

## Topic 1: Concepts of health and wellbeing

### 1.2 Concepts of health and wellbeing and illness

#### ANSWERS

##### Case study review: Indigenous perspectives on health and wellbeing

1. To Indigenous Australians, the land is the whole environment that sustains and is sustained by people and culture. The land is the core of all spirituality and this relationship and the spirit of Country is central. Aborigines and Torres Strait Islanders identify themselves through their land areas, their relationship to others and their language and stories.
2. Indigenous Australians cultivated the land, but in a way different from non-Indigenous Australians. Indigenous Australians live with the land, whereas non-Indigenous live off it.
3. The system of kinship places each person in a specific relationship with every other person and with specific land areas based on clan or kin. Kinship influences marriage decisions and governs much of everyday behaviour. By adulthood, people know exactly how to behave with everyone around them. Kinship also creates special relationships with land areas based on people's clan or kin. This promotes health and wellbeing among Indigenous people as it strengthens a sense of connection to others and to the land.

#### 1.2 Exercise

##### Test your knowledge

1. 'Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.' This definition has its limitations because it is very difficult to have 'complete' wellbeing and so excludes many people from being considered healthy. (2 marks)
2. This definition was significant because it was the first time that health had been considered as being more than physical health. It also acknowledges that the absence of disease is only one aspect of health. (2 marks)
3. Health and wellbeing is a combination of the five dimensions of health and describes a situation where the individual feels happy, healthy, capable and engaged. (1 mark)
4. Physical, social, emotional, mental, and spiritual. (1 mark)
5. Health and wellbeing relates more to the positive end of the continuum where an individual feels happy, healthy, capable and engaged, whereas illness relates to how a person experiences disease or injury and more relates to the negative end of the continuum. (2 marks)
6. 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. (2 marks)

##### Apply your knowledge

7. Discuss responses, for example:  
Health and wellbeing relates to how an individual functions in a range of areas, including the physical, social, emotional, mental and spiritual dimensions. It is based on an individual's own circumstances and therefore is different for each person. (2 marks)
8. Discuss responses, for example:
  - Sufficient sleep — this gives people adequate energy to pursue the things in life that make them happy and healthy such as exercise and education.
  - Enough money — this allows people to access resources that promote the quality of their life such as nutritious food, leisure activities and education.
  - Ability to adapt to change — a person's circumstances are dynamic and being able to adapt to changes means that an individual can continue to lead a life that they value by being able to socialise, work and rest. (3 marks)
9. *Fitness* — a person who is very fit might perceive health and wellbeing as being able to complete a marathon. A person who is not fit might view health and wellbeing as simply not being sick.

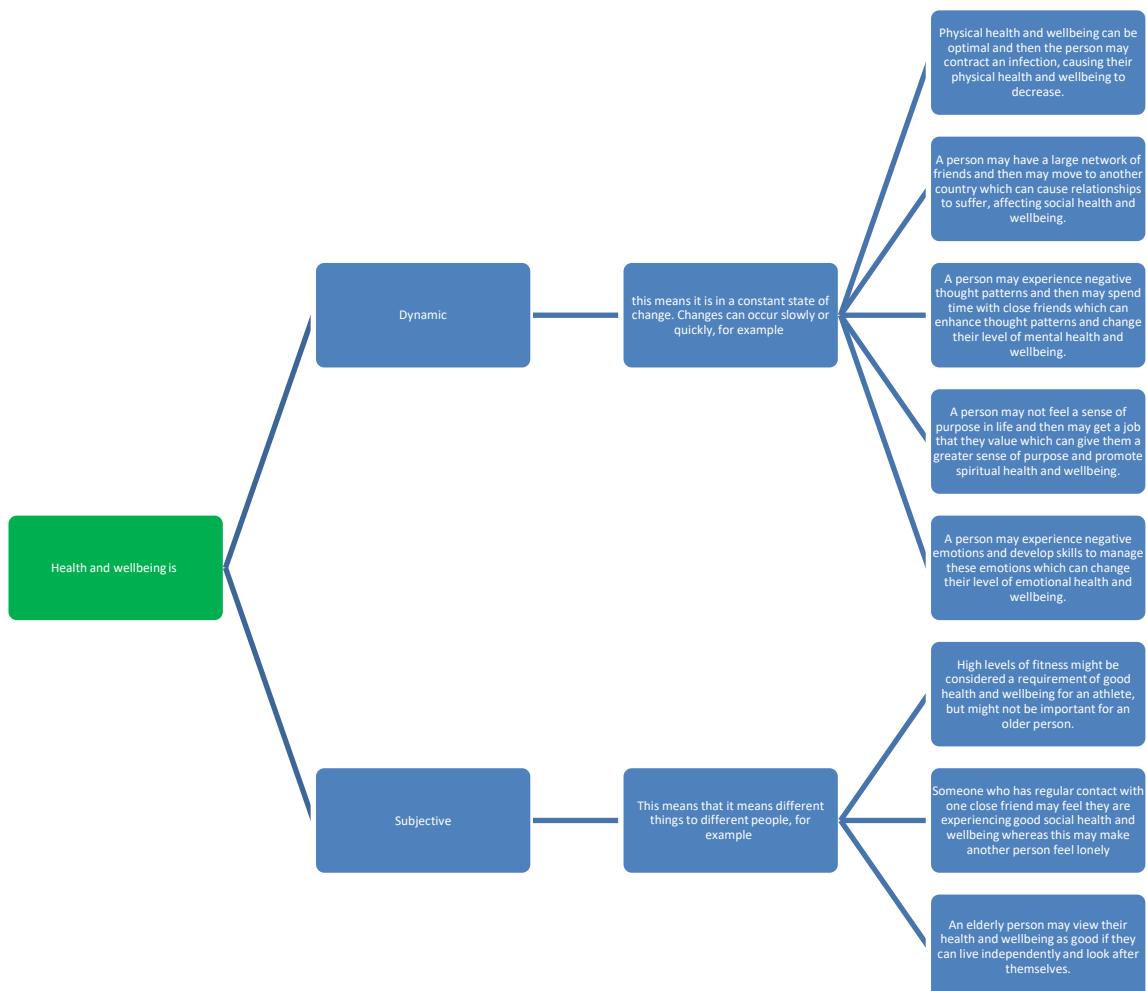
**Age** — older people may see health and wellbeing as having their conditions adequately managed. A young person may see it as being able to attend school, spend time with friends and participate in extracurricular activities. (2 marks)

10. Because it changes constantly and optimal health and wellbeing can be considered at one end and illness at the other. Most people sit more towards the middle and experience changes over time. (2 marks)

11. *Examples:*

- family support
- pain threshold
- past experiences
- personality
- daily responsibilities (such as whether they are supposed to be working or have children to care for) (3 marks)

12.



## 1.2 Exam questions

### Question 1

Source: VCE 2013, *Health and Human Development, Section B, Q.2.a (adapted)*; © VCAA

The Men's Shed provides opportunities for men to socialise with other men in their community thus improving their social health and wellbeing.

The Men's Shed teaches men new skills such as restoring old furniture. This will improve their self-esteem, improving their mental health and wellbeing.

### VCAA Assessment Report note:

The majority of students were able to outline two ways in which the Men's Shed initiative could improve men's health.

**Question 2**

Explanation should state that physical health and wellbeing are only a part of health and wellbeing; social, mental, emotional and spiritual health and wellbeing dimensions are also important in overall health.

An example should be included. For example, a person with a physical disability (e.g. paraplegia) may still feel happy with what they can do (mental health and wellbeing) and enjoy activities with other people (social health and wellbeing).

**Question 3**

Characteristics of physical health and wellbeing may include:

- absence of disease and illness
- adequate energy levels to perform daily tasks
- adequate fitness levels
- adequate functioning of the body systems and organs, including immunity to disease
- adequate sleep and rest.

**Question 4**

Definition of health and wellbeing should include:

- relates to the overall state of a person's physical, social, emotional, mental and spiritual being
- how the individual feels about their life.

### **1.3 Dimensions of health and wellbeing**

#### **ANSWERS**

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

1. 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. For example, emotional health and wellbeing might be experiencing grief after the loss of a loved one, whereas mental health and wellbeing relates to things like levels of stress and anxiety.
2. No, optimal emotional health and wellbeing means sometimes experiencing negative emotions. Optimal emotional health and wellbeing means that the person experiences appropriate emotions for the given situation, in some cases, this means that negative emotions should be experienced.

### **1.3 Exercise**

#### **Test your knowledge**

1. Five dimensions of health and wellbeing:

- Physical health and wellbeing — a state of physical wellbeing in which a person is physically able to perform their daily activities without restrictions. Examples include: absence or presence of disease, injury and disability, body weight, fitness, levels of energy and ability to complete physical tasks.
- Social health and wellbeing — the ability to form meaningful and satisfying relationships with others and the ability to manage or adapt appropriately to different social situations.
- Emotional health and wellbeing — the ability to recognise, understand and effectively manage emotions and use this knowledge when thinking, feeling and acting. Examples

- include: being able to recognise and understand the range of emotions, effectively respond to and manage emotions and display a high level of resilience
- Mental health and wellbeing — a person's cognitive and thinking processes, including their capacity to think coherently, express thoughts and feelings, and respond constructively to situations. Examples include levels of stress, anxiety and confidence, self-esteem and thought patterns.
  - Spiritual health and wellbeing — a positive sense of belonging, meaning and purpose in life. It includes values and beliefs that influence the way people live, and can be influenced by an individual's connection to themselves, others, nature and beyond. Examples include a sense of belonging, positive meaning and purpose in life, peace and harmony and acting according to one's values and beliefs. (15 marks)
2. a. A sense of belonging to a community group — spiritual  
b. Having an asthma attack — physical  
c. Positive thought patterns — mental  
d. Recognising the difference between embarrassment and anxiety — emotional  
e. Experiencing productive relationships with school mates — social  
f. Having adequate levels of energy — physical  
g. Experiencing positive self-esteem — mental  
h. Having effective communication with others — social  
i. Experiencing sadness at appropriate times — emotional  
j. Establishing and acting according to values and beliefs — spiritual (10 marks)

### **Apply your knowledge**

- 3. Religion provides a structured and organised form of spirituality, but spirituality exists for many people without connection to an organised religion. (2 marks)
- 4. Student activity. Answers may include: fitness, food intake, genetics, housing, sleeping patterns, substance use, friendship groups, family, culture. (4 marks)
- 5. Discuss individual results. For example:
  - Physical health and wellbeing is important, but not necessarily the most significant dimension. A person could have optimal physical health and wellbeing, but may experience poor health and wellbeing in relation to the other dimensions which could significantly impact on their quality of life overall. Achieving balance between the dimensions is the best way to promote health and wellbeing.
  - Physical health and wellbeing is the most significant dimension because if someone cannot perform daily tasks or they experience significant physical illness, they may not be able to work to promote the other dimensions such as socialising with loved ones, maintaining positive thought patterns or working towards their purpose in life. Although all are important, the physical dimension has the greatest influence on the other four dimensions. (3 marks)

### **1.3 Exam questions**

#### **Question 1**

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

A social health and wellbeing outcome of the Victorian workplace mental wellbeing collaboration project would be increasing positive interaction with work colleagues, as one of the project approaches includes communicating effectively.

*Note:* In the current study design dimensions of 'health and wellbeing' are the focus, rather than just 'health'. Award 1 mark for an example of a social health and wellbeing outcome from the project.

#### **Question 2**

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

Note: In the current study design dimensions of 'health and wellbeing' are the focus, rather than just 'health'.

Mental health and wellbeing relates to the state of a person's mind or brain and relates to the ability to think and process information. [1 mark]

Optimal mental health and wellbeing enables an individual to positively form opinions, make decisions and use logic. [1 mark]

### Question 3

Source: VCE 2014, *Health & Human Development Exam*, Q.1.b (adapted); © VCAA

Relates to the efficient functioning of the body and its systems, and includes the physical capacity to perform tasks and physical fitness.

### Question 4

Being free from significant illness or disease is an example of the physical dimension of health and wellbeing.

Presence or absence from illness and disease is a characteristic of physical health and wellbeing; being free from significant illness or disease reflects this.

### Question 5

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.

## 1.4 Interrelationships between the dimensions of health and wellbeing

### ANSWERS

#### Case study review: Sandy's story

1.

- Physical — not sleeping well; not going to the gym might lead to decreased fitness and weight gain
- Social — not socialising with friends as much as she used to
- Emotional — being able to manage her emotions
- Mental — feeling the stress associated with her job
- Spiritual — feeling isolated can mean that she is not feeling connected to her world

2.

- Physical — her physical health and wellbeing may have deteriorated as she has started to gain weight and is not eating as healthily.
- Social — her social health and wellbeing may have decreased as she is not as social as she once was.
- Emotional — her emotional health and wellbeing appears to be positive as she is dealing effectively with her emotions.
- Mental — her mental health and wellbeing has fluctuated. She is feeling stressed but is also feeling proud of herself.
- Spiritual — this dimension has decreased as she is not feeling as connected to the community as before (not playing netball for example).

3. Examples:

- Missing out on social interactions (social) has made her feel sad (mental). Although Sandy is feeling sad, this is an appropriate emotion to experience at this time, which relates to emotional health and wellbeing. Experiencing appropriate emotions can help deal with negative situations which in turn, enhances resilience. Enhanced resilience can contribute to

a positive outlook on life as Sandy knows she will bounce back which promotes mental health and wellbeing.

- Her stress levels (mental) have reduced her capacity to cook healthy meals, which has influenced her physical health and wellbeing as she has gained some weight. Gaining weight can contribute to poorer self-esteem which further impacts mental health and wellbeing.
- Sandy is feeling good about herself for being given this contract which enhances her self-esteem (mental). This can encourage her to work hard and achieve success which can give her a sense of purpose in life (spiritual). Having a sense of purpose can mean that Sandy is more motivated at work which can give her a greater sense of achievement and promote feelings of confidence (mental).

