2 (1 mark)

> 'Great news! Thanks to the thousands of emails being sent to companies through the Don't Palm Us Off campaign, all Nestlé Australia chocolate made in Australia now contains 100 per cent Certified Sustainable Palm Oil (CSPO).'
>
> ***Source:*** https://www.zoo.org.au/news/nestl-australia-is-using-sustainable-palm-oil

From the source above, **identify** an example of a social change action.

Question 3 (1 mark)

Identify which social action this image is an example of.

Question 4 (2 marks)

> UNICEF has revealed that as many as 150 children under five are dying each day in Myanmar, while 30 per cent suffer from moderate or severe malnutrition.
>
> ***Source:*** *The Age*, 25 May 2017, p. 14.

Outline two social actions that could be undertaken to address the concerns raised by UNICEF.

More exam questions are available in your learnON title.

12.7 KEY SKILLS

12.7.1 Explain the priorities of the WHO

tlvd-11351

KEY SKILL Explain the priorities of the WHO

Tell me

This skill requires you to explain each of the World Health Organization's (WHO) goals.

There are two components to this skill:

a. identify each of the three goals, making sure you name them accurately
b. explain what each goal means.

The following example can be used to understand this skill.

One of the WHO goals is Protect health: Health emergencies.

i. Explain what this goal means.
ii. Select one other goal of the WHO and explain what it means.

Show me

The goal Protect health: Health emergencies is about making sure that countries are well-prepared for health emergencies by building capacity, keeping people safe and making sure that all people have quick access to essential health services if a health emergency occurs. In many countries, health systems collapse during times of emergencies, conflict and crisis, which limits the ability to both respond to and recover from such situations.[1]

Another WHO goal is Protect health: Universal health coverage.[2] This goal is about making sure that countries have a strong health system that provides everyone with access to healthcare services, including essential medicines and vaccines, disease prevention and health promotion; and making sure that health care is available at an affordable cost.[3]

[1]The WHO goal Protect health: Health emergencies is explained by outlining the two components that are included in this priority.

[2]A second goal is identified and accurately worded.

[3]The goal is explained clearly and includes components relevant to this goal.

Practise the key skill

As part of the WHO's goal: Promote health: healthier populations, it works to address health determinants and the main causes of ill health.

1. Explain what other actions are taken by WHO as part of this goal.

12.7.2 Analyse how the WHO priorities are reflected in different scenarios

tlvd-11352

KEY SKILL Analyse how the WHO priorities are reflected in different scenarios

Tell me

This skill requires you to analyse ways in which the WHO goals are shown or used in different scenarios or situations. This could mean that you are asked to recognise how they are reflected in an example provided or apply the goals to suggest actions that could be taken to address a health-related issue.

Use the following example of the work of the WHO to understand what is required of this skill. It is important to:

- read the information carefully
- list the WHO goals
- look for evidence in the example that demonstrates one or more of the goals in action
- explain how the evidence reflects the goal.

The goals can be named in either of the two ways below:

- Provide health: Universal health coverage
- Promote health: Healthier populations
- Protect health: Health emergencies

Example: Work of the WHO

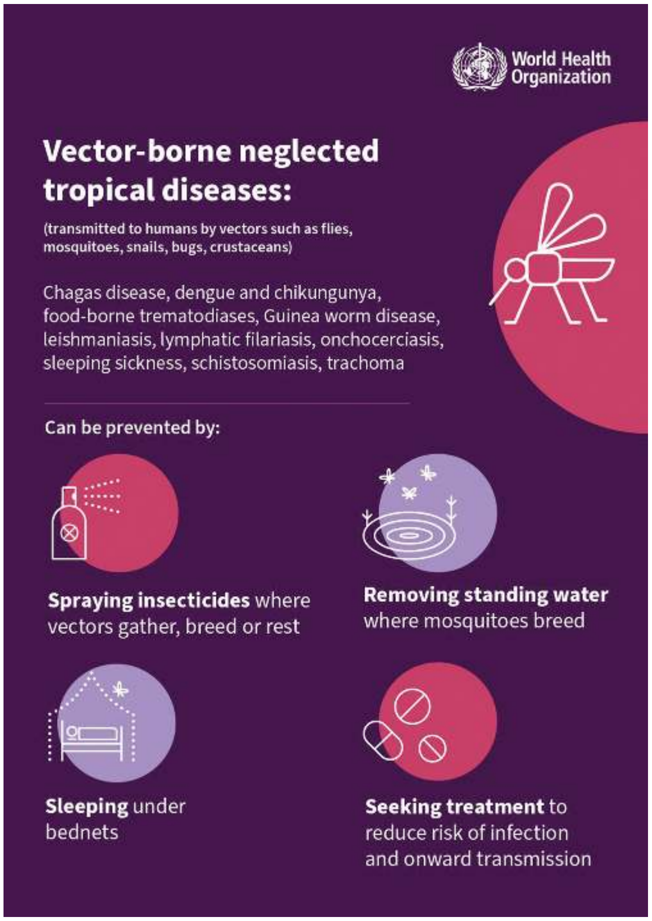
> Climate change is having an impact on the ability for all people to access clean water, sanitation and hygiene (WASH). The infrastructure that supports WASH is often destroyed during events such as floods, and hygiene is often affected by drought, which reduces access to water supplies. To address this, the WHO is working with a range of organisations on developing WASH programs that are more resilient to the impact of climate change. This includes creating guidelines, resources and frameworks that support training and the reduction of risk through water and sanitation safety plans.

Show me

The WHO goal that is reflected in the example is Protect health: Health emergencies.[4] This is evident because the WHO is working to protect the health of people during an emergency, such as floods or droughts, when access to clean water, sanitation and hygiene is destroyed or seriously affected.[5] This is helping to build capacity to keep people safe from water-borne diseases during an emergency.[6] Another WHO goal that is reflected is Promote health: Healthier populations[7], Greater resilience is needed to prevent the spread of vector-borne and water-borne diseases and the work of the WHO represented in the example is addressing this.[8]

[4] The WHO goal has been identified and accurately named.
[5] A specific example has been used from the information to show how it reflects the goal selected.
[6] The example is then related back to a relevant component of the goal.
[7] Another WHO goal has been accurately named as being represented.
[8] Components of the second goal are connected to the information in the example.

Practise the key skill



Source: WHO

2. Select two of the WHO goals and analyse how they could be used to reduce the spread of neglected tropical diseases such as dengue fever.

12.7.3 Evaluate different types of aid and their effectiveness in providing humanitarian assistance, reducing poverty and improving human development and promoting health

tlvd-11353

KEY SKILL Evaluate different types of aid and their effectiveness in providing humanitarian assistance, reducing poverty and improving human development and promoting health

Tell me

As part of this skill, you will need to:

- describe humanitarian assistance and how and why it is provided
- explain the characteristics of the three types of aid and the purpose of each:
  - bilateral aid
  - multilateral aid
  - aid provided by non-government organisations
- evaluate how each type of aid is effective in reducing poverty, improving human development and promoting health.

Use the following example to:

- describe the characteristics and purpose of the type of aid being provided
- evaluate how effective it is in reducing poverty, improving human development and promoting health.

Show me

CHILDREN TRAIN THE COMMUNITY TO WASH ITS HANDS OF DISEASE

In countries such as Senegal, Tippy Taps initiative Senegal in Africa, World Vision supported the introduction of a peer education program to help reduce diseases such as diarrhoea and dysentery.

Mbadakhoune is situated in the department of Mbirkelane in Senegal, where agriculture is the community's main source of income. Small business thrives in the area and there is a market every two weeks. This environment creates a free-for-all for disease, as people come from all over in order to buy and sell goods — frequently meeting and greeting each other with unwashed hands.

The program involved children and young people signing up for a peer education program designed to build their knowledge of the importance of hygiene and hand washing, how to teach other community members and how to install Tippy Taps. A Tippy Tap is a foot-operated facility for washing hands consisting of an empty5-litre container, three stakes and a cord.

The peer educators set the Tippy Taps up at key points around the village with the easy-to-follow instructions that they learned in their training. Working with the coordinator of the local committee for child protection (LCCP) in Mbadakhoune, the peer educators spent their summer holidays getting the message out to local villages. The program made such an impression that villagers were immediately asking for hand-washing facilities to be set up in homes and outside mosques.

According to Ousman, a community elder who has a Tippy Tap set-up in his home, 'In the past we used to leave the toilets without washing our hands, but since the LCPC coordinator and children have passed through the village to tell us about bodily hygiene and to set up some Tippy Taps, we have started to adopt better handwashing habits.'

Source: World Vision website, 13 December 2016.

FIGURE 12.21 To make a Tippy Tap, you need an empty 5-litre plastic container, a metre of cord, a dozen small bars of soap or a large bar that you can divide up, some 5-litre containers, wire, stakes (two forked, one straight) and a 1-metre stick.

This program is an example of aid provided by non-government organisations[9] being implemented by World Vision, which is a non-government organisation. This type of aid focuses on small community-based projects, such as the Tippy Taps initiative, and has the ability to provide aid in areas that tend to be difficult to access. The purpose of aid provided by non-government organisations is to reduce poverty by working with communities to provide assistance that meets the needs of communities and promotes community development and participation.[10] This program will be effective in reducing poverty because it is providing safe water and hygiene and reducing diseases such as dysentery and diarrhoea. These diseases are a major cause of morbidity and mortality in countries such as Senegal.[11] This program is therefore going to be effective in promoting physical health and wellbeing.[12]

[9]The type of aid represented is stated as being aid provided by non-government organisations.

[10]The characteristics of aid provided by non-government organisations is described and its purpose is provided.

[11]A conclusion is made about the aid program being effective in reducing levels of poverty, and the way in which it will achieve this is outlined.

[12]Examples of how the program will improve health status and health and wellbeing is discussed.

Reducing infectious diseases means that children are more likely to attend school and parents to work and earn an income. This income allows families to buy food, water, clothing, shelter and health care, which reduces communicable diseases and further improves the ability to generate an income. With higher levels of employment, there are more funds being provided to the government, which can then invest these funds into providing infrastructure, schools, universal health coverage and social protection measures, which reduce the overall level of poverty.[13]

The program would also be effective in improving human development. A reduction in poverty means families can afford to send children to school, which develops knowledge, skills and the capabilities that people need to make decisions that impact on their lives and allow them to live according to their values.[14] Sending children to school helps promote social health and wellbeing.[15]

Poverty often affects women and girls and generates gender inequality. Poverty reduction helps empower women and supports them to develop leadership skills and to participate in their community, improving human development.[16] This improves spiritual health and wellbeing and mental health and wellbeing due to increased confidence and self-esteem.

A program that increases access to clean water and hygiene will also improve health. Infectious diseases are a major killer of children under five so a reduction in diarrhoea and dysentery will reduce the U5MR and increase life expectancy.[17]

Therefore, this program will be effective in reducing poverty and promoting health and human development.