#### 1.4 Exercise

##### Test your knowledge

1. Being interrelated means that all five dimensions of health and wellbeing affect each other. (1 mark)
2. Optimal health and wellbeing refers to the highest level of health and wellbeing an individual can realistically attain. (1 mark)

##### Apply your knowledge

3. *Examples include:*
  - Every person has different genetics which influence a range of factors that impact health and wellbeing such as body weight and personality.
  - Different people have different social opportunities based on factors such as where they live, the job they do and their access to transport.
  - Some people are born with conditions that impact their physical health and wellbeing and there is often nothing they can do about this. (2 marks)
4. *Examples:*
  - a. A person with a broken leg (*physical* health and wellbeing) may not be able to participate in certain activities, such as sport, with friends (affecting *social* health and wellbeing). They may experience emotions such as sadness, which may be appropriate in this scenario. They may not feel good about themselves (*mental*). Their injury may mean that they can't work towards their purpose in life, impacting their *spiritual* health and wellbeing. (4 marks)
  - b. A person who socialises with friends at shopping centres (*social* health and wellbeing) may consume food from food courts which may be healthy/unhealthy choices, and this could have an impact on body weight (*physical*). Being social can make a person feel good about themselves (*mental*) by having people with whom to discuss issues. They may also experience a sense of belonging to a group, which enhances *spiritual* health and wellbeing. Having a good network of friends can assist in building resilience, which enhances emotional health and wellbeing. (4 marks)
  - c. A person who is feeling upset (*mental*) may eat food for comfort, which can influence body weight (*physical*). An individual who is feeling optimistic and happy (*mental*) may prioritise time for socialising with friends instead of sitting alone at home (*social*). Positive mental health can assist in developing a sense of purpose in life (*spiritual*) as the individual is more likely to be productive at work or school. Optimal self-esteem can mean that the individual is more likely to trust the emotions they experience and act on them accordingly. (4 marks)
  - d. Resilience is an aspect of *emotional* health and wellbeing that can promote self-esteem as the individual feels they can bounce back from life's challenges. If a person is feeling happy, they are more likely to attract friends, and this enhances *social* health and wellbeing. A person who is able to manage emotions effectively may be able to spend more time on activities like physical activity, which enhances fitness (*physical*). Feeling emotions like satisfaction can assist in individuals living in peace and harmony (*spiritual*). (4 marks)
  - e. Having a sense of belonging (*spiritual* health and wellbeing) can mean that people are more likely to socialise with those they feel connected to (*social*). They may feel good about feeling connected (*mental*). Living according to values and beliefs can mean that the individual feels content with the decisions they make, which may enhance their ability to

recover from misfortune (emotional). If a person has a sense of purpose and meaning in life, they may be more likely to take care of their body so they can carry out their daily tasks (physical). (4 marks)

5. Examples:

- a. Earning an income — may mean the individual has more money to spend on nutritious foods and physical activity which assists in maintaining a healthy body weight (physical). A healthy body weight can promote self-esteem (mental). A positive self-esteem can mean that the person is more likely to take the time to look after themselves by exercising which promotes fitness (physical). (2 marks)
- b. Contracting influenza (the flu) — they would experience the symptoms of the disease (physical) and as a result, they may not be able to socialise with their friends (social). If they are not socialising with their friends, they may not exercise as much (if they spend their time socialising by playing sport) which can contribute to lower levels of fitness (physical). (2 marks)
- c. Having a close group of friends — can promote feelings of belonging to the world in which they live (spiritual). If they feel connected, they may be more likely to build strong friendships, which enhances social health and wellbeing. Strong friendships can assist in providing a sense of purpose in life (spiritual). (2 marks)
- d. Feeling a part of a community group — provides feelings of connectedness (spiritual). Feeling connected can contribute to feelings of self-worth and higher self-esteem (mental). High levels of self-esteem can contribute to people feeling that they have a purpose in life which promote spiritual health and wellbeing. (2 marks)
- e. Having positive thought patterns and an optimistic outlook on life — can mean that the person is more likely to live in peace and harmony as they feel that things happen for a reason (spiritual). Peace and harmony can assist in promoting positive thought patterns when things go wrong which promotes mental health and wellbeing. (2 marks)

6. Individual response, for example: Many of the impacts will be negative, but not necessarily all of them. For example, a person may feel a great sense of sadness and loss, but they may deal with these feelings by processing them appropriately which can help them to deal with them which can build resilience (emotional health and wellbeing). Although they may lose interaction with some people (social), they may start to spend more time with other friends which can assist in building strong relationships (social). (4 marks)

7. You must ensure that there is one link between two dimensions for each mark that is available. Examples include:

- a. Billy has broken up with his girlfriend which may impact his social connections if he was spending time with her friends (social health and wellbeing). If he experiences fewer friendships, he may not feel he has people to talk to about his problems which can increase negative thought patterns (mental health and wellbeing). Negative thought patterns can mean that he withdraws from normal activities such as being physical active. This can reduce his levels of fitness (physical health and wellbeing). With reduced levels of fitness, Billy may experience lower self-esteem which is a part of mental health and wellbeing.
- b. Tammy may decide to change focus and help manage the team which can give her a sense of purpose in life (spiritual health and wellbeing) which may in turn, promote her self-esteem (mental health and wellbeing). Being unable to play cricket may mean that she is not as physically active which can lead to weight gain (physical). If Tammy gains weight, she may not feel as good about herself and may experience more negative thought patterns as a result, impacting on her mental health and wellbeing. If she experiences negative thought patterns, she may turn to her teammates for support which can improve the quality of her relationships. If Tammy

experiences negative thought patterns, she may learn ways to deal with the associated feelings which can enhance her resilience and promote her emotional health and wellbeing.

#### **1.4 Exam questions**

##### **Question 1**

Having high self-esteem levels and feeling good about yourself (mental health and wellbeing) makes a person more likely to participate and interact with people in social situations (social health and wellbeing) as they have the confidence to do so.

Having a close network of friends (social health and wellbeing) means you have someone to share problems with, reducing stress (mental health and wellbeing).

##### **Question 2**

When an individual has adequate levels of energy, they are physically able to participate in activities with friends, which can enhance relationships.

Strong social networks (social health and wellbeing) have been shown to reduce obesity, which can reduce the risk of a range of conditions including cardiovascular disease (physical health and wellbeing).

##### **Question 3**

Having a sense of peace and harmony is an important characteristic of spiritual health and wellbeing. This may improve mental health and wellbeing, as feelings of peace and harmony may help reduce stress and anxiety levels.

Believing that life has a positive meaning and purpose (spiritual health and wellbeing) can enhance self-esteem and a sense of optimism (mental health and wellbeing).

##### **Question 4**

This is an example of the interrelationship between physical health and wellbeing and social health and wellbeing.

#### **1.5 Optimal health and wellbeing as a resource**

#### **ANSWERS**

##### **Case study review: Pandemics**

1. The global food supply is impacted by border closures, trade restrictions and confinement measures which have prevented farmers from accessing markets, including for buying inputs and selling their produce. It has also prevented agricultural workers from harvesting crops, thus disrupting domestic and international food supply chains and reducing access to healthy, safe and diverse diets.
2. Because they are already often working in risky conditions. This can include low pay, unsafe working conditions and abuse. With low incomes, they are often forced to continue working even though conditions may have deteriorated further.
3. I agree with this statement. Optimal health and wellbeing prior to COVID would have meant that populations around the world would have been in a better position to deal

with it. Fewer people would have died and become extremely ill with the virus because fewer people would have had underlying conditions. As a result, businesses would have been able to be more productive and the lockdown experienced may not have had to be so extreme as the impacts of COVID would not have been as severe. Fewer people would have been living in poverty which would have meant that they were less likely to be forced further into poverty as a result of COVID.

### **1.5 Exercise**

#### **Test your knowledge**

1. Health and wellbeing as a resource
  - a. Individually — 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.
  - b. Nationally — populations with optimal levels of health and wellbeing experience greater economic benefits such as higher average incomes, greater productivity, lower absenteeism from work, less reliance on social security, and reduced healthcare and associated caring costs. Social 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, and less strain on the health system
  - c. Globally — optimal health and wellbeing reduces the risk of disease transmission between countries, assists in promoting peace and stability, and promotes social and economic development and sustainability. (6 marks)
2. A positive cycle
  - a. For individuals — healthy individuals have the ability to further promote their health and wellbeing by being able to exercise, work and socialise for example. This can create a cycle of optimal health and wellbeing as these activities further promote health and wellbeing.
  - b. 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 experience optimal health and wellbeing themselves. (6 marks)
3. A pandemic is the spread of infectious disease through human populations across a large region such as multiple continents or worldwide.

#### **Apply your knowledge**

4. For example:
  - a.
    - Earn an income
    - Work towards their purpose in life
    - Effectively run a household.
  - b. It would mean that I couldn't gain a further education and would therefore be limited in future careers. This could contribute to stress or a feeling that I couldn't work towards my purpose in life. It would mean that exercise would decrease. This can impact physical health and wellbeing by reducing fitness levels. Social health and wellbeing may decrease as I would not be able to spend as much time with friends. Leisure time may decrease which could contribute to higher levels of stress and anxiety. I may not be able to live independently which would increase reliance on others and may decrease self-esteem. Sleep patterns may be poor which can contribute to tiredness and irritability. Negative thought patterns could significantly impact mental health and wellbeing. (4 marks)
5. It saves healthcare costs, assists in productive work, increased tax revenue and improved social conditions. (2 marks)
- 6.

- a. Health and wellbeing are like the tools that a mechanic needs. Without it, people are not able to live their lives to the full. Taking care of one's health and wellbeing should therefore be a priority.
  - b. Gold and silver are not worth much if the person experiences poor health and wellbeing as they would not be able to utilise these resources effectively. Health and wellbeing are therefore more important than material wealth.
  - c. Countries can only build their infrastructure and social services with a productive population and good health and wellbeing is essential for this. A country with poor health and wellbeing is not able to progress. (3 marks)
7. For example:
- a. Health and wellbeing — for example, people around the world will feel less stress as they have a reduced risk of contracting an infectious disease, which promotes both mental and physical health and wellbeing. People can continue to work towards their purpose in life which promotes spiritual health and wellbeing.
  - b. Social benefits — people will be able to continue to work which means more families globally will be able to access resources such as education, food and adequate shelter. People are more likely to have their human rights upheld if they are having their basic needs met.
  - c. Economic benefits — more adults will be able to work productively and more children can stay in school. This promotes the productivity of the global population over time which can increase average incomes and assist in eliminating poverty. (3 marks)
- 8.
- a. Optimal social health and wellbeing means that relationships are optimal in a society. This can decrease the risk of violence and injuries for individuals. It also means that social support is more likely to be available for those in need. This can promote all aspects of health and wellbeing.
  - b. Optimal mental health and wellbeing means that less money will need to be spent on treating mental illnesses, therefore saving the government money which can then be put towards other resources such as education and infrastructure. Optimal mental health and wellbeing also means the population will be more productive, generating more goods and services that can benefit the whole population.
  - c. Optimal physical health and wellbeing means that fewer diseases will spread throughout the world. This can increase life expectancy globally and contribute to a reduction in global poverty as more people can work and generate goods and services. (6 marks)

### **1.5 Exam questions**

#### **Question 1**

If an individual has optimal physical health and wellbeing, they are free from illness and disease and have sufficient energy to perform daily tasks. This acts as a resource for the individual as they have sufficient energy and motivation to work and earn an income, interact with family and friends, and enjoy life to the fullest.

#### **Question 2**

If residents of a country enjoy optimal physical health and wellbeing and are free from chronic illness and disease, they have the ability to work, earn an income and pay taxes to their country. This acts as a resource nationally as less money needs to be allocated to sickness pensions and more can be spent on low-cost education and public housing.

#### **Question 3**

If diseases such as HIV/AIDS and malaria are reduced globally, more people will have optimal physical health and wellbeing. This acts as a resource globally as it enables more people in the world

to be well and have the energy to work and participate in their communities, promoting economic and social sustainability.

**Question 4**

Optimal health and wellbeing that enables higher economic growth through greater worker participation is an example of a positive impact at the national level.

**Question 5**

Optimal health and wellbeing that promotes economic, social and environmental sustainability is an example of a positive impact at the global level.

## 1.6 Prerequisites for health part 1

### ANSWERS

#### 1.6 Activities

##### Homelessness worksheet

- a. 116 427 people
- b. Aboriginal and Torres Strait Islanders peoples are overrepresented in the homelessness statistics.
- c. Safe, secure, appropriate and affordable housing allows people to focus their attention on mental health recovery and can improve mental health by facilitating independence, social relationships and networks
- d. They may find it difficult to work, which can impact income and prevent homeless people from accessing resources that promote health and wellbeing such as adequate food and healthcare. They may be exposed to dangers such as assault and other crime, which can increase levels of stress and impact mental health and wellbeing. They may not know where they are sleeping from night to night, which means that they experience uncertainty that can impact health and wellbeing by promoting feelings of isolation. They may not be in contact with family members, which affects social health and wellbeing.
- e. Discuss responses.

##### Food worksheet

- a. Why food is a global health issue?
  - Reason 1: We are what we eat. Improvements in nutrition may have given us enormous health benefits this past century, but food-related diseases, including obesity, have become our greatest health challenge for the current century.
  - Reason 2: Poverty is not a protector from food-related disease, but a risk factor for it. Our leading global health challenge results from overnutrition-related malnutrition, with 80 per cent of this disease burden occurring in the world's low- and middle-income nations. Risk factors such as obesity and poor diet — as well as diseases such as diabetes, heart disease, lung diseases, cancers and mental illness — are linked to poverty, not affluence.
  - Reason 3: Dietary risks represent profound health opportunities. The 2010 Global Burden of Disease Study ranked the top causes of global disability and deaths. Diet-related diseases topped the charts. But what can surprise some is that diet itself was named the number one risk factor for morbidity and mortality globally. But this means it can be addressed to promote health and wellbeing.
  - Reason 4: Big Food is a complex, heterogeneous and prickly beast. In 2013, top food companies have more power than some governments, but are unelected and have very different incentives.
  - Reason 5: There is a growing disconnect between food, cooking and people. Food is essential to global health, right down to the individual level. As food systems become

- more processed, supply chains become longer, and our diets are characterised by a long list of chemicals rather than ingredients — we are losing our personal connection to food.
- b. Food can provide adequate energy and assist in reducing the risk of infectious diseases by promoting immune system function. It can also lead to diet-related diseases, such as those associated with obesity, which are leading causes of death.

## **1.6 Exercise**

### **Test your knowledge**

1. The Ottawa Charter for Health Promotion (1 mark)
2. Peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice, equity (1 mark)
3. So that governments and other groups can work towards providing all people with the necessary resources for a decent life (1 mark)
4. Peace can be defined as the absence of conflict. (1 mark)
5. Shelter relates to a structure that provides protection from the outside environment. (1 mark)

### **Apply your knowledge**

6. Discuss responses. For example:

Peace — without peace, many other aspects of life will stop. If there is conflict, people often can't access shelter, education or food. A peaceful society means that people can go to school, work and earn an income which all promote the dimensions of health and wellbeing. (2 marks)
7. Those who are educated may have a higher paid job. This can make more money available to purchase resources, such as health insurance, which can make it easier to treat common conditions, and this enhances physical health and wellbeing. Those who are educated are more likely to earn a higher income which means that more money can be spent on social activities such as going on holidays with friends which can enhance the quality of relationships. (2 marks)
8. With adequate food, an individual may not worry (mental health and wellbeing) about where their next meal is coming from. This means they can spend more time with their friends which promotes social health and wellbeing. If social needs are met, the individual is less likely to experience stress and anxiety as they can share their problems with their friends, enhancing mental health and wellbeing. (2 marks)
9. For example:

Peace – During times of peace, people are more likely to be calm which means they can focus on their feelings and are more likely to be able to correctly identify emotions. As governments will be in a better position to provide for its citizens, people are more likely to access things like public housing which can provide a sense of security and lower levels of stress.

Shelter – Adequate shelter promotes adequate sleep. With adequate sleep people are more likely to exercise in the day time due to higher levels of energy which can promote adequate levels of fitness. Adequate shelter can provide a safe place for children to play. This can enhance the quality of their relationships.

Education – People who are educated are more likely to feel good about themselves which can reduce negative thoughts. They are also more likely to understand the benefits of staying socially connected which can enhance relationships.

Food – access to food provides energy which can increase the ability of people to work towards their purpose in life by committing to a career or raising a family. It also means that people can focus on other activities instead of looking for food, which can promote positive thought patterns.
10. Examples include:
  - a. Peace means that less money is being spent on war. This means countries can invest in new industries and infrastructure which can promote trade between countries, increase the global economy and contribute to fewer people around the world living in poverty. (2 marks)
  - b. Adequate shelter can prevent the spread of disease from vectors like mosquitoes, enhancing physical health and wellbeing. This means that individuals are more likely to work and earn

- an income which can be used for health promoting resources such as food and health care. (2 marks)
- c. When a country's population is educated, people are likely to work more productively. This increases taxation revenue for the government which can then be used for public services such as education, housing and health care. (2 marks)
- d. Food provides energy which increases the ability of people to do activities they enjoy such as spending time with friends, which enhances the quality of their life. It also means that people are less likely to get sick as their immune function will be better. This increases the productivity of the nation and reduces health care costs. This extra money can be used to fund resources such as infrastructure. (4 marks)

### **1.6 Exam questions**

#### **Question 1**

Source: VCE 2018, *Health and Human Development Exam*, Q.13; © VCAA

In times of peace people can move freely around their environment without fear of capture, torture or injury. This reduces feelings of anxiety and stress improving mental health and wellbeing.

Award 1 mark for an example of peace.

Award 1 mark for showing how chosen example improves health outcomes (links can be made to health status or health and wellbeing here).

#### **VCAA Examination Report note:**

This question was generally well answered, with most students understanding the concept of peace. A common error was not expanding the relationship of peace to either health status or a dimension of health.

There were many possible responses. Examples included:

- When people live in a peaceful environment, without the threat of war or violence, there is less chance of being injured and suffering premature death, promoting physical health and wellbeing.
- Without the threat of war or violence, there is a greater opportunity for food security. Water sources used for drinking and farming can be maintained, which allows crops to be grown and clean water to be available, reducing communicable diseases and improves physical health and wellbeing.
- When a country experiences peace, infrastructure such as healthcare facilities are more likely to be available, which enables people to seek diagnosis and treatment if they become ill or to access health promotion information, all of which assists in promoting physical health and wellbeing.

#### **Question 2**

Source: VCE 2004, *Health and Human Development Exam*, Q.3 (adapted); © VCAA

Countries such as Zimbabwe are often involved in civil unrest. During these times, infrastructure, such as water supplies, may be destroyed, and supplies, such as vaccines, may not reach those in need.

Australia has not experienced significant conflict and is in a state of peace and stability; therefore, the government can allocate more funds to the upkeep of water supplies and the supply of immunisations to reduce infectious and parasitic diseases rather than diverting funds to

defence. This may explain higher rates of infectious and parasitic disease in Zimbabwe at 56% of DALYs, compared to only 1.9% DALYs in Australia.

**Question 3**

Other prerequisites of health and wellbeing could include:

- equity
- a stable ecosystem
- sustainable resources
- social justice
- food
- education
- income.

**Question 4**

Shelter in the form of secure housing with adequate heating, cooling and ventilation is a prerequisite for health and wellbeing, as adequate ventilation will reduce incidence of illness such as asthma and other respiratory diseases caused by indoor air pollution. Having secure housing provides a sense of safety and helps protect individuals from extreme weather conditions.

**Question 5**

Food security is an example of the adequate food prerequisite of health and wellbeing.

## 1.7 Prerequisites for health part 2

### ANSWERS

**Case study: Mountain Ash ecosystem under threat**

1. It supports the world's tallest flowering plants, threatened forest-dependant species, it provides water for most of Melbourne's population (it would also provide water for pets and gardens) and to agriculturalists
2. Wildfire, logging, increased temperatures, changes in rainfall patters, habitat change and loss and invasive species.
3. There are a number of ways this question can be answered, but links should start with an example from the case study and end with a specific aspect of a dimension of health and wellbeing, for example:
  - Reduced access to water can mean that people are more likely to experience stress as they may not be sure that they can access this resource.
  - Loss of tourism could mean that people in the area lose their jobs and businesses. This can mean that people do not have as much money to spend on activities such as going out with friends which may reduce the quality of relationships.
  - Degradation of the area may mean there are fewer places to escape daily life and reconnect with nature which can lead to a reduced sense of peace and harmony in life.

**What is the difference between equity and equality?**

1. Equity relates to fairness, whereas equality relates to things being equal.
2. Examples
  - A student who struggles with a subject may receive more assistance outside of class than a student who does not struggle; this represents equity. If all students received the same amount of assistance, this would represent equality.

- A person who is sick may receive more government assistance for medical care than a person who is not sick; this reflects equity. If all people received the same amount of medical assistance regardless of their level of health and wellbeing, this would represent equality.
- 3. Because some population groups are disadvantaged, more assistance is needed for them to lead a decent life and to improve health and wellbeing than for other groups who already experience a higher quality of life.

### **1.7 Exercise**

#### **Test your knowledge**

1.
  - a. An ecosystem is a community that consists of all the living and non-living components of a particular area. For example, could be bushland or the Great Barrier Reef.
  - b. Sustainability is defined by the United Nations as ‘meeting the needs of the present without compromising the ability of future generations to meet their own needs.’ An example is using timber products in a way that allows the trees to regrow.
  - c. Social justice relates to equal rights for all, regardless of personal traits such as sex, class and income, ethnicity, religion, age or sexual orientation. An example is allowing same sex marriage.
  - d. Equity relates to fairness and means that there are minimum levels of income and resources to which all people should have access. An example of equity is low socioeconomic groups receiving income support. (8 marks)
2. A stable ecosystem means that there is balance between the environment and the species that live in the environment, including humans. It means that resources such as food and water are available for human use and can regenerate as quickly as they are used.

A stable ecosystem is important for human life because it provides essential resources for humans to live such as food and water. When an ecosystem is unbalanced, resources are used faster than they can regenerate, which can have significant impacts on human health and wellbeing. (2 marks)

#### **Apply your knowledge**

3. Generating an income means that governments can provide resources such as healthcare, clean water, education, housing, public transport, and social support including social security. This can assist in treating disease (physical health and wellbeing), reducing stress (mental) and providing opportunities to feel connected (spiritual). (2 marks)
4. With adequate income, individuals are more able to afford resources that promote health and wellbeing such as food, shelter, healthcare, social and leisure activities. This can promote all dimensions of health and wellbeing, for example by promoting feelings of self-esteem (mental), providing adequate energy (physical) and assisting in building resilience (emotional). (2 marks)
5. A stable ecosystem can provide:
  - food — which assists body systems in functioning adequately (physical)
  - settings for relaxation — which can promote feelings of peace and harmony (spiritual)
  - places for recreation — which can enhance social health and wellbeing if the individual participates with others
  - clean air and water — which can reduce the risk of respiratory conditions (physical)
  - essential resources — which can reduce levels of stress and anxiety (mental). (3 marks)
6. Social justice relates to equal rights for all, regardless of personal traits such as sex, class and income, ethnicity, religion, age or sexual orientation; whereas equity relates to fairness. Populations that experience discrimination may require extra assistance to achieve equity than those who don’t face discrimination. (2 marks)
7. Equity is an important consideration in achieving optimal health and wellbeing as many groups do not experience the same level of health and wellbeing due to factors that are out of their control. For example, people with low levels of education struggle to earn a decent income

- which reduces the level of health and wellbeing they can achieve. Addressing these issues means that those who are most disadvantaged can achieve a decent standard of living. (2 marks)
8. Answers should show how the prerequisites can impact each other. For example:
- Income allows people to purchase food. Food provides energy, which assists individuals in working which in turn generates income. 2 marks
  - Sustainable resources promote peace as all people can have their needs met. In peaceful times, resources can be directed towards developing sustainable resources instead of waging war. (2 marks)
9. Examples include:
- Stable ecosystem – many people feel a deep connection to nature and ensuring a stable ecosystem can promote feelings of peace and harmony. A stable ecosystem is required to provide fibres for clothing which can reduce levels of stress and anxiety in cold climates. (2 marks)
  - Sustainable resources – are required for food production which can increase levels of energy for humans. Sustainable resources are required for people to earn an income. This can reduce financial stress which can promote positive thought patterns. (2 marks)
  - Social justice – can promote feelings of connectedness with the world in which people live as they feel they are treated the same as others. People are also more likely to make friends as they are not discriminated against which promotes social health and wellbeing. (2 marks)
  - Equity – can mean that people feel valued within their community which can reduce levels of stress and anxiety. By being able to access health care, people will be less likely to experience disease which can reduce levels of grief in the community as fewer people will pass away prematurely. (2 marks)
10. Examples include:
- a. A decent income means the government will have more money to invest in developing new industries. This promotes economic development as more people can get jobs and pay tax. This money can then be used for resources that promote quality of life such as education, health care and social security.
  - b. A stable ecosystem can reduce the impacts of climate change. This can mean that there are fewer natural disasters which can reduce the rate of premature mortality worldwide.
  - c. Sustainable resources can mean that all people in the country can have their needs for food, water and electricity met into the future. This can decrease national levels of stress.
  - d. Social justice can mean that people from minority groups are able to access meaningful employment. They can then earn an income which allows them to access resources that enhance the quality of life such as adequate housing, leisure activities and health care. On a national scale, social justice means that groups like Indigenous Australians are treated fairly which can promote a sense of connectedness. It also means that minority groups are more likely to be employed which can increase the economy of the country.

## 1.7 Exam questions

### Question 1

Source: VCAA 2019, *Health and Human Development Exam*, Q.1; © VCAA

- a. Social justice means that all people are treated fairly and have equal rights regardless of personal traits such as sex, income, religion, age, ethnicity, class or sexual orientation.

Equity refers to fairness and the ability for every person to access the resources they need to lead a good and healthy life. It looks to level the playing field so that those who are disadvantaged are given the same opportunities as others.

Award 1 mark for describing social justice.

Award 1 mark for describing equity.

**VCAA Examination Report note:**

Many students were able to show some understanding of either social justice or equity, but most found it difficult to show a specific understanding of both. Social justice includes being free from discrimination, having human rights upheld and having equal access to resources and opportunities, regardless of personal characteristics. Equity relates to social justice but has a greater focus on fairness, meaning that those who are disadvantaged receive more support.

b. Social justice is a prerequisite for health individually as if women have the same rights and opportunities as men in regards to gaining employment they are then able to earn an income to help provide for their family and to live independently.

Social justice is a prerequisite for health globally as it allows people of a lower income to be treated equally and to have the same access to good basic healthcare as those of a higher income. This allows them to be treated for communicable diseases effectively as soon as possible thereby reducing the risk of transmission not only between people within one population, but also, between countries.

Award 1 mark for identifying a specific example of the selected prerequisite of health and a further 1 mark for explaining how it is a prerequisite for health at an individual level.

Award 1 mark for identifying a specific example of the selected prerequisite of health (example must be different to the previous example used) and a further 1 mark for explaining how it is a prerequisite for health at a global level.

**VCAA Examination Report note:**

Where students were able to identify a specific example of social justice or equity (such as all people being able to access education or low-income earners receiving more funding for health care), they were generally able to explain why it was a prerequisite at an individual and global level. Students should ensure they use a different example for their link to global importance as distinct from individual importance, because using one example generally won't provide enough detail for four marks. Some students were too general with their discussion and did not display an understanding of what social justice or equity would look like in society.

The following is a possible response for equity.

Equity is a prerequisite for health individually because it allows individuals to attend school or work, by giving more resources to those who need it, such as paying for low-income students to buy textbooks, and allows them to participate in their community.

Equity is a prerequisite for health globally because it allows for trade between countries. This is because providing resources to low-income countries allows those countries to participate in trade, which can promote health through global economic growth, because countries can develop their health care resources.

**Question 2**

Source: VCE 2018, *Health and Human Development Exam*, Q.13; © VCAA

In times of peace people can move freely around their environment without fear of capture, torture or injury. This reduces feelings of anxiety and stress improving mental health and wellbeing.

Award 1 mark for an example of peace.

Award 1 mark for showing how chosen example improves health outcomes (links can be made to health status or health and wellbeing here).

**VCAA Examination Report note:**

This question was generally well answered, with most students understanding the concept of peace. A common error was not expanding the relationship of peace to either health status or a dimension of health.

There were many possible responses. Examples included:

- When people live in a peaceful environment, without the threat of war or violence, there is less chance of being injured and suffering premature death, promoting physical health and wellbeing.
- Without the threat of war or violence, there is a greater opportunity for food security. Water sources used for drinking and farming can be maintained, which allows crops to be grown and clean water to be available, reducing communicable diseases and improves physical health and wellbeing.
- When a country experiences peace, infrastructure such as healthcare facilities are more likely to be available, which enables people to seek diagnosis and treatment if they become ill or to access health promotion information, all of which assists in promoting physical health and wellbeing.

**Question 3**

The prerequisite of income is important to health and wellbeing because adequate income can allow an individual to afford resources that promote health and wellbeing. For example, healthy food, access to physical activity, social and leisure activities and to pay for health care all positively affect health and wellbeing.

**Question 4**

Other prerequisites of health and wellbeing could include:

- equity
- a stable ecosystem
- sustainable resources
- shelter
- food
- education
- peace.

**Question 5**

Equality is not a prerequisite for health and wellbeing; equity is a prerequisite for health and wellbeing.

**1.8 Key skills**

**ANSWERS: PRACTISE THE KEY SKILL**

1. Dynamic: the concept continually changes.  
Subjective: the concept means different things to different people.

2. Examples include:
  - being able to recognise emotions
  - experiencing appropriate emotions in a given scenario
  - having high levels of resilience
  - being able to express emotions
  - being able to manage emotions.
3. Physical health and wellbeing is subjective because it can mean different things to different people. For example, an elderly person with multiple chronic conditions may view health and wellbeing as positive if their conditions are managed. In contrast, an elite sportsperson may view health and wellbeing as the absence of injury and the ability to participate in their sport at the highest level.
4. Illness is a subjective concept related to personal experience of a disease. Illness is said to be a dynamic concept because it can change quickly, and the way in which an individual views illness can change over time.
5. Examples of how chicken pox could impact the dimensions of health and wellbeing include:

*Physical*

- They may not be able to exercise, which affects fitness levels.
- They would have physical symptoms associated with the disease.

*Social*

- They may not be able to interact with their friends if they are contagious.
- They may get visits from family members as they recover.

*Emotional*

- They may build resilience as they manage their condition and accept that they can't change their situation.
- They may learn to manage emotions associated with their condition such as anger.

*Mental*

- They may feel happy/sad about missing school.
- They may feel stressed at not being able to complete their normal activities.

*Spiritual*

- They may feel disconnected from the world in which they live if they are confined to bed.
- They may experience peace if they acknowledge that they have to let the disease run its course.