[13] A conclusion is made about the aid program being effective in reducing levels of poverty, and the way in which it will achieve this is outlined.

[14] How the program will promote human development is discussed and examples are used to support the conclusion.

[15] Examples of how the program will improve health and wellbeing are discussed.

[16] Another conclusion is made about the aid program being effective in reducing levels of poverty, and the way in which it will achieve this is outlined.

[17] Examples of how the program will improve health status and health and wellbeing are discussed.

Practise the key skill

HUMANITARIAN SUPPORT TO MYANMAR AND BANGLADESH

In response to the impact of Tropical Cyclone Mocha, the Australian Government provided an additional $12.5 million to meet urgent humanitarian needs in Bangladesh and Myanmar.

Tropical Cyclone Mocha caused widespread damage across Myanmar and Bangladesh, affecting around 2.4 million people and increasing an already serious humanitarian situation.

In Myanmar, Australia provided $10.5 million to support 1.6 million affected people, through the United Nations-led response plan. This assistance was provided to UN agencies to ensure that it did not directly benefit or legitimise the military regime.

Source: Adapted from Humanitarian support to Myanmar and Bangladesh. Joint media release with: The Hon Pat Conroy MP, Minister for International Development and the Pacific, 25 June 2023

3. Describe the characteristics and purpose of the type of aid represented above.
4. What is meant by humanitarian assistance?
5. Analyse the effectiveness of this example of aid in reducing poverty and promoting health and human development.

12.7.4 Discuss how Australia's aid program supports the achievement of the SDGs

tlvd-11354

KEY SKILL Discuss how Australia's aid program supports the achievement of the SDGs

Tell me

This skill requires you to use examples from Australia's aid programs to make connections to the achievement of key features of relevant SDGs.

You may be provided with an example of a program supported through Australia's aid program and you will need to identify the related SDGs and then use examples to show these connections. There may be more than one SDG being achieved in the example provided.

You may also be asked to explain one or more examples of how Australia's aid supports the achievement of one or more SDGs.

The following example can be used to help you understand this skill.

Show me

Use information from the example below to discuss how Australia's aid program supports the achievement of the SDGs.

INVESTING IN FUTURE GENERATIONS

Australia and Laos are working together to ensure every child receives a quality education, and create a lasting legacy for future generations.

The Basic Education Quality and Access in Laos program (BEQUAL) is giving more children, especially those experiencing disadvantage, the skills they need to thrive. This locally led initiative has supported the development of a new primary curriculum, accompanying teaching and learning materials, and the training of teachers nationwide. It is now focusing on improving professional development. This significant partnership is laying the foundations of an inclusive, high-equality education system in Laos.

Source: Commonwealth of Australia, DFAT, Australia's International Development Policy, p. 37

Partnerships are an important aspect of Australia's aid program.[18] The Investing in Future Generations program involves a partnership between Australia and Laos[19] to ensure every child receives a quality education. This is helping to achieve SDG 4: Quality education.[20] It is ensuring that all children have access to free, equitable and quality education, in this case primary education. The initiative has supported the development of new curriculum and teaching materials as well as increasing the number and skill level of teachers across the country. The focus on an inclusive education system that is giving more children, especially those who are disadvantaged, the opportunity to gain an education reflects the aim of eliminating disparities or differences in education, all of which are part of SDG 4.[21]

[18] A relevant aspect of Australia's aid program has been identified

[19] The aspect of Australia's aid program has been linked to the example provided.

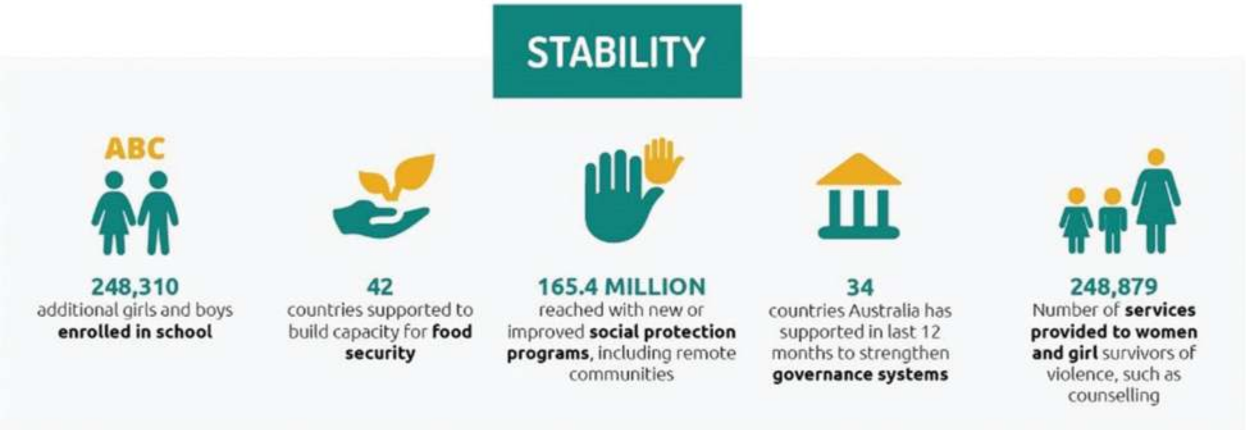
[20] A relevant SDG has been identified and correctly named.

[21] A specific feature of SDG 4 has been connected to the program provided.

Practise the key skill

In 2022–23, Australia's aid program invested in a range of focus areas shown below and contributed to increased regional stability.

Results from Australia's development program, 2022–23



Source: https://www.transparency.gov.au/publications/foreign-affairs-and-trade/department-of-foreign-affairs-and-trade/department-of-foreign-affairs-and-trade-annual-report-2022-23/2-report-on-performance/priority-4%3A-deliver-an-effective-and-responsive-development-program

Read the information above and answer the following questions.

6. Discuss two SDGs that Australia's aid program helped to support the achievement of in 2022–23.
7. Explain two aspects of Australia's aid program that may have contributed to these achievements.

12.7.5 Justify why Australia's aid program is delivered through partnerships

tlvd-11355

KEY SKILL Justify why Australia's aid program is delivered through partnerships

Tell me

To address this skill, you need to:

- identify and describe the different types of partnerships that are involved in the delivery of Australia's aid program and the role they play
- explain why different partnerships are important for the success of Australia's aid program.

Use the following information on Australia's aid program to understand this skill.

- Identify and describe the types of partnerships that are evident.
- Explain the role that each partner plays.
- Explain why partnerships are important (justify) for the success of Australia's program.

Through Australia's aid program, we work with a range of partners to provide food, health and nutrition services, access to safe water and essential support for those at risk globally with a focus on women and children.

In 2022–23, Australia allocated $124.9 million to the United Nations World Food Programme, which has the expertise to deliver emergency food assistance to those most affected by the global food crisis. Australia contributed $64 million to food assistance in the Horn of Africa and the Middle East, through partners such as the Australian Humanitarian Partnership, the International Committee of the Red Cross, the Office of the United Nations High Commissioner for Refugees and the Emergency Action Alliance.

Source: Adapted from https://www.transparency.gov.au/publications/foreign-affairs-and-trade/department-of-foreign-affairs-and-trade/department-of-foreign-affairs-and-trade-annual-report-2022-23/2-report-on-performance/priority-4%3A-deliver-an-effective-and-responsive-development-program

Show me

Australia works with a range of partners to deliver its aid programs. In the example above, multilateral partnerships are evident.[22] Australia provides funding to the United Nations World Food Programme, the Office of the High Commissioner for Refugees and Emergency Action Alliance.[23] These partners have the expertise to be able to deliver humanitarian assistance to those who need it and it extends the reach of Australia's aid program. This is because their large size allows them to implement projects on a larger scale than is possible for Australia to do on its own. Working with the United Nations and its humanitarian agencies, carefully targeted programs can be put in place for humanitarian assistance and long-term development.[24]

[22] A type of partnership is identified.
[23] An example that represents the partnership is outlined.
[24] An explanation of why partnerships are important in the delivery of Australia's aid program is provided.

Another partnership that is evident in the example is with non-government agencies,[25] for example, the Australian Humanitarian Partnership and the International Committee of the Red Cross.[26] These agencies bring strong connections to local communities, can access areas that others don't or can't reach, such as in remote, fragile and conflict-affected areas, and have comprehensive knowledge of poverty in particular contexts and deep development expertise for the aid program. In this way, they contribute to the effectiveness of Australia's aid program.[27]

[25] A type of partnership is identified.
[26] An example that represents the partnership is outlined.
[27] An explanation of why partnerships are important in the delivery of Australia's aid program is provided.

Practise the key skill

Australia is working in partnership with the World Bank to design additional financing for its Health Systems Strengthening Performance for Results project in Samoa. The project aims to improve the quality and efficiency of non-communicable disease prevention and control in Samoa.

8. Identify the type of partnership evident in the information above.
9. Justify why Australia is working in partnership with the World Bank.
10. List two other partners that Australia could work with and explain the benefits of each of the partnerships.

12.7.6 Evaluate the effectiveness of aid programs in promoting health and human development

tlvd-11356

KEY SKILL Evaluate the effectiveness of aid programs in promoting health and human development

Tell me

To address this skill, you need to apply your understanding of what makes an effective aid program to a range of different contexts.

The first part of the skill requires you to understand what makes an aid program effective. There are a range of features that can be referred to individually or be grouped into four categories, including:

- Ownership by the recipient country — The program should be owned by the community and address their needs. If a program is owned by the community, it is likely to meet their needs and be implemented in a socioculturally appropriate way.
- Focused on achieving the right outcomes — The program targets patterns of disease and illness that need to be addressed, it focuses on education to build the knowledge and skills of the local community and is focused on women.
- Involves partnerships and collaboration — The program ensures community involvement and ownership, combines different strengths and expertise of all partners and ensures resources are used effectively
- Monitoring and evaluation — The funding is used for its intended purpose and regular monitoring of results and progress against the program aims ensures it is effective.

The second part of the skill requires you to use these features to analyse an aid program that has been implemented and make judgements about (evaluate) its effectiveness.

The third part of the skill requires you to discuss how the aid program will promote health and human development.

The following example can be used to demonstrate the skill. Read the information relating to a program that has been implemented to improve gender equality in Vanuatu and evaluate its effectiveness by:

- looking for examples that reflect features of effective aid
- drawing conclusions about the program's effectiveness
- describing how it promotes health and human development.

Show me

ACHIEVING GENDER EQUALITY IN VANUATU

In Vanuatu, a lack of equality and diversity in leadership positions means that the views and needs of women and other marginalised people are often overlooked. When a parliamentary election was called in 2022, Oxfam along with local partners supported women to stand for parliament and lead their communities.