6. If the depressed person doesn't want to leave their home, they may miss out on social events which impacts social health and wellbeing. If they are not able to socialise, they may not feel that they have purpose in life, which can impact spiritual health and wellbeing. Without a sense of purpose in life, individuals may further withdraw from activities, such as sport and leisure activities, which can impact relationships as they are not in regular contact with others (social).
7. Regular exercise can promote fitness and assist in maintaining a healthy body weight. Healthy body weight a high levels of fitness can mean that the individual feels good about themselves which promotes self-esteem and mental health and wellbeing. Those with higher self-esteem are more likely to value good health and wellbeing and therefore eat well, which can provide the body with adequate levels of energy (physical health and wellbeing). (2 marks)
8. Leaving school could contribute to a number of interrelationships between the dimensions of health and wellbeing, for example:
  - They may not participate in as much physical activity, which influences fitness and body weight. If they gain weight, they may experience lower self-esteem (mental).
  - They may not see their school mates as regularly so their social health and wellbeing may decrease. By not seeing their friends, they may not be able to talk about their problems as often which reduce their ability to bounce back from misfortune, impacting their emotional health and wellbeing.

- They may make new friends at work which can enhance relationships. With new friendships, they may experience higher levels of confidence, promoting spiritual health and wellbeing.
  - Experiences at work (such as dealing with customers) may build communication skills, which can assist in building resilience. Resilience can mean that individuals feel more confident within themselves, promoting mental health and wellbeing.
  - Having a job can provide a sense of purpose in life (spiritual). By having a sense of purpose, the individual may be more inclined to look after their health and wellbeing, by exercising regularly for example. This can promote fitness levels and physical health and wellbeing.
9. Having optimal social health can mean that a person has positive relationships with family and friends. The person can share their issues with others, which can reduce the risk of mental health problems. This can allow them to work and earn an income, which increases their ability to access resources that promote quality of life such as shelter, food, healthcare and recreation.
10. Optimal spiritual health and wellbeing means that people feel connected to their community and country. This can reduce risk of behaviours such as violence. If people have a sense of purpose in life, they are more likely to work productively, which enhances the economy of the country in which they live.
11. 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 the planet.
12. Global benefits of optimal health and wellbeing
- Promotes sustainability — when people have their needs met and feel good about themselves, they are more likely to live their lives in a sustainable manner. They can work productively and provide for their families.
  - Promotes the level of education received by children around the world
  - Reduces rates of premature death globally by reducing the spread of disease
  - Promotes world peace and security as all people can access essential resources
13. Examples include:
- a. Income — can be used for food, which produces energy (physical). It can be used for recreation which can reduce stress (mental). It can be used to provide education, which can assist in developing a sense of purpose in life (spiritual) as educated people are more equipped to work productively. It can develop resilience by being used for counselling and other support services (emotional). Income can be used to socialise with friends, such as going out for dinner, which can enhance social connections (social).
  - b. A stable ecosystem — means people can access clean water and food, which assists in fighting off pathogens and enhances physical health and wellbeing. A stable ecosystem can provide places for relaxation, which can promote feelings of peace and harmony (spiritual). It increases access to resources, which can decrease levels of stress (mental). People can spend time socialising rather than looking for resources such as food (as they are not scarce), which promotes social health and wellbeing.
  - c. Equity — this can reduce anxiety, which promotes mental health and wellbeing. If people are treated fairly, they are more likely to feel connected to their community (spiritual). Equity means that all people can access resources such as healthcare, which reduces the impact of disease (physical).

## **1.9 Review**

### **ANSWERS: EXTENDED RESPONSE**

1. Using the information provided, / explain two dimensions of health and / wellbeing and explain the importance of each as a resource both individually and / nationally.
2. Using the information provided and/ your own knowledge, / explain why income is considered a prerequisite for health and wellbeing for individuals and / discuss the potential impacts of lack of income on countries.

3. Drawing on information presented and / your own understanding, / identify and / describe three prerequisites for health and wellbeing and explain how each one can promote both physical and / social health and wellbeing.

### ANSWERS: EXAM QUESTIONS

#### Question 1

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

a. Health and wellbeing is said to be dynamic as it constantly changing. For example, a person who is normally able to express their emotions and feelings positively may be told that they have to change schools and leave their friends which results in them feeling sad and upset, therefore experiencing negative emotions.

Award 1 mark for briefly explaining the dynamic nature of health and wellbeing refers to the changing nature of health and wellbeing.

Award 1 mark for providing a relevant example showing how a dimension of health and wellbeing can change.

#### VCAA Assessment Report

This question was answered well, with most students able to demonstrate that health and wellbeing is said to be dynamic as it can change quickly, changes constantly or can change over time.

Those who demonstrated an understanding of health and wellbeing being dynamic were generally also able to provide a relevant example, such as: 'Health and wellbeing is said to be dynamic as it can change quickly. For example, a person could be experiencing adequate physical functioning and then suffer a fall and break their leg, which can reduce their level of functioning'

b. If people within a country have lower levels of stress and anxiety, that is, they have optimal mental health and wellbeing, then they are able to go to work and have fewer days of absenteeism. This leads to them earning an income and not having to rely on social security which saves money for the nation that can then be used in other areas like further development of infrastructure.

Award 1 mark for identifying an example of optimal health and wellbeing.

Award 1 mark for outlining how this example of optimal health and wellbeing could act as a resource for the country.

#### VCAA Assessment Report note:

Where students were able to identify an example or impact of optimal health and wellbeing (e.g. having adequate levels of energy, experiencing low levels of stress and anxiety, being able to work productively or gain an education), they were generally able to outline how it could benefit a country as a resource.

Students needed to ensure that the benefit related specifically to a country and not merely an individual.

The following is an example of a high-scoring response.

*If a person is physically healthy, they are able to complete their education and get a job, and therefore a taxable income, in which the taxes can be used by the government to fund infrastructure, education, etc, acting as a national resource.*

**Question 2**

Source: VCE 2019, *Health and Human Development Exam*, Q.1; © VCAA

a. Social justice means that all people are treated fairly and have equal rights regardless of personal traits such as sex, income, religion, age, ethnicity, class or sexual orientation.

Equity refers to fairness and the ability for every person to access the resources they need to lead a good and healthy life. It looks to level the playing field so that those who are disadvantaged are given the same opportunities as others.

Award 1 mark for describing social justice.

Award 1 mark for describing equity.

**VCAA Examination Report note:**

Many students were able to show some understanding of either social justice or equity, but most found it difficult to show a specific understanding of both.

Social justice includes being free from discrimination, having human rights upheld and having equal access to resources and opportunities, regardless of personal characteristics.

Equity relates to social justice but has a greater focus on fairness, meaning that those who are disadvantaged receive more support.

b. Social justice is a prerequisite for health individually as if women have the same rights and opportunities as men in regards to gaining employment they are then able to earn an income to help provide for their family and to live independently.

Social justice is a prerequisite for health globally as it allows people of a lower income to be treated equally and to have the same access to good basic healthcare as those of a higher income. This allows them to be treated for communicable diseases effectively as soon as possible thereby reducing the risk of transmission not only between people within one population, but also, between countries.

Award 1 mark for identifying a specific example of the selected prerequisite of health and a further 1 mark for explaining how it is a prerequisite for health at an individual level.

Award 1 mark for identifying a specific example of the selected prerequisite of health (example must be different to the previous example used) and a further 1 mark for explaining how it is a prerequisite for health at a global level.

**VCAA Examination Report note:**

Where students were able to identify a specific example of social justice or equity (such as all people being able to access education or low-income earners receiving more funding for health care), they were generally able to explain why it was a prerequisite at an individual and global level. Students should ensure they use a different example for their link to global importance as distinct from individual importance, as using one example generally won't provide enough detail for four marks. Some students were too general with their discussion and did not display an understanding of what social justice or equity would look like in society.

The following is a possible response.

*Equity*

*Equity is a prerequisite for health individually as it allows individuals to attend school or work, as giving more resources to those who need it, such as paying for low-income students to buy textbooks, allows them to participate in their community.*

*Equity is a prerequisite for health globally because it allows for trade between countries. This is because providing resources to low-income countries allows those countries to participate in trade, which can promote health through global economic growth, as countries can develop their healthcare resources.*

**Question 3**

- a. Spiritual health and wellbeing relates to a positive sense of belonging, meaning and purpose in life. It includes values and beliefs that influence the way people live, and can be influenced by an individual's connection to themselves, others, nature and beyond.
- b. 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.

**Question 4**

- a. If Darren avoids social situations due to his mental state, his relationships may deteriorate, which impacts social health and wellbeing. If Darren's relationships are poor, he may not have people to talk to about his problems in life which can contribute to feelings of stress (mental health and wellbeing).
- b. Darren's condition may mean that he learns skills to deal with his mental condition which can promote his resilience (emotional). With improved resilience, Darren may take steps to further improve his mental health and wellbeing by participating in activities such as exercise which can improve his levels of energy (physical). With improved energy levels, Darren may be able to participate in activities that he enjoys which can mean that he experiences a range of positive emotions such as joy.

**Question 5**

- Shelter provides feelings of safety, which can reduce levels of stress and promote mental health and wellbeing. Shelter can provide a place to study, which improves education, and can promote a sense of purpose in life (spiritual). Shelter can provide a place for children to socialise with their siblings and friends, which promotes social health and wellbeing.
- Sustainable resources can provide ongoing access to clean water, which enhances physical health and wellbeing as the person is more likely to be adequately hydrated. Sustainable resources can reduce stress because the individual would not be as worried about where their food is going to come from (mental). Sustainable resources can mean that material resources such as shelter and medicine can be provided, which can enhance levels of peace and harmony (spiritual).

## Topic 2: Measuring health status

### 2.2 Self-assessed health status and life expectancy

#### ANSWERS

##### Activity

###### Joy of statistics worksheet

- a.
  - i. As wealth increases, average life expectancy also increases.
  - ii. Discuss responses. For example: increased incomes allow people to access a range of resources to increase the length of life including:
    - healthcare
    - food
    - adequate housing
    - education.
- b.
  - i. The Spanish Flu epidemic and World War I
  - ii. Discuss responses. Note that these do not all have to relate to negative impacts. Examples include:
    - World War II (and other wars)
    - the HIV/AIDS epidemic
    - the development of penicillin and antibiotics
    - discoveries relating to major causes of death
    - immunisations.

#### 2.2 Exercise

##### Test your knowledge

1.
  - a. An individual's or a population's overall health, taking into account various aspects such as life expectancy, amount of disability and levels of disease risk factors. (1 mark)
  - b. Health status is measured using a range of health indicators such as self-assessed health status, life expectancy, morbidity, mortality and burden of disease. (1 mark)
2. Self-assessed health status relates to how individuals feel about their own level of health and wellbeing. 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. (2 marks)
3. Life expectancy relates to the number of years a person can expect to live (quantity of life) whereas health-adjusted life expectancy refers to the number of years a person can expect to live in good health (quality of life). (2 marks)
4.
  - a. Life expectancy and healthy life expectancy for males are 80.9 and 69.4 respectively, and for females they are 85.0 and 71.2 respectively. (1 mark)
  - b. Females live longer on average than males, and females spend more time experiencing ill health than males (13.8 years for females compared with 11.5 years for males). (1 mark)
5.
  - a. A trend is a general pattern or movement in a particular direction. (1 mark)

- b. Females have consistently had a higher life expectancy than males (around five years more), and the life expectancy for both males and females has increased over time from around 46 for males and 50 for females in 1890 to around 80 for males and 85 for females in 2019. (1 mark)

### Apply your knowledge

- 6.
- Physical health and wellbeing (1 mark)
  - Data on physical health and wellbeing (such as deaths and illness) are easier to collect than data on social, emotional, mental and spiritual health and wellbeing. (1 mark)
  - Self-assessed health status, as this is based on an individual's interpretation of overall health and wellbeing, which may include all five dimensions. (2 marks)
7. Health and wellbeing relates to the five dimensions, whereas health status relates to health indicators such as life expectancy and morbidity rates. (2 marks)
8. Examples include:
- Some people may not be completely honest in their response to their self-assessed health status.
  - This is a subjective concept and one person may see themselves as healthy if they are not sick and another may not see themselves as healthy if they are not performing at their highest possible level. (1 mark)
- 9.
- The proportion of those assessing their health status as either excellent or very good decreases as age groups increase; from around 63 per cent of those aged 15–24 to around 35 per cent of those aged 75+. (1 mark)
  - As people get older, their bodies often don't function as well as they once did. They may have chronic conditions, or they may have lost a spouse and so on. (1 mark)
10. For example:
- I disagree with this statement. Lifestyle-related issues such as obesity continue to increase. This will contribute to higher rates of some cancers and cardiovascular disease which can decrease the ability of people to live long lives.
  - I agree with this statement. Medical technology and education continue to improve and more and more conditions (such as cancer) can now be treated more effectively, meaning people are less likely to die prematurely, increasing life expectancy. (2 marks)
11. Men may take more risks, are more likely to be overweight, and are less likely to visit a doctor than females. They may be more likely to smoke or drink at risky levels and engage in violence. There may be genetic factors that account for the differences. Any of these factors could lead to a lower life expectancy. (3 marks)
12. Life expectancy is based on averages. If someone makes it through childhood, their life expectancy goes up as some won't make it and they bring the average at birth down. If someone makes it to 60, it is expected that they will live beyond the life expectancy for someone at birth. (2 marks)

### 2.2 Exam questions

#### Question 1

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

Indicators may include:

- Life expectancy** — an indication of how long a person can expect to live; the number of years of life remaining for a person of a particular age if death rates do not change.
- Health Adjusted Life Expectancy (HALE)** — the number of years of full health that a person can expect to live, based on current rates of ill health and mortality.

- **Under-five mortality rate (U5MR)** — the number of deaths of children under five years of age per 1000 live births.
- **Maternal mortality** — the number of deaths of women during pregnancy or childbirth.
- **Mortality** — the number or rate of deaths in a specified time.
- **Morbidity** — ill health in an individual and the levels of ill health in a population group.
- **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.
- **Disability Adjusted Life Years (DALY)** — a measure of the burden of disease; one DALY equals one year of healthy life lost due to premature death and time lived with illness, disease or injury.
- **Incidence** — the number of new cases of an illness occurring during a given period.
- **Prevalence** — the number or proportion of cases of a particular disease or condition present in a population at a given time.

### Question 2

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

Life expectancy is the number of years an individual can be expected to live if current death rates continue.

### Question 3

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

Explanation may include:

- Better public health, such as access to safe water and sanitation. This decreases the prevalence of illnesses such as diarrhoeal disease so fewer people die at a younger age, leading to higher life expectancy.
- Advances in medical technology and medicines such as x-rays, sophisticated heart surgery and antibiotics have meant that diseases such as pneumonia, coronary heart disease and cancer can be detected early and treated, contributing to higher life expectancy.
- Government funding and advancement of immunisations has contributed to higher life expectancy. Many infectious diseases such as measles and polio are now easily prevented through immunisation, which prevents many people from dying at a young age.