Over her 40-year career in the Vanuatu Government, Dorosday was concerned about the lack of female representation in political decision-making. As Secretary with the Ministry of Justice, she advocated for the promotion of women, especially in the areas of economic empowerment and political leadership. She was so passionate about the need for female role models in politics, that she decided to stand up and run for office in Vanuatu's parliamentary election in 2022. When Oxfam's Togeta Yumi Stanem Strong (Together We Are Stronger) project held workshops to support women who were standing for election, Dorosday signed up. The project worked with the Department of Women's Affairs and the Port Vila Council of Women to plan topics for the sessions, including public speaking, speech writing and financial training. 'After these discussions, it made it easier for me to put my values and my objectives in my own campaign speech ... It gave me more clarity on how I should write and organise and outline my own campaign,' Dorosday said. She also valued the opportunity for the aspiring leaders to come together to learn from one another. 'One of the most [important] things for me, is that [the workshop] provided a space for us to talk seriously about women in politics … and talk about common agendas.' Seven of the people who went to the workshop stood for election, with one winning a seat. While Dorosday was not successful in this electoral campaign, she has not given up. 'We are now planning for the next coming elections,' she said.

Source: https://www.oxfam.org.au/wp-content/uploads/2024/01/Oxfam-Australia_Annual-Report_2023.pdf, p. 21

The gender equality program in Vanuatu reflects many of the features of effective aid. Effective aid programs are those that share a range of features. It is owned by the community in Vanuatu[28] and is clearly addressing their needs because there was a lack of equality and diversity in leadership positions, which meant the views and needs of women and other marginalised people were often overlooked and there was a lack of female representation in political decision-making. The workshops that were held as part of the project worked with local community groups to plan the topics for the sessions and other sessions for skill development, which meant they were delivered in a socioculturally appropriate way.[29]

[28]A feature of effective aid is identified.
[29]Relevant examples from the case study are selected to show how each of the features is reflected.

The program was focused on achieving the right outcomes[30] by building the knowledge and skills of the women volunteers who were wanting to stand for parliamentary election. They were given training on how to put their campaign together and what to include in their political speeches. This information helps ensure sustainability, which was evident by Dorosday planning to stand in the next government election.[31]

[30]A feature of effective aid is identified.
[31]Relevant examples from the case study are selected to show how each of the features is reflected.

The program was a collaborative one, with Oxfam working with partners[32] such as the Department of Women's Affairs and the Port Vila Council of Women to plan and deliver the program. This ensured that the different strengths and expertise of the partners were used.[33]

[32]A feature of effective aid is identified.
[33]Relevant examples from the case study are selected to show how each of the features is reflected.

The program was effective in promoting health and human development. It helped empower women and build their confidence, which improved mental health and wellbeing. Social health and wellbeing was promoted because Dorosday valued the opportunity for the aspiring leaders to come together and learn from each other. Mental health and wellbeing was also promoted by providing a space where the women could talk seriously about politics and other common agendas.[34]

[34]How the program promoted health, in this case, health and wellbeing, is outlined with examples provided.

The program promoted human development. The women gained valuable knowledge and skills, which saw one woman being successfully elected to parliament. Having women represented in the political decision-making process provides opportunities for other women to feel confident to take on leadership roles in their community and be involved in community life. Where women are given a voice and their needs are represented, they are more likely to have the opportunity to become educated, gain employment and earn an income. This means they are more likely to enjoy a decent standard of living and that they can live according to their values and develop their capabilities. Gender equality is important for human development.[35]

[35]Examples are used to explain how the program promoted human development.

Practise the key skill

Read the information about the program in Niger below and then answer the following questions.

11. Evaluate the effectiveness of the program by explaining how it reflects the key features of effective aid.
12. Describe how the program promotes health and human development.

Climate-smart agriculture project to improve productivity and resilience of Niger's agriculture sector

The World Bank is providing $111 million to help boost productivity in Niger's agriculture sector and improve its resilience to climate risks. The Niger Climate-Smart Agriculture (CSA) Support project is designed to deliver climate smart agriculture — increased productivity, improved resilience and less greenhouse gas emissions. It is aligned with the government of Niger's national strategy to increase sustainable agricultural development and increase food and nutritional security and will work in collaboration with Niger's government.

The Niger CSA project will directly benefit around 500 000 farmers and agro pastoralists in 44 communities. It will increase distribution and use of improved, drought-tolerant seeds, and increase the number of farmers using irrigation. It will also improve farmers access to markets.

Climate change has already affected Niger's food security situation, as well as the more than 80 per cent of Nigeriens who depend on agriculture for their livelihood. Without action, Niger's agriculture sector will continue to be extremely vulnerable to climatic shocks, especially droughts.

Source: Adapted from 'Climate-smart agriculture project to improve productivity and resilience of Niger's agriculture sector', World Bank website, 26 May 2016.

12.7.7 Discuss ways of taking individual and social action to promote health and human development

tlvd-11357

KEY SKILL Discuss ways of taking individual and social action to promote health and human development

Tell me

To achieve this skill, it is important to understand the meaning of both taking individual action as well as taking social action as a way of doing something to help create positive change. There are many ways to take individual and social action. You need to describe each of these and provide examples.

The second part of the skill requires you to be able to discuss how individual and social action could promote health and human development.

In applying this skill, you may be given an example of:
- an individual or social action and then asked to discuss why the action was taken and how it promotes health and human development
- a situation representing an issue, and then asked to discuss ways of taking individual and social action and give examples of how individual and social action promotes health and human development.

Show me

The following example can be used to demonstrate this skill.

Read the information relating to the living conditions in India below.

a. Describe two examples of individual or social action that could be taken to bring about change in this community.

b. Discuss how these actions could promote health and human development

The slums of Thane in India are home to approximately 340 000 people, many of whom have migrated from rural India to find work. The regular inflow of migrants has contributed to highly congested living conditions.

Infrastructure is poor, and sanitation and potable water supplies are strained. Despite the hope these families have for a better life in Thane, most families in the slums live in poverty. Food insecurity, low literacy and regular breaches of human rights are common.

Girls and women experience the greatest disadvantage. Families under financial pressure often privilege sons over daughters. Girls are kept home from school to do chores and display higher rates of malnutrition than boys. Women have little power in family and community life, are financially dependent on male family members, and domestic violence is common.

There are a range of ways in which individuals can take social action to improve living conditions in Thane. There are many non-government organisations that work in India and people can choose to donate money to any of these.[36] This provides more resources to work with the women and families and the Thane community and bring about gender equality.[37] When girls are denied education, have no financial independence and are victims of violence, there are limited opportunities for women and the community to escape from poverty and achieve good health and wellbeing or human development.

[36]An example of social action that can be taken is given.

[37]The reason for this example of social action being taken has been discussed.

Another example of social action that could be taken includes raising community awareness of the situation in India by conducting a fundraising and community awareness event at school or in the community. The local media could be invited to cover the event and write articles to increase the level of understanding.[38] This helps bring greater awareness and more community pressure to governments in India to take action to bring about change.[39] There are also many online events, competitions and petitions that people can sign up to and support that will raise awareness.[40]

[38]An example of social action that can be taken is given.

[39]The reason for this example of social action being taken has been discussed.

[40]Another example of social action is given.

Taking social action to improve the situation in Thane improves health and human development. Supporting gender equality will provide women and girls with greater access to an education and improved knowledge and skills, which increases their capabilities and allows them to gain employment and earn an income, providing the resources needed to purchase food, water and health care.[41] This not only improves physical health and wellbeing, but also improves human development as women are able to enjoy a decent standard of living and have greater control over decisions that affect them.[42] Gaining employment improves social health and wellbeing through relationships formed at work.

[41]A way social action can promote health through gender equality is given.

[42]The way in which social action can promote human development through gender equality is discussed.

When people are healthy and have the resources to meet the needs of their family, they have a higher self-esteem and feel a sense of pride and achievement improving mental and emotional health and wellbeing.[43] Healthy people have greater confidence, which empowers them to contribute to their community, which promotes human development[44] and spiritual health and wellbeing.[45] Eliminating violence against women improves physical health and wellbeing and eliminates fear, which promotes emotional health and wellbeing.[46] Human development is promoted as women are more empowered, have greater controlover their lives and can make decisions that are in line with their values.[47]

[43]Ways in which social action can promote health is discussed.

[44]Another way in which social action can promote human development is discussed.

[45]Another way in which social action can promote health is given.

[46]Another way in which social action can promote health is given.

[47]Another way in which social action can promote human development is discussed.

Practise the key skill

Read the following information about obstetric fistula and answer the following questions.

13. Describe two ways in which individual or social action could be taken to reduce obstetric fistula in low-income countries, such as those in Africa.
14. Discuss how individual or social action could promote health and human development.

Obstetric fistula is a hole in the birth canal. It is caused by prolonged labour without quick and adequate medical help, usually a caesarean section. The result for the mother is chronic incontinence (leaking urine); the baby is usually stillborn. 'The smell of leaking urine, faeces or both, is constant and humiliating, often driving the patients' family, friends and neighbours away.'

An untreated obstetric fistula can lead to chronic medical problems such as kidney disease, ulcerations and nerve damage in the legs. For $400, surgery could repair the problem; however, most women who suffer it do not have this money, or are not even aware it can be fixed.

The condition is a particular problem in Africa, Asia, the Arab region and Latin America, with about 50 000 to 100 000 new cases occurring each year. As a wholly preventable problem, the fact that it is still endured reveals that the health system is failing these women. It affects the world's poorest women, who don't have access to proper medical services.

Source: Campaign to end fistula website, http://www.endfistula.org/what-fistula

tlvd-11350

12.8 EXTENDED RESPONSE — Build your exam skills

This extended response subtopic presents four sources and a 15-mark question to practice your skills in answering this type of question. There are tips to help you get started after the question.

Source 1

Results from Australia's development program, 2022–23

23.8 Million vulnerable women, men, girls and boys provided with **emergency assistance** in conflict and crisis situations

36 partner countries where Australia has contributed to **strengthened health systems**, including preparedness for health emergencies

39 countries supported to **manage health security threats**

3+ Million couple years of contraceptive protection made available for **sexual and reproductive health**

10+ Million Number of people **immunised** with Australian support

31.5+ Million new or improved **therapeutics, diagnostics, vaccines** and **additional equipment** to which Australia has contributed that are accessible in partner countries

Source: https://www.transparency.gov.au/publications/foreign-affairs-and-trade/department-of-foreign-affairs-and-trade/department-of-foreign-affairs-and-trade-annual-report-2022-23/2-report-on-performance/priority-4%3A-deliver-an-effective-and-responsive-development-program

Source 2

The Australian Government, through the Australian NGO Cooperation Program, provides funding to a range of NGOs such as Oxfam that implement programs in many countries, including the following program in Indonesia.

Villagers in Taiftob village, Indonesia, didn't have many options for getting clean, fresh water. In the rainy season, they could either collect rainwater or walk to the river or spring to fill their pots. When it didn't rain, they had to resort to paying for water to drink and give their livestock. 'We had to buy 21 jerrycans of water every three to four days … and we spent around 600 000 rupiahs (AUD $60) per month,' said Abner Selly, a Taiftob villager. To address this water scarcity in Taiftob, Oxfam's local partner Penguatan Lingkar Belajar Komunitas Lokal (PIKUL) worked with the community on a plan to pump water from two springs to a water tank and then distribute it to households. To achieve this, PIKUL worked with local authorities and the people who owned the springs to gain their support. PIKUL developed a partnership with the Indonesian National Armed Forces in Bali, who surveyed the springs and confirmed that the water could be pumped. They also provided the materials for the pumps, reservoirs, tanks and pipes, as well as the labour to build the water system. The community was inspired to help with construction. The water distribution system now pumps water from Puahnaek Spring to a reservoir. By working together and creating new partnerships, the people of Taiftob are now enjoying clean water, which is flowing across three neighbourhoods to more than 330 people.

Source: https://www.oxfam.org.au/wp-content/uploads/2024/01/Oxfam-Australia_Annual-Report_2023.pdf, p. 32

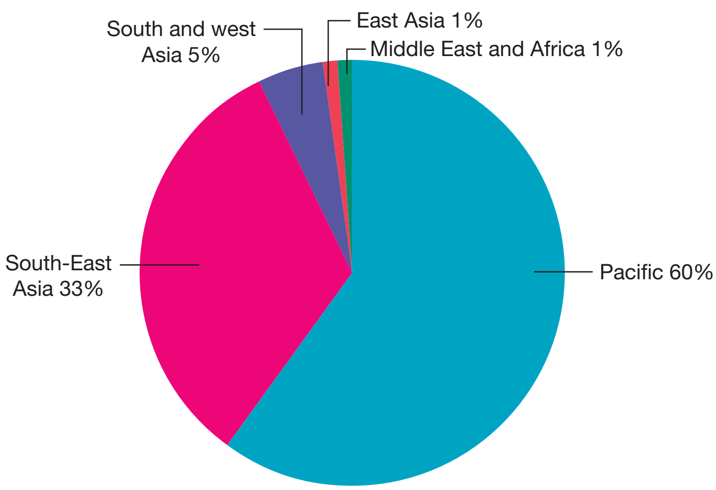
Source 3

The majority of Australia's aid is provided as bilateral aid. However, other areas of expenditure from 2023–24 are shown in the following table.

Areas of expenditure	Amount of funding allocated ($m)
Humanitarian assistance	479.4
Global NGO programs	145.4
Community partnerships and civil society	23.0
Support to United Nations agencies	331.0
Education and scholarships	87.7

Source 4

Percentage of Australian AID allocation by region, 2023–24



Use the information from each of the four sources and your own knowledge to discuss the importance of Australia's aid program in helping the international community to reduce poverty, achieve the SDGs and promote health and human development, taking into consideration:

- the different types of aid
- where Australia provides aid
- partnerships that form part of the aid program and the role they play
- how Australia's aid program helps achieve at least two SDGs
- features of effective aid that must be considered when implementing programs **15 marks**

TIPS

- Before you start writing your response, plan how you will approach the question and the order in which you will cover each of the required elements. You must use information from each of the four sources and your own knowledge when putting your answer together.
- Before writing, and to help you plan your response, read each of the sources and use different coloured highlighters to identify relevant examples that connect a range of aspects of Australia's aid program to reducing poverty, achieving at least two relevant SDGs and promoting health and human development.
- Select examples that are well-represented in the sources because these will provide you with plenty of information that you can use in your response.
- Use your own knowledge to fill in any gaps in the stimulus material or to extend your explanation.
- Make sure you use the correct terminology when referring to different types of aid and the range of partnerships that are part of Australia's aid program.

12.9 Review

Hey students! Now that it's time to revise this topic, go online to:

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12.9.1 Topic summary

12.2 The World Health Organization

- To provide direction and focus to their work, the World Health Organization (WHO) has developed three goals. These are:
  - Provide health: universal health coverage
  - Protect health: health emergencies
  - Promote health: healthier populations.
- Each goal has two strategic objectives that direct action for their achievement.

12.3 Aid

- Australia, like most other high-income countries, provides aid or assistance to low- and middle-income countries in the event of a crisis or for the development of long-term sustainable improvements.
- Humanitarian assistance is provided to people in immediate distress to relieve suffering during and after emergencies, such as conflict and natural disasters, and includes food, water, medicines and shelter.
- There are three types of aid: bilateral aid, multilateral aid and aid provided by non-government organisations (NGOs).
- Bilateral aid is provided by the government of one country to the government of another. Its purpose is to help reduce poverty and bring about long-term sustainable development. Bilateral programs can range from small, community-based programs to large infrastructure projects.
- Bilateral aid sometimes attracts criticism because the goods and services may be provided by companies from the donor country and could favour the economic and political needs of the donor country rather than the needs of the recipient country.
- Multilateral aid is aid that is provided through an international organisation such as the World Bank, the United Nations or the WHO. This aid is often used to address global issues that require a global response.
- NGOs are non-profit organisations that work to promote health and wellbeing and human development while operating separately from the government.
- Aid provided by NGOs is usually focused on smaller projects that are more targeted and often work in collaboration with government and local aid agencies to improve health and wellbeing and human development.
- Humanitarian assistance can be provided by each type of aid.

12.4 Australia's aid program

- The Australian government's aid program is administered by the Department of Foreign Affairs and Trade (DFAT).
- The aim of our aid program is to reduce poverty and promote a peaceful, stable and prosperous Indo-Pacific region, which is based on achieving sustainable development.
- Australia is part of the Indo-Pacific region, so the majority of our aid is focused on this area, where many people are living in poverty.
- Approximately 0.19 per cent of our GNI goes towards Australia's aid program (around $173 per person).
- Australia's aid program focuses on a range of issues that contribute to the achievement of the SDGs, such as climate change, health, water, sanitation and hygiene, education, social protection systems and gender equality.

- The SDGs are the focus of our bilateral aid programs, multilateral agencies and aid provided by NGOs.
- The government works in partnership with the governments of other countries, civil society, other government departments and agencies, NGOs, businesses and community groups in Australia and overseas to deliver our aid program.

12.5 Features of effective aid programs

- While there is no set criteria for evaluating effective aid programs, the framework provided is one way that can be used to make judgements about the effectiveness of an aid program.
- There are four features of an effective aid program:
  - having ownership of the development priorities by the community
  - having a focus on results that bring about improvements in health and wellbeing and human development
  - putting in place partnerships for development and collaboration
  - transparency and accountability.

12.6 Taking individual and social action

- Individuals can take action, or they can engage with the community to take social action and advocate for change.
- The personal choices and actions that we make as individuals can have an impact on society as a whole. These actions do not have to be large, take a great deal of time or include others.
- Recycling, turning off appliances and using tap water instead of bottled water are some examples of actions that individuals can take.
- Social action is about using collective action to do something to help bring about positive change.
- Individual and social action is taken to bring about positive action and change.
- There are different ways that people can take individual and social action, such as volunteering their time to raise funds for an NGO, donating money to support the work of NGOs after an emergency, signing online petitions, using purchasing power to buy products that support social change, lobbying governments or organising a boycott.
- There are many social enterprises that use the purchasing power of people to influence decisions.
- Who Gives a Crap was established in 2012 and sells environmentally friendly toilet paper. For each roll of toilet paper sold, 50 per cent of the profits are given to a range of non-profit organisations that deliver water and sanitation projects in low-income countries.
- Fairtrade is an example of social action taken to help farmers get a fair price for their products and to eliminate child labour.
- Fairtrade certified products sold in Australia include chocolate, coffee, tea, ice cream, cotton, soccer balls and roses.

12.9.2 Key terms

boycott refusing to buy or use the goods or services of a certain company as a protest
crowdfunding campaign funding a project or venture by raising many small amounts of money from large numbers of people, usually via the internet
essential medicines medicines that meet the main healthcare needs of a population and help them to overcome disease and illness more quickly
health determinants factors that have a significant influence on health. These often combine to affect the health of individuals and communities, and include factors such as where we live, the state of our environment, genetics, our income and education level, our access to health care and our relationships with friends and family. Many of these determinants lie outside the control of individuals.
infrastructure the physical and organisational structures, facilities and systems (e.g. buildings, roads, power supplies) needed for the operation of a society

primary health care an approach to health that addresses the broader determinants that affect health and focuses on equity of access to healthcare services. It doesn't just focus on specific diseases; it considers the whole person and all dimensions of health and wellbeing. Primary health care ensures people receive quality care, ranging from health promotion and prevention to treatment, rehabilitation and palliative care, and is provided as close as possible to where people live and work.

on Resources

Digital document Summary (doc-41602)

12.9 Exercises

learnon

Students, these questions are even better in jacPLUS

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Track your results and progress

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12.9 Exam questions

Question 1 (11 marks)

Source: *VCE 2023, Health and Human Development Exam, Q.11.b, c, d* © VCAA

Kiribati is a country in the Pacific made up of many small, low-lying islands that are susceptible to rising sea levels.

Building resilience through education in Kiribati

Kiribati faces multiple threats from climate change. Storm surge and high tides are compounding existing development pressures along the coast of South Tarawa, home to around 51 percent of the population.

The government of Kiribati is actively responding to these challenges, working with partners to access climate finance.

Through the $97 million (2011–2023) Kiribati Education Improvement Program (KEIP), Australia is working with the Ministry of Education to ensure school facilities have raised floors and optional protective seawalls to reduce future coastal flooding. The facilities provide a light and naturally ventilated learning environment, with disability access, and are built with regionally sourced sustainable materials.

Children entering these schools today learn a curriculum that integrates climate change, taught by teachers trained in climate change through the Kiribati Teacher Training College.

Source: Adapted from Australian Government, Department of Foreign Affairs and Trade (DFAT), 'Building Resilience through Education in Kiribati', dfat.gov.au/about-us/publications/Pages/building-resilience-through-education-in-kiribati

a. **Identify** and **describe** the type of aid represented in the Kiribati Education Improvement Program. **3 marks**

b. **Describe** two features of the Kiribati Education Improvement Program that could contribute to the effectiveness of the program. **4 marks**

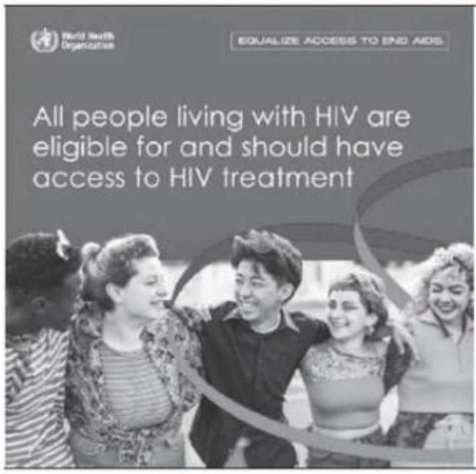
c. **Explain** how the Kiribati Education Improvement Program could contribute to improved human development. **4 marks**

Question 2 (4 marks)

Source: Adapted from *VCE 2023, Health and Human Development Exam, Q.12.b* © VCAA

World AIDS Day 2022

On 1 December 2022, the World Health Organization (WHO) joined its partners to commemorate World AIDS Day. One of the key messages was:



Focus on equality

Inequalities still persist for the most basic services like testing and treatment. We must ensure that everyone, everywhere has equal access to HIV prevention, testing, treatment and care. Health services should be adapted to reach and meet the needs of populations most at risk and affected, and this includes implementing a 'zero tolerance' policy to stigma and discrimination in all health services.