### Question 4

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

Explanation may include:

- the first year and/or five years of life have the highest mortality rates, affecting life expectancy
- people who reach 30 have passed through the most dangerous lifespan stages.

Life expectancy at birth takes into account infant mortality and mortality rates for children under five years of age. Death rates for infants and those under five years of age are much higher than for any other age group.

Individuals who reach their fifth birthday are more likely to reach adulthood. Therefore, individuals who have reached the age of 30 have passed through the dangerous under five years of age stage of the lifespan.

### Question 5

Measures of health status include:

- life expectancy
- Health Adjusted Life Expectancy (HALE)
- mortality (maternal mortality, infant mortality, under-5 mortality)
- morbidity
- prevalence
- incidence
- self-assessed health status
- burden of disease
- Disability Adjusted Life Years (DALYs).

## 2.3 Mortality

### ANSWERS

#### 2.3 Exercise

##### Test your knowledge

1. Definitions
  - a. Mortality: the number of deaths in a population in a given period (1 mark)
  - b. Infant mortality: deaths that occur between birth and the first birthday (1 mark)
  - c. Infant mortality rate: the rate of deaths of infants between birth and their first birthday, usually expressed per 1000 live births (1 mark)
  - d. Maternal mortality: deaths of a mother during pregnancy, childbirth or within six weeks of delivery (1 mark)
  - e. Maternal mortality ratio: the number of mothers who die as a result of pregnancy or childbirth per 100 000 live births (1 mark)
  - f. Mortality rate: the measure of the proportion of a population who die in a one-year period (usually per 100 000) (1 mark)
  - g. Under-five mortality rate: the number of deaths in children between birth and their fifth birthday per 1000 live births (1 mark)
2. The top three causes of death for males are coronary heart disease, lung cancer, and dementia and Alzheimer disease. The top three causes of death for females are dementia and Alzheimer disease, coronary heart disease and cerebrovascular disease (including stroke). (2 marks)
3.
  - a. The main causes of death have shifted from infectious diseases to lifestyle diseases. Deaths from conditions such as influenza and tuberculosis were common in the past but not so much these days. Lifestyle-related diseases and conditions associated with advancing age such as dementia, cancer and type 2 diabetes have increased. (2 marks)
  - b. Possible reasons include:
    - Advances in medical technology, such as vaccinations, have resulted in many infectious diseases declining.
    - An ageing population means more conditions associated with older age have increased.
    - Increasing rates of obesity have contributed to many lifestyle-related diseases.
    - Changes in diet have contributed to an increase in diet-related diseases such as type 2 diabetes.
    - More sedentary lifestyles have contributed to increased rates of obesity and associated conditions. (3 marks)
4. They reflect the social and economic resources available. Infants and children rely on others to meet their needs for food, water and healthcare, and they often have underdeveloped immune and other body systems which make them particularly susceptible to premature mortality. If children are surviving, it generally means that these resources are available, and this indicates that the general health and wellbeing of the population is positive. (2 marks)

5. Leading causes of death for infants include congenital malformations, SIDS and accidental threats to breathing. For children aged 1–4 years, the leading causes are injuries, cancers and diseases of the nervous system. (2 marks)

#### Apply your knowledge

6. Mortality data provides specific information about the leading causes of death, whereas life expectancy data only provides the average years a person can expect to live. With mortality data, the leading causes of death can be targeted to improve the overall level of health status experienced. (2 marks)
7. It means that for every 100 000 people in a population, around 150 will die each year. (1 mark)
8. Approximately 5000 (1 mark)
9. Mortality rates have decreased for both males and females between 1907 and 2019, from around 2250 to around 650 per 100 000 for males, and from around 1800 to around 450 per 100 000 for females. Females have always had a lower mortality rate than males, for example, around 450 per 100 000 for females in 2019 and around 650 per 100 000 for males at the same time. (2 marks)
- 10.

Trends in mortality	Possible factors include
There has been a 95 per cent drop in deaths from infectious diseases, from around 140 per 100 000 in the early 1920s to 7.6 per 100 000 in 2018.	Better medication, improved hygiene, more understanding of illness and disease, better trained doctors, better technology
Mortality rates from colorectal cancer have fallen by around 40 per cent since the 1980s.	Better screening and diagnosing techniques, improved understanding of how to prevent cancer, better surgical procedures and medication, more money in the economy to fund healthcare
Cervical cancer deaths have fallen by around 75 per cent since the 1960s.	Better screening, development of the HPV vaccine, better healthcare, improved medication/surgery, better trained doctors
Mortality rates due to dementia have increased by around 75 per cent since 2000.	Longer life expectancy leading to more dementia cases because the disease has a longer time to develop, improved diagnostics so that more people receive a positive diagnosis
Male mortality rates from lung cancer are still higher than for females, but the male mortality rate from lung cancer has fallen steadily for males since the 1980s. In contrast, the rates for females have risen steadily since the 1960s.	Lower rates of smoking among males, higher rates of smoking among females, banning of tobacco advertising, more anti-smoking advertising on TV and cigarette packs, prohibition of smoking in many areas, increased cost of cigarettes, better treatments available, better lung-cancer detection techniques
Mortality rates have fallen for cancer, cardiovascular disease, strokes, injury and asthma.	Better medical technology relating to diagnosis and treatment, better education and understanding about how to prevent these conditions
Heart attack rates have fallen and survival rates have improved.	More people living longer, more obesity, better technology for reviving heart attack patients, better understanding of impending heart attacks

The rate of type 2 diabetes is rising, with prevalence doubling in the past 20 years.	Higher rates of obesity, higher rates of inactive (sedentary) behaviour, more processed foods, higher fat diet, greater longevity/ageing of the population
Deaths from motor vehicle accidents have fallen by almost 80 per cent since the 1970s	Better technology like airbags, ABS brakes, road barriers, more driver education, more road laws, new car safety laws, better law enforcement, advertisements

11. Infant mortality rates decreased for both males and females between 2006 and 2019, from around 5.2 and 4 per 1000 live births to around 3.5 and 3 per 1000 live births respectively. (2 marks)
12. The U5MR has decreased from around 9 per 1000 live births in 1990 to around 3.5 in 2019. (1 mark)
- 13.
- a. There were around 59 maternal deaths in 2015–17. (1 mark)
  - b. The maternal mortality ratio was around 6 per 100 000 women who gave birth in 2015–17. (1 mark)
14. Dementia is more common in older people. As people are living longer than ever in Australia and people are less likely to die prematurely, there has been an increase in the number of people experiencing and dying from dementia. (2 marks)

### 2.3 Exam questions

#### Question 1

Mortality relates to death whereas the mortality rate is a measure of mortality (usually expressed per 1 000 or 100 000 people).

#### Question 2

The indicator that focuses on the mortality of children under the age of 1 in the infant mortality rate.

#### Question 3

- 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.
- obstetric haemorrhage — excessive bleeding during pregnancy, labour or after birth can lead to maternal death.

#### Question 4

- SIDS - the unexplained death of an apparently healthy infant.
- 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
- Chromosomal abnormalities during the creation of sperm and ova can cause a range of conditions in the developing baby and can cause death after birth.

#### Question 5

- Trends give important feedback on the success of current interventions (policies, strategies and campaigns aimed at reducing the impact of health conditions)

- Trends allow predictions to be made about the future so relevant interventions can be put into place to improve health status.

## 2.4 Morbidity

### ANSWERS

#### 2.4 Exercise

##### Test your knowledge

1. Morbidity refers to ill health in an individual and the levels of ill health in a population or group. (1 mark)
2. Incidence refers to the number or rate of new cases of a disease during a specified period of time (usually a 12-month period), whereas prevalence refers to the total number of people experiencing a condition at a given time (usually a 12-month period). (2 marks)
3. As mortality rates decrease, people live longer, which makes them more likely to experience ill health from conditions such as cancer, cardiovascular disease and dementia. (1 mark)
4. Trends
  - a. The prevalence of overweight and obesity increased in all age groups between 1995 and 2017–18 (by around 25 per cent for those aged 18–24 and around 45 per cent for those aged 75 and over). (1 mark)
  - b. Possible factors include:
    - People are less active and are consuming a more energy dense food intake than in the past.
    - Those who are overweight or obese may be less likely to live to over 75 years of age, which would decrease the prevalence of overweight and obesity in this age group.
    - Those aged over 75 may have illnesses that cause them to lose weight.
    - Those aged over 75 may experience a decrease in appetite which may decrease rates of overweight and obesity in this age group. (2 marks)
  - c. Those in the 55–64 age group are most likely to be overweight or obese. (1 mark)
5. For example:
  - a. Deafness occurs in more males than females (12.8 per cent for males and 8 per cent for females). (1 mark)
  - b. Males may be exposed to louder noises in their jobs; for instance, more hearing problems might be experienced in industries such as construction. (1 mark)
6. For example: Short-sightedness affects 4.5 per cent of 0–14-year-olds and becomes more common as people get older (40.7 per cent of those aged 65 and over). Mental and behavioural problems feature for 0–54-year-olds, then drops out of the top five causes of morbidity. Conditions that can be caused by ‘overuse’ (such as arthritis) and as a result of lifestyle factors (such as hypertension) do not feature in the earlier lifespan stages but become very common by the later age groups. (2 marks)
7.
  - a. The five most common causes of morbidity for those aged 15–24 are: hay fever and allergic rhinitis, short-sightedness, mental and behavioural problems, long-sightedness, and asthma. (1 mark)
  - b. Out of these, mental and behavioural problems and asthma are the only conditions that could be considered life threatening; however, few young people die from mental and behavioural problems (note that suicide deaths are classified as injuries) or asthma. (1 mark)
8. Youths would be most likely to be hospitalised because of diseases of the respiratory system (asthma) and injuries and poisoning. Youths do not account for a large number of hospitalisation due to pregnancy and childbirth, but rates do increase as young women get older. (2 marks)
9.
  - a. Dialysis for kidney disease — approximately 1 500 000 (1 mark)

- b. Diseases of the musculoskeletal system — approximately 795 000 (1 mark)
- c. Diseases of the respiratory system — approximately 508 000 (1 marks)

### Apply your knowledge

10. *Incidence* gives an indication of how many new cases were reported in a given period and prevalence tells how many people suffer from the condition in total. Without incidence data, it is not possible to identify emerging trends in the condition. Consider cancer. The *prevalence* rates alone for cancer indicate how many people require ongoing treatment and therefore provides essential information for health budgets, but does not show how many people are being newly diagnosed with the condition. If incidence rates increase, a strategy could be put in place to target the cancers that are increasing which could assist in preventing some cases. (2 marks)

11. Yes; ‘incidence up’ means more people are being diagnosed with breast cancer; ‘death rate down’ means fewer people are dying from it; ‘survival rates improve’ means that, of those diagnosed, more are surviving. It is possible for these three things to happen at the same time.

(2 marks)

12. The effects of sustaining an injury (or being disabled) on social, emotional, mental and spiritual health and wellbeing include:

- *Social* — Negative effects could include not working, so she misses out on interaction at work, as well as missing out on social experiences such as sport and going out. Positive effects might be having visitors he hasn’t seen in a while.
- *Emotional* — As a result of the injury, she may learn coping strategies which can enhance resilience levels. She may experience emotions, such as frustration, and learn ways to manage these emotions.
- *Mental* — Negative effects might include stress caused by work that is building up while she is absent; depression as a result of missing out on time spent with loved ones; frustration at being immobile. A positive might be that she is happy to be missing out on work.
- *Spiritual* — She may feel that he is not working towards her purpose in life, which affects spiritual health and wellbeing. If she is not participating in his normal activities, she may not have a sense of belonging in the world in which she lives. (5 marks)

13.

- a. Females may be more concerned with their health than males and be more likely to visit a doctor for a check-up. Females may also be more likely to visit a doctor as a result of reproductive issues and pregnancy. (1 mark)
- b. This may mean that females’ health is more closely monitored than that of males. As a result, males may have conditions that go undiagnosed and lead to further complications (such as hospitalisation and even death). Males may also miss out on valuable health information that may have been passed on from a doctor. As a result of all these factors, the health status of females could be better. (2 marks)

14. No. People have many illnesses and injuries for which they do not seek help, such as migraines, sprains and falls. (1 mark)

15. Obesity can contribute to a range of other health conditions such as depression, cardiovascular disease and diabetes. These conditions require treatment and management, and can contribute to death. As obesity rates increase, the number of people experiencing these associated conditions will also increase, therefore impacting on morbidity and mortality rates. (2 marks)

16. Cancer can affect mental and spiritual health and wellbeing in many ways. The person may feel depressed as a result of being sick and having to undergo treatment. They may have to stop working and participating in everyday activities, which might make them feel frustrated. They may think about the possibility of dying, which can also impact on their mental health and wellbeing. Spiritually, they may feel that the disease is out of their control which can promote a sense of peace and harmony. They may experience a renewed desire to work towards their purpose on life. (4 marks)

## 2.4 Exam questions

### Question 1

Source: VCE 2015, *Health and Human Development Exam*, Q.5.a; © VCAA

Prevalence is the number of cases of a particular disease or condition present in the population at a given time.

### Question 2

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

Prevalence refers to the proportion of a population affected by a disease or condition at a particular time, whereas incidence is the rate at which new cases occur in a population during a specific time period.

### Question 3

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

Mortality refers to the number of deaths in a population at a given time.

Morbidity refers to ill health in an individual and/or levels of ill health in a population at a given time.

#### VCAA Assessment Report note:

Students were expected to show an understanding of the difference between the two key health terms of mortality and morbidity. While the majority of students were able to demonstrate their understanding, many students confused these two terms.

### Question 4

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

Under-five mortality rate: The number of deaths of children under five years of age per 1000 live births.

Morbidity: Refers to ill health in an individual and the levels of ill health in a population or group.

### Question 5

Incidence - 30 new cases diagnosed each day

Prevalence - 2420 of about 5 million people in Victoria and 254 206 of about 6.7 billion people worldwide

Mortality - 24 deaths in Victoria and 2837 deaths worldwide

Morbidity - 2420 cases in Victoria and 254 206 cases worldwide

## 2.5 Burden of disease

### ANSWERS

#### 2.5 Exercise

#### Test your knowledge

1.