Source: Adapted from World Health Organization, 'World AIDS Day 2022', who.int/campaigns/world-aids-day/2022

Identify and **describe** one WHO strategic priority that is reflected in the information about World AIDS Day. Use one example from the information to support your answer.

Question 3 (14 marks)

Source: *VCE 2022, Health and Human Development Exam, Q.7.a, b*; © VCAA

Before joining an Oxfam-supported savings group, Francisco struggled to put food on the table for his family. Now, he knows how to manage money and chase his dreams …

Despite spending long hours cultivating his rice paddy, Francisco never seemed able to get ahead …

Francisco couldn't afford his own harvesting machine so he would borrow a neighbour's machine, and pay his way with rice …

Francisco's fortunes changed when he joined an Oxfam-supported Saving for Change group [funded by] the Department of Foreign Affairs and Trade Australia NGO Cooperation Program …

Saving for Change group members like Francisco and his wife Anita save towards the dream of their choice – anything from a tractor to education or kitchen utensils. They can access their savings to soften the impact of stressful events, such as illness or food shortages …

[Francisco] explains, 'Every week, my wife puts $10 into her group and I put $5 into mine … My dream for when we get to the end of the first cycle of Saving for Change is that I want to build a new house.'

Francisco's children used to experience malnutrition. 'Before I was involved in the groups,' he explains, 'I found it difficult to buy food.'

But things have improved.

[He says,] 'We can see that our children have a strong physique and don't get sick like before.'

Source: Oxfam Australia, 'How your donation is making dreams come true in Timor-Leste', 9 September 2019, www.oxfam.org.au/2019/09/how-your-donation-is-making-dreams-come-true-in-timor-leste/

a. **Outline** one reason why the Australian aid program involves partnerships like the one between the Australian Government and Oxfam, as described in the information above. **2 marks**

b. **Explain** how Oxfam's 'Saving for Change' program promotes health and wellbeing, and human development. **6 marks**

c. **Evaluate** the 'Saving for Change' program using two features of effective aid. **6 marks**

Question 4 (6 marks)

Source: *VCE 2021, Health and Human Development Exam, Q.13.a, b, c*; © VCAA

Through its aid program, the Australian Government works with organisations such as the World Food Programme, which is a branch of the United Nations, to ensure food security in countries across the Pacific region. The aid program involves working with farmers and small businesses to improve agricultural techniques and increase food production and availability.

a. **Identify** one priority of Australia's aid program that is represented in the information above. **1 mark**

b. **Identify** and **describe** the type of aid represented in the information above.. **3 marks**

c. **Describe** why Australia would provide aid to countries across the Pacific region. **2 marks**

Question 5 (4 marks)

Source: Adapted from *VCE 2018, Health and Human Development Exam, Q.11.b;* © VCAA

The AMA [Australian Medical Association] wants the Government to use tax policy to force up the prices of sugar-sweetened drinks to change behaviour …

For the AMA, taxing them is far from the single solution to the obesity or diabetes epidemics …

Source: Emily Clark, 'The AMA wants sugar-sweetened drinks taxed, but will it happen?', ABC News, 7 January 2018

Discuss two examples of social actions that could be taken to address the increasing rates of childhood obesity.

on Resources

Digital document	Key terms glossary (doc-41601)	
Interactivities	Crossword (int-9250)	
	Definitions (int-9251)	
Exam question booklet	Topic 12 Exam question booklet (eqb-0256)	

RESOURCE SUMMARY

on Resources

This is a summary of the digital resources you will find online for Topic 12 to help support your learning and deepen your understanding. When you see these icons next to an image or paragraph, go to learnON to access video eLessons, interactivities, weblinks and other support material for this topic.

Digital documents

12.2 Universal health coverage: Maya worksheet (doc-32229) ☐
Universal health coverage: Right. Smart. Overdue. worksheet (doc-32230) ☐
12.4 Together we do better worksheet (doc-41627) ☐
12.6 Who Gives a Crap worksheet (doc-32245) ☐
12.9 Summary (doc-41602) ☐
Key terms glossary (doc-41601) ☐

Interactivities

12.9 Crossword (int-9250) ☐
Definitions (int-9251) ☐

Teacher-led videos

12.2 WHO's priority goals (tlvd-11292) ☐
12.4 Partnerships regarding Australian Aid (tlvd-0268) ☐
12.5 Features of effective aid (tlvd-0269) ☐
12.6 Taking social action (tlvd-0264) ☐
12.7 Key skill: Explain the priorities of the WHO (tlvd-11351) ☐
Key skill: Analyse how the WHO priorities are reflected in different scenarios (tlvd-11352) ☐
Key skill: Evaluate different types of aid and their effectiveness in providing humanitarian assistance, reducing poverty and improving human development and promoting health (tlvd-11353) ☐
Key skill: Discuss how Australia's aid program supports the achievement of the SDGs (tlvd-11354) ☐
Key skill: Justify why Australia's aid program is delivered through partnerships (tlvd-11355) ☐
Key skill: Evaluate the effectiveness of aid programs in promoting health and human development (tlvd-11356) ☐
Key skill: Discuss ways of taking individual and social action to promote health and human development (tlvd-11357) ☐
12.8 Extended response: Build your exam skills (tlvd-11350) ☐

Weblinks

12.2 Universal health coverage: Maya ☐
Universal health coverage: Right. Smart. Overdue. ☐
12.4 Together we do better ☐
12.6 Who Gives a Crap entrepreneurs ☐
Who Gives a Crap ☐
What can YOU Do? ☐

Exam question booklet

12.9 Topic 12 Exam question booklet (eqb-0256) ☐

To access these online resources, log on to **www.jacplus.com.au**

UNIT 4 | AREA OF STUDY 2: HEALTH AND THE SUSTAINABLE DEVELOPMENT GOALS

School-Assessed Coursework Unit 4

OUTCOME 2

Analyse the relationships between the SDGs and their role in the promotion of health and human development and evaluate the effectiveness of global aid programs.

School-Assessed Coursework 4 online only

To answer questions online and to receive **immediate feedback** and **sample responses** for every question, go to your learnON title at www.jacplus.com.au or download the assessment as a Word document from your Resources tab.

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Digital document School-Assessed Coursework 4 (doc-41697)

Key knowledge

- The importance of the UN's SDGs for health and human development in a global context
- Key features of SDG 3 ('Ensure healthy lives and promote wellbeing for all at all ages')
- Relationships between SDG 3 and SDGs 1, 2, 4, 5, 6 and 12
- Priorities of the WHO
- The purpose and characteristics of different types of aid, including bilateral, multilateral and aid provided by non-government organisations providing humanitarian assistance, reducing poverty, improving human development and promoting health)
- The role of Australia's aid program in supporting the achievement of the SDGs and the partnerships involved
- Features of effective aid programs
- Ways in which individuals can engage with communities and/or national and international organisations to take individual and social action that promotes health and human development.

Key skills

- Discuss the importance of the UN's SDGs for global health and human development
- Describe the key features of SDG 3
- Analyse the relationships between SDG 3 and other SDGs in promoting health and human development globally
- Explain the priorities of the WHO
- Analyse how the WHO priorities are reflected in different scenarios
- Evaluate different types of aid and their effectiveness in providing humanitarian assistance, reducing poverty and improving human development and promoting health
- Discuss how Australia's aid program supports the achievement of the SDGs
- Justify why Australia's aid program is delivered through partnerships
- Evaluate the effectiveness of aid programs in promoting health and human development
- Discuss ways of taking individual and social action to promote health and human development.

Common conditions and diseases

This series examines the incidence, causes, and impacts of many health issues. The following list is a glossary of the most common diseases and conditions.

Disease or condition	Explanation
acne	medical condition that causes outbreaks of blackheads, pimples and cysts
acute respiratory infections	infections that affect breathing; examples include the common cold, influenza and pneumonia
AIDS (acquired immunodeficiency syndrome)	AIDS is the last stage of HIV infection where the immune system is not able to fight off common infections and sufferers often die from conditions such as pneumonia and tuberculosis
alcohol use disorder	disease characterised by ongoing risky alcohol consumption
alcoholism	when a person cannot stop drinking once they have started, or has a constant desire to drink alcohol
allergies	a range of conditions characteristised by an immune response to substances (allergens) that are harmless to most people
anaemia	condition characterised by a reduced ability of the body to deliver enough oxygen to the cells due to a lack of healthy blood cells
anorexia (nervosa)	condition characterised by an extreme fear of gaining weight, leading to extreme restrictions on food intake
anxiety/anxiety disorder	condition characterised by excessive fear and worry
arthritis	a disorder of one or more joints that causes inflammation and pain
asthma	chronic condition that affects the small air passages of the lungs; when exposed to certain triggers, the airways narrow, making it difficult to breathe
atherosclerosis	build-up of plaque on blood vessel walls, making it harder for blood to get through; increases the risk of hypertension and cardiovascular disease
autism spectrum disorders	a group of neurological disorders characterised by difficulties with communication and repetitive behaviours
autoimmune disease	when the immune system mistakenly attacks healthy body cells; examples include coeliac disease and psoriasis
avian flu	a type of influenza that commonly affects both domestic and wild birds, but can spread from birds to humans which, in some cases, is fatal
back pain/problems	a range of conditions caused by damage to bones, joints, nerves, muscles and connective tissues in the back
bipolar disorder	mental health disorder characterised by extremes in mood
birth asphyxia	prolonged lack of oxygen that occurs during the birthing process
birth defects	missing or ill-formed body structures present from birth; may have a genetic, infectious or environmental origin, although in most cases it is difficult to identify their cause
bladder cancer	cancer of the bladder, the organ responsible for storing urine
blood and metabolic disorders	a range of conditions that affect the blood and/or metabolism; examples include anaemia and diabetes
bowel cancer	disease categorised by uncontrolled and abnormal cell growth in tissues of the bowels (i.e. small and/or large intestine) and/or rectum

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Disease or condition	Explanation
breast cancer	cancer of the breast tissue; can occur in both males and females, but is significantly more common in females
bulimia (nervosa)	condition characterised by binge eating, followed by behaviours such as vomiting or excessive exercise in an attempt to cancel out the food intake
cancer (neoplasms)	a range of diseases categorised by uncontrolled and abnormal cell growth; eventually, the cancerous cells can prevent healthy cells from carrying out their functions. Cancer cells can spread to other parts of the body, causing further damage.
cardiovascular disease	encompasses all diseases of the heart and blood vessels (including heart attack, stroke and vascular diseases); caused mainly by reduced blood supply to the heart, brain and legs (usually caused by atherosclerosis)
cerebrovascular disease (stroke)	disorders that affect the blood vessels that supply the brain, which may result in a stroke
chickenpox	highly infectious viral condition that can cause serious illness in vulnerable people such as newborn babies, pregnant women and those with decreased immunity
cholera	bacterial infection of the intestine, causing diarrhoea and dehydration; left untreated, cholera can be fatal within hours
chromosomal abnormalities	abnormalities that arise during the creation of sperm and ova that can cause a range of conditions in the developing baby, mostly as a result of too many or too few chromosomes; some chromosomal abnormalities lead to physical defects that result in death
chronic bronchitis	inflammation of the tubes that carry air to and from the lungs
chronic kidney disease	disease characterised by a loss of kidney function (the kidneys filter the blood and remove wastes)
chronic obstructive pulmonary disease (COPD)	progressive and disabling long-term lung diseases where damage to the lungs obstructs oxygen intake and causes increasing shortness of breath; COPD includes emphysema and chronic bronchitis
cirrhosis	a type of liver damage where healthy cells are replaced by scar tissue; the liver is unable to perform its vital functions of metabolism, production of proteins (including blood clotting factors), and filtering of drugs and toxins
coeliac disease	autoimmune disease in which the consumption of gluten triggers an immune response that damages the lining of the small intestine
colorectal cancer	disease categorised by uncontrolled and abnormal cell growth in tissues of the colon (i.e. large intestine) and/or rectum
communicable disease/s	any condition that is passed to an individual from their environment (including from other people, air, water, food or insects)
congenital malformations	sometimes referred to as ‘birth defects’, which often result from missing or malformed body structures; they may have a genetic, infectious or environmental origin, although in most cases it is difficult to identify their cause
COPD (chronic obstructive pulmonary disease)	progressive and disabling long-term lung diseases where damage to the lungs obstructs oxygen intake and causes increasing shortness of breath; COPD includes emphysema and chronic bronchitis
coronary (ischaemic) heart disease	chronic disease caused by insufficient blood supply to the heart muscle via the coronary arteries; can lead to heart attack
COVID-19	highly contagious viral infection of the respiratory system
deafness	partial or complete hearing loss

dementia	a collection of symptoms caused by disorders of the brain, affecting thinking, behaviour and the ability to perform everyday tasks; there are over 100 types, the most common being Alzheimer's disease
dental caries	tooth decay
depression/depressive disorder	chronic condition characterised by ongoing feelings of sadness and loss of interest in normal activities with no apparent cause
diabetes	metabolic disease that leads to high blood glucose levels from defective insulin production, ineffective insulin action or both
diabetes mellitus (type 1, type 2, gestational)	metabolic disease that leads to high blood glucose levels from defective insulin production, ineffective insulin action or both
diarrhoeal disease	any condition that includes diarrhoea as a symptom
diarrhoeal disease and lower respiratory infections	any condition that includes diarrhoea as a symptom and/or infections of the airways and lungs; examples include bronchitis and pneumonia
diseases of the nervous system	diseases associated with the brain, spine or nerves; include epilepsy, motor neurone disease, multiple sclerosis, Parkinson's disease and dementia
Down syndrome	genetic condition characterised by having three chromosomes on the 21st pair, instead of two; individuals exhibit distinct facial features, reduced muscle mass and impaired intelligence
dysentery	severe intestinal infection that causes bloody diarrhoea
E. coli	bacterial infection often spread from contaminated food; most E. coli strains are harmless, but some can cause serious disease
eating disorders	conditions characterised by abnormal and often extreme eating habits; examples include anorexia and bulimia
Ebola	viral infection spread from wild animals to humans, and then from human to human through direct contact with bodily fluids (or items exposed to bodily fluids of those infected, such as bed sheets); fatal in around 50 per cent of cases
eczema	condition that causes red, itchy and dry skin
emphysema	condition characterised by damaged air sacs in the lungs, resulting in difficulty breathing
endocrine disorders	conditions affecting the production, release and/or function of hormones; the most common example is diabetes
FASD (foetal alcohol spectrum disorder)	an umbrella term that describes a range of conditions that can occur in children exposed to alcohol before birth and includes physical features and behavioural problems
fatty liver disease	build up of fats on the liver that can cause liver damage
female genital mutilation (FGM)	procedures that intentionally alter or cause injury to the female genital organs for non-medical reasons
Foetal alcohol spectrum disorder (FASD)	an umbrella term that describes a range of conditions that can occur in children exposed to alcohol before birth and includes physical features and behavioural problems
gastroenteritis (gastro)	inflammation of the stomach and/or intestines, usually caused by an infection; can lead to diarrhoea and vomiting
gastrointestinal disorders	conditions affecting the digestive system, including coeliac disease and gastroenteritis (gastro)
gestational diabetes	type of diabetes that begins during pregnancy and generally goes away once the child is born; women who experience gestational diabetes are at greater risk of type 2 diabetes in the future
haemorrhage	excessive bleeding

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Disease or condition	Explanation
hay fever	disease characterised by an allergic reaction to pollens (grasses, weeds or trees), dust mites and moulds
hearing and vision disorders	disorders affecting the ability to hear and/or see
heart attack	when blood flow to the heart is cut off, leading to death of heart cells unless blood flow is restored
heart failure	when the heart struggles to keep up with the demands of the body
hepatitis	inflammation of the liver caused by a viral infection that can be food-, water- and/or blood-borne (depending on the type — there are five types); immunisation can prevent three types, and safe sexual and medical practices can also help prevent the spread of this disease
hepatitis A	inflammation of the liver caused by a viral infection usually spread by food or water contaminated with faecal matter of an infected person; a vaccine is available
hepatitis B	inflammation of the liver caused by a viral infection usually spread by contact with infected blood or body fluids, especially semen and vaginal secretions; a vaccine is available
hepatitis C	inflammation of the liver caused by a viral infection usually spread by contact with infected blood or body fluids, especially semen and vaginal secretions; there is no vaccine, but around 95 per cent of people treated will be cured
hepatitis D	a rare type of hepatitis that infects only people with hepatitis B; the hepatitis B vaccine can also prevent hepatitis D
high blood pressure (hypertension)	when blood is being pumped through the arteries at a harder and faster rate than is considered normal/healthy — increases the risk of heart attack and stroke; as blood pressure is controlled by the kidneys, over time, hypertension can contribute to kidney disease
HIV (human immunodeficiency virus)	spread by infected bodily fluids, the virus attacks the immune system and can cause death; there is no vaccine for HIV, but it can be prevented through safe sexual and medical practices, and treated with antiretroviral medication
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impaired glucose regulation (insulin resistance)	occurs when cells become resistant to the action of insulin, preventing glucose from being absorbed by the cells; is a precursor to type 2 diabetes mellitus
infant and congenital conditions	conditions that first occur before or just after birth; examples include Down syndrome, muscular dystrophy and birth defects
infectious disease/s	any condition that is passed to an individual from their environment (including from other people, air, water, food or insects)
influenza (flu)	highly contagious viral infection of the respiratory system
injury	damage to body tissues caused by an external factor; can relate to trauma sustained from impacts by objects such as cars, roads or other people
injury and poisoning	damage to body tissues caused by an external factor; can relate to trauma sustained from impacts by objects such as cars, roads or other people, and substances ingested such as alcohol, drugs or other chemicals

intestinal worms	parasites that can survive in the intestines for an extended period of time; often cause diarrhoea and malnutrition
iron deficiency anaemia	condition characterised by a reduced ability of the body to deliver enough oxygen to the cells, due to a lack of healthy blood cells; in this case, due to insufficient iron
ischaemic (coronary) heart disease	chronic disease caused by insufficient blood supply to the heart muscle via the coronary arteries; can lead to heart attack
kidney and urinary diseases	conditions affecting the kidneys and/or urinary system; examples include chronic kidney disease and urinary tract infections
kidney disease	disease characterised by a loss of kidney function; the kidneys filter the blood and remove wastes
liver cancer	cancer of the liver, the organ responsible for metabolism, immune system function and detoxification
liver disease	a range of conditions impacting liver function, including hepatitis and cirrhosis
liver failure	when liver disease has progressed and the organ struggles to carry out its functions
long-sightedness	a sight condition where close objects appear blurry
low birthweight	a baby born weighing less than 2.5 kg
lower respiratory infections	infections of the airways and lungs; examples include bronchitis and pneumonia
lung cancer	disease categorised by uncontrolled and abnormal cell growth in lung tissues
malaria	life-threatening disease caused by parasites that are transmitted to people when bitten by infected female mosquitoes; destroys red blood cells and, if left untreated, can cause death
maternal conditions	conditions affecting women during pregnancy, childbirth and the post-birth period, including gestational diabetes and postnatal depression
meningitis/encephalitis	inflammation of the brain, the membranes covering the brain and/or the spinal cord
mental health disorders/mental and behaviour problems	disturbances of mood or thought that can affect behaviour and distress the person, so that they have trouble functioning normally; includes anxiety disorders and depression
migraine	neurological condition characterised by severe headaches, nausea, vomiting and/or sensitivity to light or sound
mouth cancer	a condition categorised by uncontrolled and abnormal cell growth in the mouth; eventually, the cancerous cells can prevent healthy cells from carrying out their functions. Cancer cells can spread to other parts of the body, causing further damage.
muscular dystrophy	a group of disorders that cause progressive and irreversible weakness and wasting of the muscles
musculoskeletal conditions/disorders	ill health related to the muscles, joints and bones; includes osteoporosis and the various types of arthritis
neonatal diseases	any condition that is present at birth, or arises shortly after
neonatal sepsis	life-threatening condition that occurs when the immune systems response to an infection damages vital organs
neural tube defects	conditions characterised by damage to the brain and spine, and to the nerve tissue of the spinal cord, during prenatal development; e.g. spina bifida
neurological conditions/disorders	diseases associated with the brain, spine or nerves; includes epilepsy, motor neurone disease, multiple sclerosis, Parkinson’s disease and dementia
non-communicable disease/s	conditions that are not passed on from the environment; examples include cardiovascular disease and diabetes

(continued)