- a. Burden of disease is a measure of the impact of diseases and injuries. Specifically it measures the gap between current health status and an ideal situation where everyone lives to an old age free of disease and disability. (1 mark)
- b. Burden of disease data is useful as a health indicator because some conditions, such as arthritis, affect a large number of people but don't cause death. Burden of disease data

- allows such conditions to be compared to those that do cause death. Also, some conditions cause death mainly in older people (such as prostate cancer) and the impact of these conditions can be compared with conditions that generally cause death in younger people (such as breast cancer). (1 mark)
- c. Disability adjusted life years (DALY) (1 mark)
- 2.
- One DALY is equal to one ‘healthy’ year of life lost due either to premature death or time lived with injury, illness or disability. (1 mark)
  - DALYs are calculated by adding YLL (years of life lost) with YLD (years of life lost due to disability). (1 mark)
3. YLL v YLD
- One YLL (year of life lost) is equal to one year of life lost due to premature death. For example, if life expectancy is 80 and a person dies at 75, five years of life (YLLs) have been lost.
  - One YLD (year of life lost due to disability) is equal to one ‘healthy’ year of life lost due to disability. For example, if a person lives for 10 years in only ‘half health’ due to arthritis, then five years of healthy life have been lost (i.e. 5 YLD). (2 marks)
- 4.
- The top three contributors to YLL in Australia are cancers, cardiovascular diseases and injuries. (1 mark)
  - The top three contributors to YLD in Australia are musculoskeletal conditions, mental and substance use disorders, and respiratory diseases. (1 mark)
  - Top three for DALY are cancer, cardiovascular diseases and musculoskeletal conditions. (1 mark)
- 5.
- 70–74 year olds; approximately 600 000 DALY (1 mark)
  - 1–4 year olds (1 mark)
  - 95+ year olds (1 mark)
  - 20–24 year olds (1 mark)
6. About 75 000 DALY (1 mark)

### Apply your knowledge

7. The average age of death from one condition (condition A) may be lower than for another condition (condition B). So, if a person dies at 50 from condition A and another person dies at 60 from condition B, condition A will have an extra 10 years of YLLs added compared to condition B. So, more people could die from condition B, but it could contribute fewer YLL than condition A. (2 marks)
8. The person suffering from cancer may stop working, which means they will not have the usual social interactions at work. They may lack energy, which can make socialising difficult. However, visits from family and friends may enhance their social health and wellbeing, and they may make new friends and support groups in hospital. (2 marks)
9. Individual response. For example:  
Cancer would receive the greatest amount of resources because it has the greatest burden on Australia society. Second would be mental and substance use disorders as this contributes the second greatest burden overall. Injuries would be third as they contribute the third greatest burden overall. (1 mark)
10. Individual response. For example:  
Burden of disease as it takes both mortality and morbidity into account. It also allows for the average age at death and the severity of the conditions that do not contribute to death, making it the most comprehensive indicator. (2 marks)

### 2.5 Exam questions

#### Question 1

Source: VCE 2016, *Health and Human Development Exam*, Q.8.c; © VCAA

- i. Burden of disease is a measurement of the impact of disease and injuries, specifically measuring the gap between current health status and an ideal situation where everyone lives to an old age, free of disease and disability.
- ii. Burden of disease is measured by Disability Adjusted Life Years (DALYs).

**VCAA Assessment Report note:**

Students are advised to use the full name rather than acronyms such as DALYs when answering a question such as this. Use of an acronym does not show an understanding of the measurement used.

**Question 2**

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

A measure of burden of disease, one DALY equals one year of healthy life lost due to premature death and time lived with illness, disease or injury.

**Question 3**

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

Burden of disease is the impact of a disease or injury on a population group. It measures the gap between current health status and an ideal situation where everyone lives to an old age free of disease and disability.

It is measured in DALYs, which combine the years of life lost due to premature death (YLL) and the years of life lost due to disability (YLD).

For example, the burden of disease for diabetes and injuries are similar with approximately 200 000 DALYs. Yet injuries have a much higher fatal component (YLL) than diabetes, and diabetes has a much higher non-fatal component (YLD) than injuries, illustrating the overall impact of the disease and not just the death or illness rates.

**VCAA Assessment Report note:**

Many students were able to write a definition but did not know how to use the material in the graph to illustrate its meaning.

**Question 4**

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

Mental disorders is the disease group that contributes most to the DALYs.

**Question 5**

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

YLD would be more significant, as people suffering mental illness lose more years due to impaired functioning, compared with a smaller number of years lost to premature death due to suicide.

**VCAA Assessment Report note:**

The following student answer achieved full marks.

It is most likely to contribute to DALYs through healthy years lost due to disability because mental disorders are a psychological and usually non-fatal disease possibly resulting in reduced functioning therefore contributing to YLD. It can contribute slightly to YLL as a result of committing suicide due to their feelings of depression.

## 2.6 KEY SKILLS

### ANSWERS: PRACTISE THE KEY SKILL

1. Burden of disease is a measure of the impact of diseases and injuries. Specifically it measures 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.
2. Life expectancy is the number of years an individual can expect to live if current conditions do not change, whereas health-adjusted life expectancy (HALE) is a measure of burden of disease based on life expectancy at birth, including an adjustment for time spent in poor health. It is the number of years in full health that a person can expect to live, based on current rates of ill health and mortality.
3. For example:  
Australia experiences a high level of health status. Most Australians in most age groups assess their health status as being either excellent or very good (e.g. about 63 per cent of those aged 15–24). For those born in 2019, life expectancy was 80.9 and 85.0 for males and females respectively. Cardiovascular diseases and cancer are leading causes of death in Australia and sight issues are common causes of morbidity. Cancer, cardiovascular diseases and mental and substance use disorders are the leading contributors to burden of disease.
4.
  - a. *Similarity* — Rates of type 2 diabetes increase for both males and females as age increases, from around 9 per cent and 7.5 per cent of males and females aged 45–49 to around 21 per cent and 15 per cent of males and females aged 75+ respectively.  
*Difference* — Males have higher rates of type 2 diabetes than females in every age group (e.g. around 25 per cent and 22 per cent of those aged 75+ respectively).
  - b. As age group increases, so does the prevalence of type 2 diabetes (the rate is around 7.5 per cent of females aged 45–49 and then increases gradually until it reaches around 22 per cent of females aged 75+).

## 2.7 Topic 2 review

### EXTENDED RESPONSE

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.

Question 1 Requirement of the question	Concepts that may be included for the requirement
Briefly explain the difference between infant and under-5 mortality rates	<ul style="list-style-type: none"> <li>• Infant mortality relates to the rate of deaths between birth and the first birthday (often measured per 1 000 live births).</li> <li>• Under-5 mortality rate relates to the rate of deaths between birth and the fifth birthday (often measured per 1 000 live births).</li> </ul>

using examples of factors that influence each	<ul style="list-style-type: none"> <li>• Mother's nutritional status</li> <li>• Access to health care</li> <li>• Food security</li> <li>• Availability of water</li> <li>• Access to shelter</li> <li>• Vaccination status</li> <li>• Awareness of risk factors / education</li> </ul>
explain why these measures may be good indicators of the overall state of a society.	<ul style="list-style-type: none"> <li>• If they are available for pregnant women / babies, they should be available for all people.</li> <li>• Average incomes must be decent to be able to afford all of these resources.</li> </ul>

Question 2 Requirement of the question	Concepts that may be included for the requirement
Identify three health status indicators	<ul style="list-style-type: none"> <li>• Self-assessed health status</li> <li>• Life expectancy</li> <li>• Health-adjusted life expectancy</li> <li>• Mortality (maternal, infant and/or under five)</li> <li>• Morbidity (incidence and/or prevalence)</li> <li>• Burden of disease (DALY, YLL and/or YLD).</li> </ul>
Briefly explain what is meant by each of the indicators	<p>This will depend on the indicators selected.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• Life expectancy: relates to how long a person can expect to live if death rates stay the same.</li> <li>• Health-adjusted life expectancy: Relates to how long a person can expect to live in full health, free from disease, injury and disability, based on current rates of morbidity and mortality.</li> <li>• Mortality: refers to deaths in a population from a single cause or all causes.</li> <li>• </li> </ul>
Outline one strength of each in relation to portraying overall health status in Australia.	<p>Life expectancy:</p> <ul style="list-style-type: none"> <li>• Is easy to compare improvements over time</li> <li>• It can provide average years left for people at different ages</li> </ul> <p>Health-adjusted life expectancy:</p> <ul style="list-style-type: none"> <li>• It takes the amount of time (on average) that people live with ill-health.</li> </ul>

	<p><b>Mortality:</b></p> <ul style="list-style-type: none"> <li>• It identifies the leading causes of death for various age groups.</li> </ul>
Outline one weakness of each in relation to portraying overall health status in Australia.	<p><b>Life expectancy:</b></p> <ul style="list-style-type: none"> <li>• It doesn't show what the leading causes of death are</li> <li>• It is an average so it can hide inequalities experienced between groups</li> </ul> <p><b>Health-adjusted life expectancy:</b></p> <ul style="list-style-type: none"> <li>• It does include what is actually making people sick</li> <li>• It is an average so it can hide inequalities experienced between groups</li> </ul> <p><b>Mortality:</b></p> <ul style="list-style-type: none"> <li>• It doesn't show the impact of diseases that don't contribute to death.</li> <li>• Doesn't show the age that people died from each condition.</li> </ul>

<b>Question 3 Requirement of the question</b>	<b>Concepts that may be included for the requirement</b>
Using examples	<ul style="list-style-type: none"> <li>• Self-assessed health status</li> <li>• Life expectancy</li> <li>• Health-adjusted life expectancy</li> <li>• Mortality (maternal, infant and/or under five)</li> <li>• Morbidity (incidence and/or prevalence)</li> <li>• Burden of disease (DALY, YLL and/or YLD).</li> </ul>
Explain why numerous health status indicators are required to provide an overall picture of health status in Australia.	<ul style="list-style-type: none"> <li>• Each indicator only shows one part of overall health status.</li> <li>• Some relate to mortality, others relate to morbidity. Both impact significantly on health status.</li> <li>• Burden of disease shows the overall impact of disease and injury.</li> </ul>

## 2.7 ANSWERS: EXAM QUESTIONS

### Question 1

Disability Adjusted Life Year (DALY) is a measure of burden of disease. One DALY is equal to one year of health life lost due to illness and/or death. DALYs are calculated as the total years of life lost due to premature death and the years lived with disability for people living with a health condition. Award 1 mark for each statement describing DALYs for a maximum of two marks.

#### **VCAA Examination Report note:**

*The most common error for this question was students describing health-adjusted life expectancy (HALE) instead of disability-adjusted life year (DALY).*

### Question 2

The following is an example of a high-scoring response.

In Australia the proportion of DALYs attributable to maternal and neonatal conditions, communicable diseases, injury and non-communicable diseases remained relatively stable from 1990 to 2016, with non-communicable diseases slightly increasing from 82% of DALYs to 84% of DALYs and communicable disease DALYs slightly decreasing. Globally, the proportion of attributable DALYs from non-communicable diseases has increased from 42% in 1990 to 60% in 2016, while the proportion of DALYs contributed by communicable diseases has decreased from approximately 30% to 20% respectively.

Award 1 mark for stating the changes in the proportions contributed by each burden of disease in Australia between 1990 and 2016. Data must be included to support the statement made.

Award 1 mark for stating the changes in the proportions contributed by each burden of disease globally between 1990 and 2016. Data must be included to support the statement made.

#### **VCAA Examination Report note:**

*Students were required to compare the burden of disease in Australia to the global figures, include a change over time and refer to each contributor to burden of disease. Students need to ensure that when analysing data, they use the correct units. A common error was misinterpreting the data by discussing the ‘number of DALYs’. The number of DALYs were not shown in the graph, only the percentage contributed by each cause to the total.*

### Question 3

Life expectancy is an indication of how long a person can expect to live at a particular age if death rates do not change. Whereas health-adjusted life expectancy is the number of years in full health that a person can expect to live, based on current rates of ill health and mortality.

#### **VCAA Assessment Report note:**

This question was generally answered well, although a number of students did not include the full definition of life expectancy.

### Question 4

Health status is an individual’s or population’s level of health, taking into account various aspects such as life expectancy, amount of disability and levels of disease risk factors.

#### **VCAA Assessment Report note:**

*Health status is a key health term in the study design and the majority of students were able to accurately define the term.*

**Question 5**

- a. DALY stands for disability-adjusted life year and is a measure of burden of disease. One DALY is equal to one healthy year of life lost from premature death or time spent living with illness or disability.
- b. Cancer
- c. Hearing/vision
- d. Injuries
- e. Reproductive/maternal
- f. Males experience poorer health status than females as they contribute 53.7 per cent of the total burden compared to 46.3 per cent contributed by females. Males are more likely to contribute to the burden through injuries, cardiovascular disease and endocrine diseases. Females are more likely to contribute to the overall burden through reproductive/ maternal, blood/metabolic and neurological conditions.