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Disease or condition	Explanation
NTDs (neglected tropical diseases)	conditions that occur in tropical and sub-tropical areas often affected by poverty, which receive little attention from governments despite often being easy to prevent; examples include dengue fever, yellow fever, rabies, scabies and intestinal worms
nutritional deficiencies/diseases	conditions caused by lack of specific nutrients; examples include anaemia and vitamin deficiencies
obesity	a more severe form of carrying excess bodyweight; often measured as a BMI of 30.0 and above
obstetric fistula	condition caused by obstructed labour that is characterised by internal holes in the vaginal walls, bladder and rectum
oesophageal cancer	cancer of the oesophagus (the tube that carries food from the throat to the stomach)
oral disorders	disorders of the mouth, gums and teeth; examples include dental caries and periodontitis
osteoarthritis	a group of diseases involving the degradation of joints and cartilage, causing stiffness and tenderness in the joints, as well as inflammation, pain and locking; mainly due to wear of the cartilage over years
osteoporosis	porous bones, where the bone density thins and weakens, resulting in an increased risk of fracture (breakage)
other	‘other’ refers to all other conditions that alone, did not contribute enough to be included separately in the data; note that ‘other’ is not a specific cause of ill-health and should therefore not be selected as a cause
overweight	carrying excess bodyweight that can contribute to negative health incomes; often measured as a BMI of 25.0 to 29.9
overweight and obesity	includes those classified as both overweight and obese; often measured as a BMI of 25.0 and above
pancreatic cancer	cancer of the pancreas, a small organ located behind the stomach
periodontitis	condition characterised by inflammation and infection of the tissues that support the teeth
pneumonia	infection of the lungs that often results in them filling with fluid
poisoning	a type of injury caused by swallowing, inhaling, touching or injecting various drugs, chemicals, venoms or gases
prematurity	a baby born before 37 weeks of gestation (pregnancy)
prenatal and infancy health concerns	condition occurring either prenatally of shortly after birth; examples include developmental disorders and congenital anomalies
psoriasis	autoimmune disease that causes thick scales to form on the skin
psychiatric disorders	a broad range of mental health disorders including anxiety, depression and bipolar disorder
reproductive and maternal conditions	issues affecting the reproductive system and pregnancy, including menstrual disorders and infertility
respiratory diseases	diseases of the airways and lungs; include asthma, COPD and pneumonia
respiratory infections	diseases of the airways and lungs; include asthma, COPD and pneumonia
rheumatoid arthritis	chronic autoimmune disease characterised by inflammation and pain in the joints
road traffic injuries — motor vehicle occupants	injuries sustained by an individual who was a passenger in a motor vehicle, including cars, buses and trucks
road trauma	any trauma sustained while using roads, including to pedestrians, cyclists and motorists

self harm	acts that deliberately aim to harm oneself, such as cutting or burning
short-sightedness	sight condition in which distant objects appear blurry
skin disorders	conditions that affect the skin, including acne, eczema and psoriasis
sleep apnoea	sleep disorder characterised by interruptions to breathing, causing breathing to temporarily stop
spina bifida	condition characterised by the malformation of the spinal cord
stomach cancer	categorised by uncontrolled and abnormal cell growth in the stomach; eventually, the cancerous cells can prevent healthy cells from carrying out their functions. Cancer cells can spread to other parts of the body, causing further damage.
substance use disorders	conditions associated with the misuse of substances such as alcohol, cannabis, cocaine and methamphetamine
sudden infant death syndrome (SIDS)	unexplained death of an apparently healthy infant; SIDS can only be diagnosed when other causes are ruled out
suicide and self-inflicted injuries	acts that intentionally aim to cause damage or death to oneself
syphilis	infectious disease caused by bacteria that is often spread during sexual contact
TB (tuberculosis)	airborne disease that can be prevented by vaccination and treated with antibiotics. The unvaccinated and untreated can experience flu-like symptoms and death; those with HIV and those living in poverty are particularly susceptible.
tetanus	infectious disease that produces toxins that affect the nervous system
throat cancer	categorised by uncontrolled and abnormal cell growth in the throat; eventually, the cancerous cells can prevent healthy cells from carrying out their functions. Cancer cells can spread to other parts of the body, causing further damage.
tuberculosis (TB)	airborne disease that can be prevented by vaccination and treated with antibiotics. The unvaccinated and untreated can experience flu-like symptoms and death; those with HIV and those living in poverty are particularly susceptible.
type 1 diabetes mellitus	metabolic disease that leads to high blood-glucose levels from defective insulin production, ineffective insulin action or both
type 2 diabetes mellitus	metabolic disease that leads to high blood-glucose levels from defective insulin production, ineffective insulin action or both. This type of diabetes is more likely to be influenced by lifestyle risk factors such as obesity.
unintentional injuries	injuries that are accidental in nature; examples include choking, accidental falls and drowning
upper respiratory tract infections	infections affecting the nose, throat and upper airways; the common cold is an example
waterborne diseases	diseases that are passed from water to the individual; examples include dysentery and cholera

GLOSSARY

acquired immune deficiency syndrome (AIDS) the most advanced stage of HIV infection
allied health services health services provided by trained health professionals who are not doctors, dentists or nurses, such as physiotherapists, psychologists and occupational therapists
antenatal care health care provided to women during pregnancy and just after birth
antioxidants compounds in foods that neutralise free radicals
aquifer an underground layer of rock, sediment or soil that contains water
asphyxia interrupted breathing leading to low levels of oxygen in the body, unconsciousness and often death
assistive technology a device, system or design that allows an individual to perform a task that they would otherwise be unable to do, or increase the ease and safety with which a task can be performed
atherosclerosis the build-up of plaque on blood vessel walls, making it harder for blood to get through
biodiversity the variety of different plants, animals and microorganisms, their genes and the ecosystems of which they are a part
biological factors factors relating to the body that impact health and wellbeing, such as genetics, body weight, blood pressure, cholesterol levels and birth weight
biomedical approach to health focuses on the physical or biological aspects of disease and illness; a medical model practised by doctors and health professionals and is associated with the diagnosis, treatment and cure of disease
birth asphyxia a condition in which a baby's brain and other organs do not get enough oxygen before, during or immediately after birth. It can cause temporary or permanent damage.
body mass index (BMI) a statistical measure of body mass calculated by dividing weight (in kilograms) by height (in m^2)
boycott refusing to buy or use the goods or services of a certain company as a protest
brotherboys Aboriginal and Torres Strait Islander transgender men (assigned female at birth) who have a distinct cultural identity and often take on male roles within the community.
bulk-billing when the doctor charges only the schedule fee. The payment is claimed directly from Medicare so there are no out-of-pocket expenses for the patient.
burden of disease a measure of the impact of diseases and injuries, specifically the gap between current health status and an ideal situation where everyone lives to an old age free of disease and disability. Burden of disease is measured in a unit called the DALY (VCAA).
carcinogens things that have the potential to cause cancer, such as UV radiation, cigarette smoke and asbestos
cell membrane the layer around a cell that protects it from the outside environment. The cell membrane allows substances in and out of the cell, including glucose.
cholesterol a type of fat required for optimal functioning of the body that, in excess, can lead to a range of health concerns, including the blocking of the arteries (atherosclerosis). It can be 'bad' (low-density lipoprotein (LDL)) or 'good' (high-density lipoprotein (HDL)).
chronic condition any disease or condition that lasts a long time (usually longer than six months). These are often incurable and require ongoing treatment and management. Examples include arthritis and asthma.
circular economy a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling and composting.
civic participation refers to involvement in a community group such as a union, professional association, political party, environmental or animal welfare group, human and civil rights group, or body corporate or tenants' association
commercial factors conditions, actions and policies of corporate organisations that impact health and wellbeing, either positively or negatively
communicable diseases infectious diseases that are transmitted from the environment, including through air, water, food and other infected organisms (including other humans)
congenital malformations physical defects developing either in the uterus or dating from birth

crowdfunding campaign funding a project or venture by raising many small amounts of money from large numbers of people, usually via the internet

CT scans computed tomography scan, which is a specialised X-ray taken from many different angles to build a 3-dimensional picture of the body

culturally and linguistically diverse (CALD) a broad term used to describe groups whose languages, ethnic backgrounds, nationalities, religions and customs differ from the majority. It also often refers to people from non-English speaking countries residing in Australia.

demineralisation the removal of minerals such as calcium and phosphorus from bones and teeth, which decreases the density of these tissues

dental caries decay of teeth caused by a breakdown in the tissues that make up the tooth

digital health technologies the use of digital tools, platforms and devices in health care

dimensions of health and wellbeing the components that make up an individual's overall health and wellbeing. The dimensions are physical, social, emotional, mental and spiritual.

disability-adjusted life year (DALY) a measure of burden of disease. One DALY is equal to one year of healthy life lost due to illness and/or death. DALYs are calculated as the sum of the years of life lost due to premature death and the years lived with disability for people living with the health condition or its consequences (AIHW, 2018).

discrimination when a person or group of people is treated differently than other people, often a result of factors such as race, religion, sex, sexual orientation and gender identity

disease a physical or mental disturbance involving symptoms, dysfunction or tissue damage

displaced people those who are forced to leave their home because of war or persecution

double burden of disease when conditions associated with both poverty and wealth, such as undernuitrition and obesity, exist side-by-side in one community

dynamic continually changing

economic sustainability ensuring that average incomes in all countries are adequate to sustain a decent standard of living and continue to rise in line with inflation and living costs in the future

emotional health and wellbeing relates to the ability to express feelings in an appropriate way. Emotional health and wellbeing is about the positive management and expression of emotional actions and reactions, as well as the ability to display resilience. It is the degree to which an individual feels emotionally secure and relaxed in everyday life.

energy balance when the amount of energy consumed is the same as the amount of energy required. Energy balance contributes to neither weight gain or weight loss.

energy dense foods that contain significant amounts of fat, carbohydrates and/or protein, therefore contributing large amounts of energy to the diet

environmental factors the physical surroundings in which we live, work and play. Environmental factors include workplaces, housing, roads and geographical access to resources such as health care.

environmental sustainability ensuring the natural environment is used in a way that will preserve resources into the future

equilibrium a state of balance and/or calmness

essential medicines medicines that meet the main healthcare needs of a population and help them to overcome disease and illness more quickly

extreme poverty living on less than PPP$2.15 per day

fertilisation the fusing of a sperm and egg cell; marks the beginning of pregnancy (also known as conception)

foetal alcohol spectrum disorder (FASD) a group of conditions that can occur in a person whose mother drank alcohol during pregnancy. Problems that may occur in babies exposed to alcohol before birth include low birth weight, distinctive facial features, heart defects, behavioural problems and intellectual disability.

food insecurity when healthy, affordable food is not obtainable

fortified foods when a nutrient has been artificially added to food to increase its nutritional value

free radicals molecules formed when oxygen is metabolised. Free radicals can damage healthy body cells and increase the risk of diseases such as cardiovascular disease and cancer.

gender equality when males and females have equal rights, responsibilities and opportunities

genetic predisposition an increased likelihood of developing a particular disease based on a person's genetic makeup (often indicated by a person's family history of disease)

gestational diabetes a type of diabetes that begins during pregnancy and generally goes away once the child is born. Women who experience gestational diabetes are at greater risk of type 2 diabetes in the future.

glacier a slowly moving mass or river of ice formed by the accumulation and compaction of snow on mountains or near the poles

globalisation the process in which boundaries between countries are reduced or eliminated allowing individuals, groups and companies to act on a global scale; a reduction in barriers to trade, communication and transport contributes to this process. It can be described as transforming the different societies of the world into one global society.

greenhouse gases gases that contribute to the greenhouse effect by absorbing heat. Carbon dioxide, methane and chlorofluorocarbons (used in the manufacture of aerosol sprays) are examples of greenhouse gases.

Gross Domestic Product (GDP) a measure that reflects the economic state of a country; the value of all goods and services produced in a country in a 12-month period

Gross National Income (GNI) the total value of goods and services a country's citizens produce, including the value of income earned by citizens who may be working in an overseas country

health-adjusted life expectancy (HALE) the average length of time an individual at a specific age can expect to live in full health; that is, time lived without the health consequences of disease or injury (AIHW, 2018)

health and wellbeing the state of a person's physical, social, emotional, mental and spiritual existence, characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged

health indicators standard statistics that are used to measure and compare health status (e.g. life expectancy, mortality rates, morbidity rates)

health literacy the extent to which people are able to access, critique, understand and use health information and services in ways that promote and maintain health and wellbeing

health promotion the process of enabling people to increase control over and improve their health

health status an individual's or population's overall level of health and wellbeing taking into account various indicators such as life expectancy, mortality and morbidity

hospital separations episodes of hospital care that start with admission and end at transfer, discharge or death

health determinants factors that have a significant influence on health. These often combine to affect the health of individuals and communities, and include factors such as where we live, the state of our environment, genetics, our income and education level, our access to health care and our relationships with friends and family. Many of these determinants lie outside the control of individuals.

human development creating an environment in which people can develop to their full potential and lead productive, creative lives according to their needs and interests. It is about expanding people's choices and enhancing capabilities (the range of things people can be and do), having access to knowledge, health and a decent standard of living, and participating in the life of their community and decisions affecting their lives (adapted from the UN Development Programme, 1990).

Human Development Index (HDI) a tool developed by the United Nations to measure and rank countries' levels of social and economic development. It provides a single statistic based on three dimensions (a long and healthy life, knowledge and a decent standard of living) and four indicators (life expectancy at birth, mean years of schooling, expected years of schooling and Gross National Income per capita).

human immunodeficiency virus (HIV) an infection that results in the gradual depletion and weakening of the immune system, resulting in increased susceptibility to other infections such as pneumonia and tuberculosis

hypertension high blood pressure

illness a subjective concept related to personal experience of a disease or injury

incidence refers to the number (or rate) of new cases of a disease/condition in a population during a given period (usually 12 months)

income test a determination of whether an individual or family is eligible for government assistance based on their level of income

indivisible unable to be divided or separated

infant mortality deaths in children between birth and their first birthday

infant mortality rate the rate of deaths of infants before their first birthday, usually expressed per 1000 live births

infirmity the quality or state of being weak or ill; often associated with old age

infrastructure the physical and organisational structures, facilities and systems (e.g. buildings, roads, power supplies) needed for the operation of a society

interdependent mutually reliant on each other

latrine a simple communal toilet facility, often a trench dug in the ground or a pit

life expectancy the number of years of life, on average, remaining to an individual at a particular age if death rates do not change. The most commonly used measure is life expectancy at birth (AIHW, 2018).

low birth weight weighing less than 2.5 kilograms at birth

malaria a communicable disease that is transmitted via infected mosquitoes

material footprint the total amount of raw materials used to meet final consumption demands. It is one indication of the pressures placed on the environment to support economic growth and to satisfy the material needs of people.

maternal mortality death of a mother during pregnancy, childbirth or within six weeks of delivery

maternal mortality ratio the number of mothers who die as a result of pregnancy, childbirth or associated treatment per 100 000 women who give birth (or per 100 000 live births)

menopause when the menstrual cycle stops permanently, ending the ability of a female to reproduce

mental health and wellbeing the current state of wellbeing relating to a person's mind or brain and the ability to think and process information. It includes thought patterns, self-esteem and levels of stress and anxiety.

microfinance small, low-cost financial services for poor people that involve low-interest loans to develop small businesses

morbidity ill health in an individual and levels of ill health within a population (often expressed through incidence and prevalence) (AIHW, 2018)

mortality relates to death, often at a population level

mortality rate the measure of the proportion of a population who die in a one-year period (usually per 100 000); sometimes referred to as 'death rate'

neglected tropical diseases a group of diseases that mainly occur in tropical and subtropical environments and are most common in countries where people lack access to safe water and sanitation

neonatal period the first 28 days after birth

neural tube defects conditions characterised by damage to the brain and spine, and to the nerve tissue of the spinal cord during prenatal development, such as spina bifida and anencephaly

non-communicable diseases conditions that are usually long-lasting and generally progress slowly. Non-communicable diseases are not spread through the environment and include cardiovascular disease, cancer, respiratory diseases and diabetes.

non-renewable resources resources that are not replenished in a short period, so once they are used they are not available for future generations; includes coal, natural gas, petroleum and nuclear substances

nutrient dense foods that contain a large amount of nutrients such as vitamins and minerals

obstetric haemorrhage heavy bleeding occurring as a result of pregnancy or childbirth

'old' public health government actions that focused on changing the physical environment to prevent the spread of disease, such as providing safe water, sanitation and sewage disposal, improved nutrition, improved housing conditions and better work conditions

optimal health and wellbeing the highest level of health and wellbeing an individual can realistically attain at any particular time, taking into account genetics and the different environments in which people live

Ottawa Charter for Health Promotion an approach to health developed by the World Health Organization that aims to reduce inequalities in health. It reflects the social model of health and provides five action areas that can be used as a basis for improving health outcomes.

palliative care an approach designed to improve the quality of life of patients with a life-threatening illness with little or no prospect of a cure. This is achieved through the prevention and relief of suffering and the treatment of pain.

pandemic the spread of infectious disease through human populations across a large region such as multiple continents or worldwide

patient co-payments the payment made by the consumer for health products or services in addition to the amount paid by the government

periodontitis a condition characterised by inflammation and infection of the tissues that support the teeth

PET scans involves having an injection of a small amount of radioactive material, which enables a scanner to build up a picture of the body

physical health and wellbeing relates to the state and functioning of the body and its systems; it includes the physical capacity to perform daily activities or tasks

premium the amount paid for insurance

prevalence the total number or proportion of cases of a particular disease or condition present in a population at a given time (AIHW, 2008)

primary health care an approach to health that addresses the broader determinants that affect health and focuses on equity of access to healthcare services. It doesn't just focus on specific diseases; it considers the whole person and all dimensions of health and wellbeing. Primary health care ensures people receive quality care, ranging from health promotion and prevention to treatment, rehabilitation and palliative care, and is provided as close as possible to where people live and work.

primary production the process of producing natural products for human use, such as plants and animals

private sector the part of the economy that is not run by the government. It includes companies and enterprises that operate to make a profit.

productivity relates to the efficiency of the production of goods and services. It is measured by the amount of output produced per unit of input.

Protected Special Category visa these visas are held by some people who arrived in Australia on a New Zealand passport and meet other specific criteria

public health the ways in which governments monitor, regulate and promote health status and prevent disease

relative poverty refers to those living on less than 50 per cent of the country's average income

renewable resources resources that are replenished naturally and over a relatively short period; includes crops, water, oxygen, forests and fish stocks

sanitation the process of eliminating contact between humans and hazardous wastes, including human and animal faeces and urine, solid wastes, domestic wastewater (sewage and grey water), industrial wastes and agricultural wastes

satiety the state of feeling full after eating

schedule fee the amount of money that the government deems appropriate for a particular medical service or procedure

schistosomiasis a worm infection that occurs when people swim, bathe or have contact with fresh water contaminated with human excreta

self-assessed health status 'An individual's own opinion about how they feel about their health, their state of mind and their life in general' (AIHW, 2018). It is commonly sourced from population surveys.

sistergirls Aboriginal and Torres Strait Islander transgender women (assigned male at birth) who have a distinct cultural identity and often take on female roles within the community, including looking after children and family (2015, Sisters & Brothers NT)

sleep apnoea a sleep disorder in which breathing repeatedly stops and starts

social exclusion the segregation that people experience if they are not adequately participating in the society in which they live

social health and wellbeing relates to the state and quality of the interactions and relationships that an individual has with other people. It includes the ability to manage or adapt appropriately to different social situations.

social isolation refers to individuals who are not in regular contact with other people

social model of health an approach that recognises improvements in health and wellbeing can only be achieved by directing effort towards addressing the physical, sociocultural and political environments of health that have an impact on individuals and population groups

social protection assistance provided by governments to vulnerable people to meet basic needs such as income, food and housing

social protection measures measures put in place to prevent individuals and families from suffering from poverty because of a crisis or another unexpected event. Measures include the provision of health care, and income security for children, those who become sick or disabled and the elderly.

social sustainability creating an equitable society where all people can access social resources, both now and into the future

sociocultural factors the social and cultural conditions into which people are born, grow, live, work and age. These conditions include socioeconomic status, social networks, family and cultural background, food security, early life experiences, and access to affordable, culturally appropriate health care.

socioeconomic status the social standing of an individual in comparison to others in that society. It is based on education, income and occupation.

sphygmomanometer an instrument used for measuring blood pressure. It typically has an inflatable rubber cuff that is applied to the arm. The blood pressure is taken by gradually increasing and decreasing the pressure in the cuff

spiritual health and wellbeing relates to ideas, beliefs, values and ethics that arise in the minds and conscience of human beings. It includes the concepts of hope, peace, a guiding sense of meaning or value, and reflection on your place in the world.

stethoscope a medical instrument for listening to the internal sounds of a body, often the heart, lungs or intestines

subjective influenced by or based on personal beliefs, feelings or opinions

subsistence farming self-sufficient farming carried out by individuals to provide food for themselves and their family

sustainability meeting the needs of the present without compromising the ability of future generations to meet their own needs

sustainable agriculture the capacity of agricultural practices over time to provide sufficient food in ways that are economically efficient and profitable, socially responsible and environmentally sound

trachoma a bacterial infection of the eye that can cause complications including blindness

trend a general change or movement in a particular direction. For example, trends indicate a significant increase in obesity rates over the past 20 years.

ultra processed foods highly processed foods, usually containing cheap ingredients and many artificial additives. They contain high levels of salt, fat and refined sugars.

under-5 mortality relates to deaths in children between birth and their fifth birthday

under-5 mortality rate (U5MR) the number of deaths of children under five years of age per 1000 live births (WHO, 2008)

urban slums a settlement, neighbourhood or region comprised of housing that does not provide the essential conditions required to live a healthy life

UV index a scale from 1–11+ that provides an indicator of how intense UV radiation will be. Sun protection methods are recommended for any UV index score of 3 and over

vector a living thing that carries and transmits pathogens to other living things

years lived with disability (YLD) a measure of how many healthy years of life are lost due to disease, injury or disability

years of life lost (YLL) a measure of how many years of expected life are lost due to premature death

INDEX

E

F

G

M

N

O

T

U

V

W

Y