## Topic 3: Factors influencing health status and burden of disease

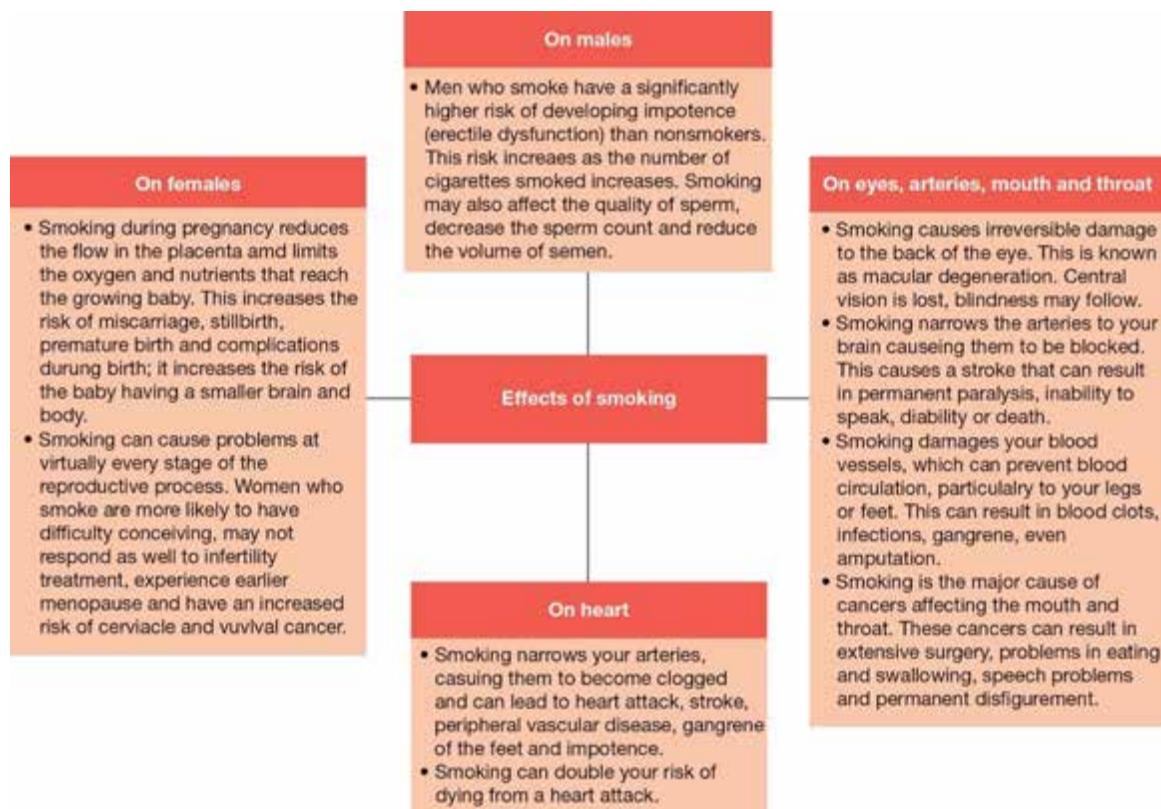
### 3.2 Smoking

#### ANSWERS

#### 3.2 Activities

##### Smoking worksheet

- Student activity
- Concept map example



### 3.2 Exercise

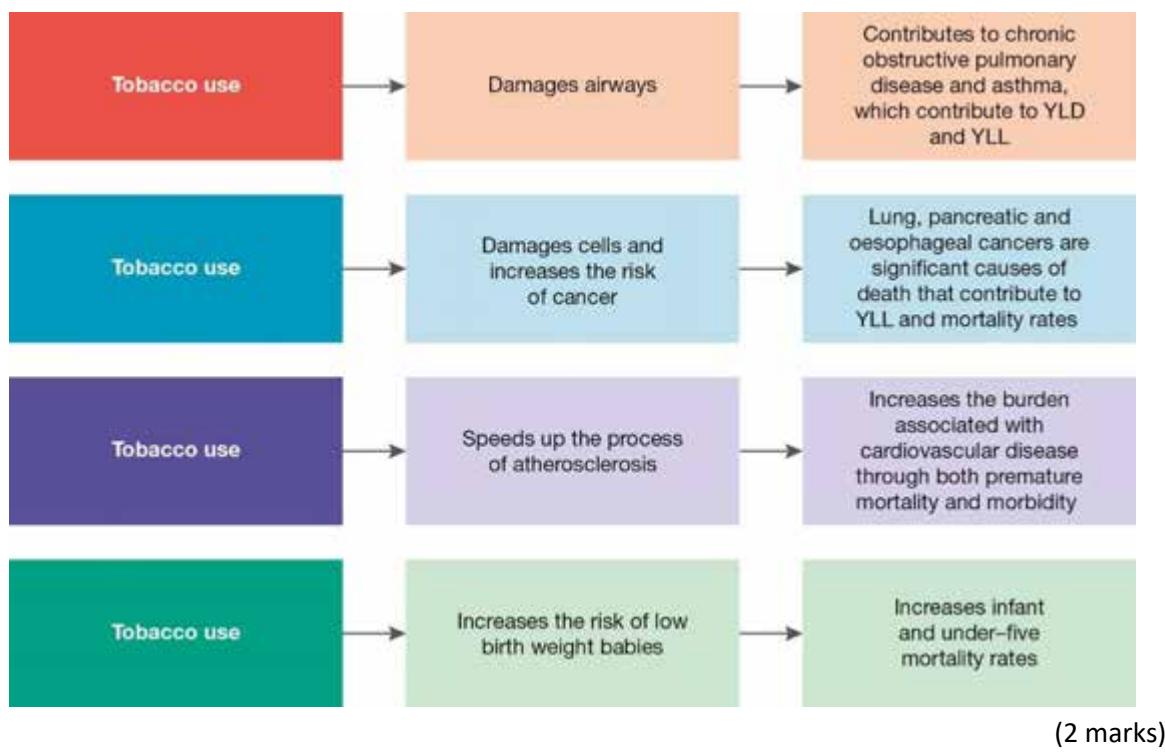
#### Test your knowledge

- Tobacco use and high body mass index. (1 mark)
  - Tobacco use was responsible for around 9.3 per cent and high body mass index was responsible for around 8.4 per cent. (1 mark)
- Smoking is a practice in which a substance is burned and the resulting smoke is inhaled to be tasted and absorbed into the bloodstream. (1 mark)
  - Tobacco (1 mark)
- Examples
  - Chemicals in tobacco smoke speed up the process of atherosclerosis, which significantly increases the risk of heart attack and stroke.
  - Tobacco smoke can cause a fault in body cells as they divide. This can lead to a tumour and, ultimately, cancer.

- Exposure to tobacco smoke in early life (including in the uterus) increases the risk of developing asthma.
  - Tobacco smoke damages the airways, which contributes to a number of respiratory conditions including chronic obstructive pulmonary disease (COPD).
  - Exposure to tobacco smoke can lower immune function and increase the risk of contracting infectious disease such as upper respiratory tract infections and pneumonia. (2 marks)
4. Males used to smoke at significantly higher rates than females and the impact of this difference is still evident in the data. (1 mark)

**Apply your knowledge**

- 5.
- a. Smoking increases the risk of illness and death in relation to a range of conditions including cancer and cardiovascular disease. This contributes to premature death and YLL. It also causes many people to experience diseases which contribute to YLD. So, reducing tobacco smoking could reduce these contributions to burden of disease. (2 marks)
  - b. Smoking during pregnancy increases the risk of having a low birth weight baby, which in turn increases the risk of infectious diseases and under-five mortality. Reducing smoking could therefore assist in reducing the U5MR. (2 marks)
- 6.
- a. 73 per cent (1 mark)
  - b. COPD (chronic obstructive pulmonary disease) (1 mark)
  - c. 58.1 per cent (1 mark)
  - d. Coronary heart disease (1 mark)
- 7.
- a. 65–84-year olds; around 220 000 DALY (1 mark)
  - b. Cardiovascular disease (1 mark)
  - c. As age group increases, so does the rate of DALY due to respiratory disease. It contributed around 1 DALY per 1000 and then increased to around 3 DALY per 1000 in the 35-44 age group, around 5 per 1000 in the 45-54 age group, around 10 per 1000 in the 55-64 age group, 25-30 in the 65-84 age group and around 50 per 1000 in the 85+ age group. (2 marks)
8. *Examples*
- There would be savings through reduced need for healthcare meaning more money could be put into other areas such as education and infrastructure.
  - People would be able to work more productively, enhancing the economy of the country and increasing average incomes.
  - There would be less grief and stress experienced in the community as fewer people would die prematurely. (2 marks)
- 9.



### 3.2 Exam questions

#### Question 1

Suitable answers include:

- Tobacco smoking during pregnancy increases the risk of low birth weight babies, which can contribute to higher rates of morbidity and mortality in infants.
- Tobacco smoke can decrease the functioning of the immune system, increasing morbidity from infections.
- Tobacco smoke may interfere with cell division, which can lead to cell mutation and the development of tumors, increasing morbidity from cancer.
- Tobacco smoke can increase blood pressure, which can increase morbidity from cardiovascular disease.
- Tobacco smoke can damage airways, which increases morbidity from respiratory illness.
- Exposure to tobacco smoke in utero and during infancy can increase morbidity from asthma.

#### Question 2

Tobacco smoking is a risk factor for cardiovascular disease, respiratory disease and many forms of cancer.

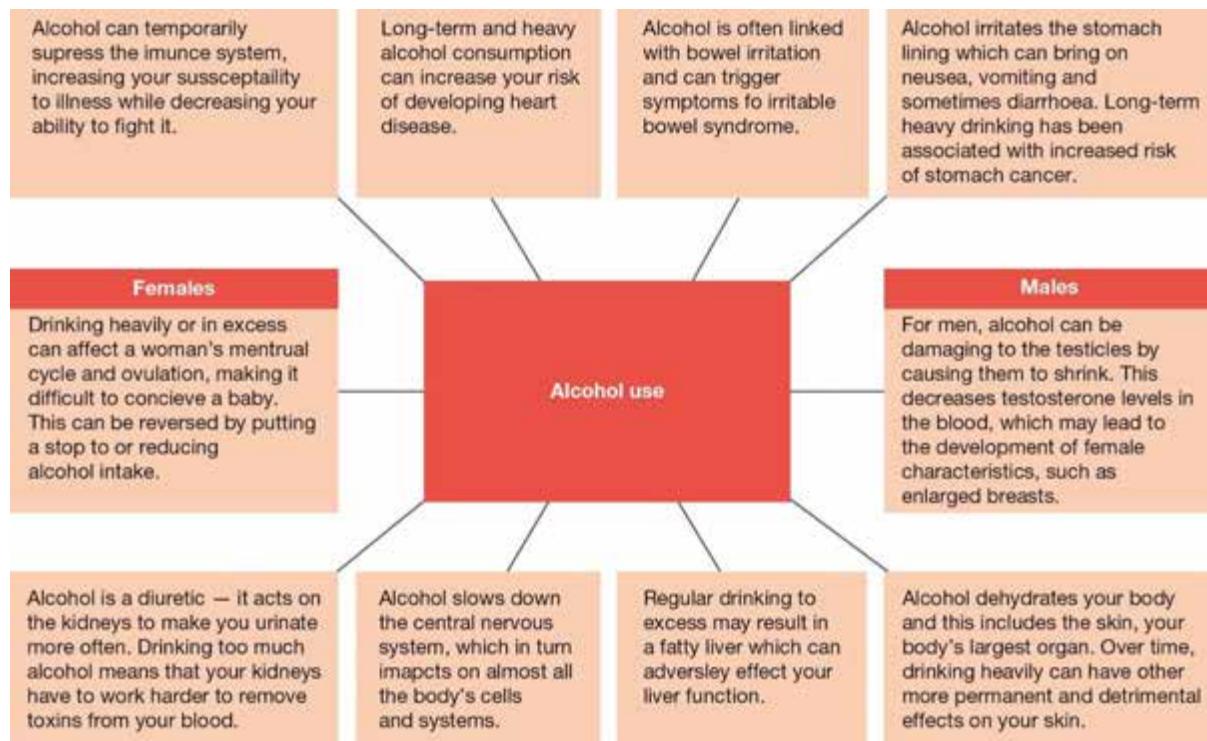
### 3.3 Alcohol

#### ANSWERS

#### 1.3 Activities

### Impacts of alcohol worksheet

- Student activity
- Concept map example



### 3.3 Exercise

#### Test your knowledge

- Alcohol misuse refers to the overconsumption of alcohol on either a single occasion or over a period of time. An alcohol use disorder is a disease characterised by ongoing risky alcohol consumption. (2 marks)
- Alcoholism is when a person can't stop drinking once they have started, or has a constant desire to drink alcohol. Binge drinking is defined as drinking seven or more standard drinks for males or five or more standard drinks for females in one sitting. (2 marks)
- Short-term harm includes aggressive behaviour, injuries and accidents. Long-term harm includes liver disease, cardiovascular disease, obesity, dementia, premature ageing and ulcers. (2 marks)
- Alcohol contains kilojoules, and therefore energy. If a person drinks excessively, it may be stored as fat which contributes to weight gain and obesity. (1 mark)
- Examples*
  - Alcohol is filtered through the liver. Excessive consumption can cause scarring of the liver tissue and liver disease.
  - Alcohol is a depressant and may increase the risk of depression.
  - Alcohol consumption during pregnancy can contribute to foetal alcohol spectrum disorder. (2 marks)

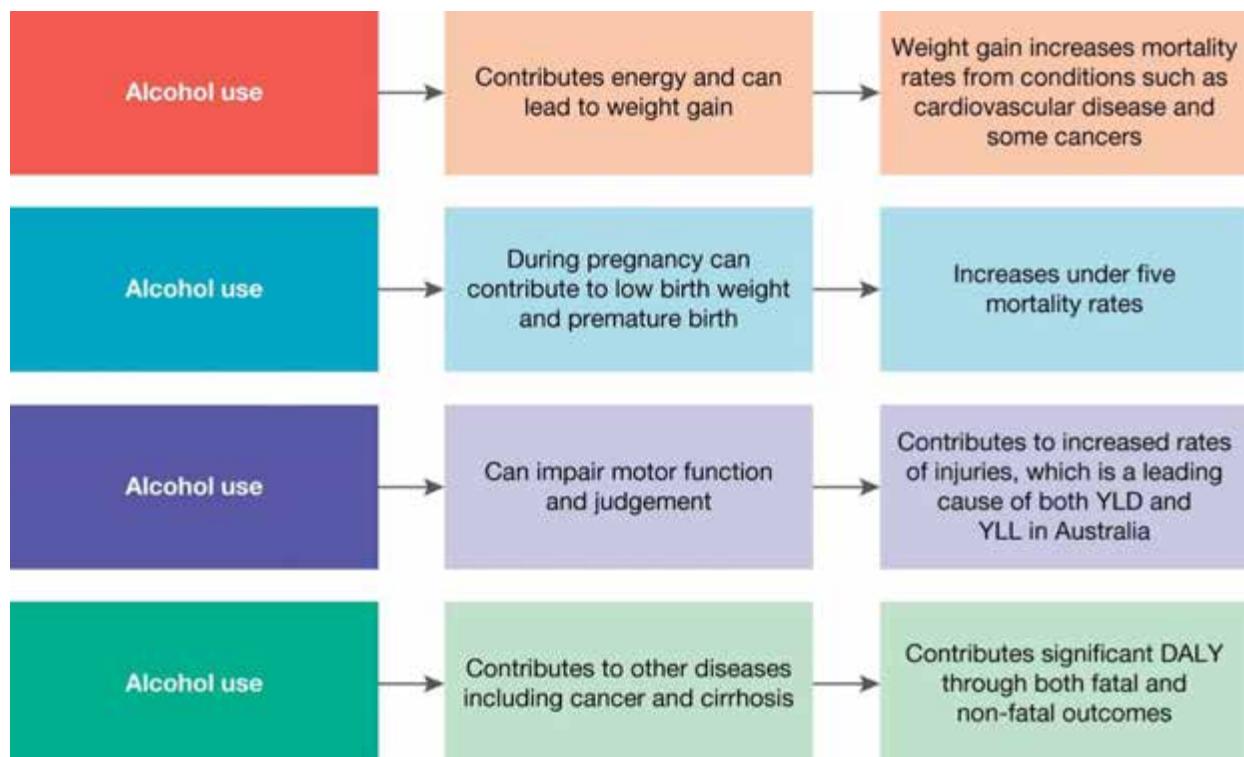
#### Apply your knowledge

- Examples*
  - Effect on burden of disease
    - Reducing alcohol intake could reduce the number of DALY associated with liver disease as fewer people would develop and die from this condition, therefore reducing YLD and YLL.
    - Rates of obesity would decrease, possibly reducing the associated burden from conditions such as cancer and cardiovascular disease.
  - Effect on morbidity rates

- Decreasing alcohol intake could reduce the number of road traffic deaths, possibly increasing life expectancy.
- Reducing alcohol intake can reduce the risk of premature birth, possibly decreasing the under-five mortality rate. (2 marks)

- 38.6 per cent (1 mark)
- Suicide and self-inflicted injuries (1 mark)
- 70.6 per cent for males, 29.4 per cent for females (1 mark)
- Suicide and self-inflicted injuries (1 mark)
- 65–84-year olds; around 42 000 DALY (1 mark)
- 15–24-year olds are more likely to experience a burden associated with mental/substance use disorders and injuries, whereas 85+ year olds are more likely to experience a burden associated with cardiovascular disease, cancer and gastrointestinal diseases. (1 mark)
- Examples*
  - Reducing alcohol use can save individuals money. This extra money can then be used for resources and activities that enhance people's lives such as socialising.
  - Reducing alcohol use can reduce the risk of individuals sustaining injuries. This means that they are more capable of undertaking activities such as work and exercise.
  - Reducing alcohol use can mean that an individual sleeps better, which can give them more energy to complete daily tasks. (2 marks)

5. *Examples*



(4 marks)

### 3.3 Exam questions

#### Question 1

Sample answers could include:

- Alcohol is kilojoule dense. By reducing alcohol consumption, fewer kilojoules will be consumed, reducing burden of disease from obesity and related conditions such as type 2 diabetes and cardiovascular disease.
- Alcohol may increase reckless and violent behaviour. By reducing alcohol consumption, the risk of injuries from falls or violence could be reduced, reducing burden of disease.

**Question 2**

The total burden of disease attributed to tobacco use is approximately 9 per cent.

The total burden of disease attributed to alcohol use is approximately 5 per cent.

**3.4 High body mass index**

**ANSWERS**

**3.4 Exercise**

**Test your knowledge**

1. BMI stands for body mass index. BMI provides one way of making judgements about the body weight of individuals or groups. It is measured by dividing weight (in kilograms) by height (in metres squared). (2 marks)
  2.
    - a. Overweight (1 mark)
    - b. Obese (1 mark)
    - c. Healthy weight (1 mark)
  3. *Examples*
    - High body mass index can put a greater strain on the heart, increasing the risk of hypertension and of high levels of cholesterol in the blood. This increases the rate of atherosclerosis and the risk of cardiovascular disease.
    - There is a relationship between high body mass index and the rates of some cancers, including colorectal cancer and breast cancer.
    - High body mass index is the greatest risk factor for type 2 diabetes.
    - High body mass index increases the risk of high blood pressure and type 2 diabetes, which are two significant risk factors for kidney disease.
    - High body mass index puts more pressure on joints, which can increase the chances of developing arthritis. Current research also indicates that high body mass index can increase the risk of osteoporosis.
    - Children with a high body mass index have a greater risk of developing asthma than children with a healthy body mass.
    - High body mass index can contribute to conditions such as anxiety and depression.
    - Pregnant women with a high body mass index are more susceptible to a range of pregnancy-related conditions such as high blood pressure and gestational diabetes. (2 marks)
  4. Overweight and obese children have an increased risk of mental health issues, which can contribute to increased rates of morbidity. Overweight and obese children also experience a higher incidence and prevalence of type 2 diabetes. (2 marks)
  5. Research has shown that those with a higher proportion of abdominal fat are at greater risk of disease and illness compared to those with a lower proportion of abdominal fat. (1 mark)
- Apply your knowledge**
6. High body mass index is of particular concern in Australia as rates have been increasing steadily over time. It is also the second largest risk factor for disease in Australia, and this risk factor can be reduced through lifestyle changes. (2 marks)

7.

- Rates of overweight and obesity have increased over time (e.g. for males, from around 65 per cent in 1995 to around 75 per cent in 2017–18).
- Males have consistently had higher rates of overweight and obesity than females (for example, around 75 per cent for males and 60 per cent for females in 2017–18). (2 marks)

8. *Examples*

a.

- Reducing rates of high body mass would decrease the impact of diabetes in Australia which is a leading cause of YLL (50 per cent of the burden from diabetes is caused by obesity).
  - As 40 per cent of the burden associated with chronic kidney disease is caused by high body mass, YLL from this condition would decrease significantly. (1 mark)
- b. Reducing rates of obesity could reduce the incidence of cardiovascular disease, type 2 diabetes and many cancers. (1 mark)

9.

- a. Coronary heart disease. Around 80 000 DALY.  
b. Type 2 diabetes. Around 50% of all DALY were caused by high BMI.

10.

- c. 54.0 per cent (1 mark)  
d. Breast cancer (1 mark)  
e. Breast cancer (1 mark)  
f. 45.1 per cent for females compared to 54.9 per cent for males (1 mark)

11.

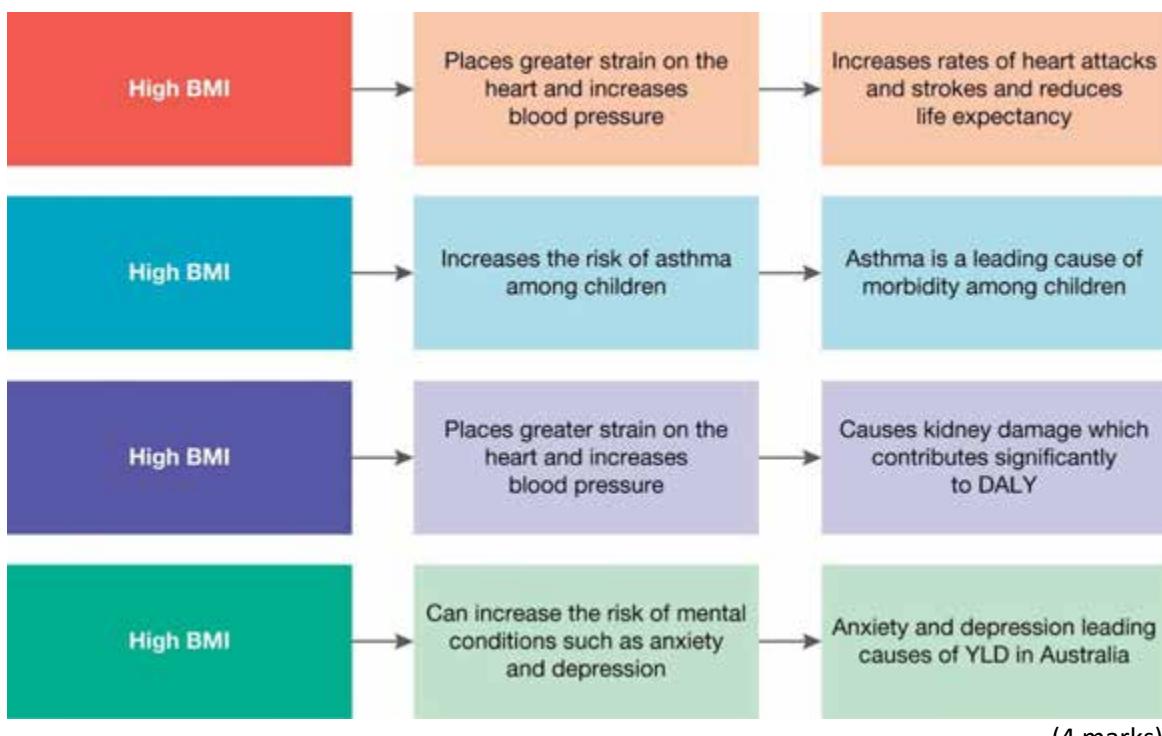
- a. The number of DALY gradually increases from around 7 000 in the 25-34 age group until it reaches around 170 000 DALY in the 64-84 age group. It then decreases to around 30 000 for those aged 85+. (2 marks)
- b. Coronary heart disease; around 40 000 DALY (2 marks)

12. Ava may not have the physical fitness to participate in social games (social health and wellbeing). As a result, she may experience negative emotions such as fear and frustration (emotional health and wellbeing). (1 mark)

13. *Examples*

- There would be savings through reduced need for healthcare as fewer people would experience heart attacks.
- People would be able to work more productively due to lower rates of cardiovascular disease, enhancing the economy of the country.
- There would be less grief and stress experienced in the community as fewer people would die prematurely from conditions such as type 2 diabetes.
- Families would have more money for health promoting resources. (2 marks)

14. *Examples*



(4 marks)

### 3.4 Exam questions

#### Question 1

Suitable responses include:

- higher incidence of morbidity and mortality from cardiovascular disease
- higher incidence of morbidity and mortality from some forms of cancer
- higher incidence of morbidity and mortality from type 2 diabetes
- higher incidence of morbidity from arthritis
- higher incidence of morbidity from asthma
- higher incidence of morbidity from mental health issues.

#### Question 2

People who have a BMI of 35 are considered to be obese. A BMI of 30 or above is considered to be in the obese range.

#### Question 3

A possible explanation could include:

A child with a high body mass (that is, they are overweight or obese) may have poor body image. This impacts on their mental health and wellbeing as they may experience bullying and low self-esteem.

#### Question 4

People who have a body mass index (BMI) of 27 are considered to be overweight. A BMI in the range of 25–29.9 is considered to be in the overweight range.

#### Question 5

A high body mass means that the heart has to work harder to pump blood to extra body tissue. This additional strain on the heart could lead to heart failure or heart attack.

A high body mass means that there are additional fat cells within the body. Fat cells restrict the ability of insulin to work effectively, increasing the risk of type 2 diabetes.

### 3.5 Underconsumption of vegetables, fruit and dairy foods

#### ANSWERS

##### 3.5 Exercise

##### Test your knowledge

1.

	Explanation of impacts	Link/s to health status	Link/s to burden of disease
Under consumption of vegetables	<ul style="list-style-type: none"> <li>• Can mean that fibre intake is low which can contribute to weight gain.</li> <li>• Can mean that people are not consuming enough antioxidants which can mean that free radicals can cause damage to healthy tissues leading to disease.</li> <li>• Can mean folate intake is low. Folate is required for the development of the brain and spinal cord in the prenatal stage. Can lead to spina bifida and other neural tube defects.</li> </ul>	<ul style="list-style-type: none"> <li>• Increased prevalence of cardiovascular disease and cancer.</li> <li>• Higher infant and under-five mortality rates</li> <li>• Lower life expectancy and HALE</li> </ul>	<ul style="list-style-type: none"> <li>• YLL and YLD associated with high body mass index, including cardiovascular disease, type 2 diabetes and some cancers</li> <li>• DALY for infants associated with neural tube defects</li> </ul>
Under consumption of fruit	<ul style="list-style-type: none"> <li>• Can mean that fibre intake is low which can contribute to weight gain.</li> <li>• Can mean that people are not consuming enough antioxidants which can mean that free radicals can cause</li> </ul>	<ul style="list-style-type: none"> <li>• Increased levels of morbidity and mortality due to cardiovascular disease and some cancers</li> <li>• Higher infant and under-five mortality rates</li> <li>• Lower life expectancy and HALE</li> </ul>	<ul style="list-style-type: none"> <li>• YLL and YLD associated with high body mass index, including cardiovascular disease, type 2 diabetes and some cancers</li> <li>• DALY for infants associated with neural tube defects</li> </ul>

	<p>damage to healthy tissues leading to disease.</p> <ul style="list-style-type: none"> <li>• Can mean folate intake is low. Folate is required for the development of the brain and spinal cord in the prenatal stage. Can lead to spina bifida and other neural tube defects.</li> </ul>		
Under consumption of dairy	<ul style="list-style-type: none"> <li>• Can mean that calcium intake is low. Calcium is required for building strong bones and teeth.</li> </ul>	<ul style="list-style-type: none"> <li>• Morbidity due to osteoporosis</li> <li>• Morbidity and mortality due to cardiovascular disease, colorectal cancer and type 2 diabetes</li> <li>• Incidence of dental caries</li> </ul>	<ul style="list-style-type: none"> <li>• Contributes significant YLD as a result of osteoporosis, especially among older females</li> <li>• DALY associated with cardiovascular disease, colorectal cancer and type 2 diabetes</li> <li>• YLD due to dental caries</li> </ul>

(6 marks)

2.
  - a. Nutrient dense foods contain a large amount of nutrients such as vitamins and minerals. (1 mark)
  - b. Energy dense foods contain significant amounts of fat, carbohydrates and/or protein, therefore contributing large amounts of energy to the diet. (1 mark)
3. Antioxidants work to reduce the impact of free radicals in the body. Free radicals are molecules that can damage body cells and increase the risk of conditions such as cardiovascular disease and cancer. Optimal intake of antioxidants can therefore reduce the incidence and prevalence of cancer and cardiovascular disease. (2 marks)
4. Fruit juice is often high in sugar and does not contain the same level of fibre as whole fruits. (1 mark)
5.
  - a. Dairy relates to milk, cheese and yoghurt created from animal milk. (1 mark)
  - b. Calcium (1 mark)
  - c. Calcium strengthens bones and reduces the risk of osteoporosis. (1 mark)

#### Apply your knowledge

6. Males are less likely to consume the recommended serves of vegetables each day compared to females in most age groups (except 2-3 and 85+ age groups). This can contribute to higher rates of coronary heart disease and cancers. This could explain why males have higher levels of YLL and YLD due to low-intake of vegetables compared to females. (2 marks)
7.
  - a. 80.8 per cent (1 mark)
  - b. Stroke (1 mark)
8. Those aged 80–84 may not have a large appetite, so they may not be eating enough food in general, including vegetables. They may have financial or health issues that prevent them from cooking meals with a high vegetable content. (1 mark)
- 9.

- a. 43.2. (1 mark)
- b. Stroke. (1 mark)

**10. Examples**

- Rates of osteoporosis are higher for females than for males. (1 mark)
- The rate of osteoporosis increases significantly for both males and females after the age of 54. (1 mark)

**3.5 Exam questions**

**Question 1**

Source: VCE 2017, *Health and Human Development Exam*, Q.6.a.i; © VCAA

Vitamin C found in fruits and vegetables helps to improve immune function. Insufficient vitamin C can decrease immunity to disease, impacting on physical health and wellbeing.

Award 1 mark for identifying any of the following deficient nutrients:

- fibre
- water
- folate
- vitamin C.

Award 1 mark for outlining a possible consequence on health.

VCAA high-scoring response

*Deficient nutrient: Fibre*

*Fibre is found in fruits and vegetables, and assists in the removal of waste from the digestive tract by adding bulk to faeces. Deficiency can lead to constipation in the short term, and colorectal cancer in the long term, reducing physical health.*

**VCAA Examination Report note:**

Students needed to use the information provided in the survey results to identify a nutrient that could be deficient and a nutrient that could be in excess in the diet of Australians. This question was generally well answered, although students were better able to identify a nutrient that could be in excess than one that could be deficient.

**Question 2**

Source: VCE 2013, *Health and Human Development*, Section A, Q.4.a; © VCAA

In the 25–75+ age group, there is an increase in the percentage of people who eat the recommended daily intake of fruits and vegetables. In the 25–34 group, almost 45% eat the recommended amount of fruit and 5% eat the recommended amount of vegetables. This increases to 65% for fruit and 10% roughly for vegetables in the 75+ age group.

**VCAA Assessment Report note:**

This question was generally well answered, although some students did not read the graph accurately.

**Question 3**

The top fatal burden attributed to low fruit intake is oesophageal cancer.

The top non-fatal burden attributed to low fruit intake is coronary heart disease.

**Question 4**

Valid conclusions include:

- Females have consistently higher adequate intake of fruits and vegetables than males at all age groups. For example, females at ages 18–24 have approximately 8 per cent higher intake than males of the same age; at 45–54 years, females have approximately 15 per cent higher intake than males; and at age 75 and over, female intake was approximately 2 per cent higher than males.

- Males at age 18–24 have a lower adequate intake of fruits and vegetables than males aged 75 years and over. Males aged 18–24 years intake was approximately 40 per cent, around 20 per cent lower than males aged 75 years and over.

#### Question 5

Females are the population group most at risk of osteoporosis. This is because, after menopause, calcium loss from bones is greater, increasing the risk of osteoporosis

### 3.6 Dietary risks of high intake of fat, salt and sugar

#### ANSWERS

##### 3.6 Exercise

###### Test your knowledge

- The four types of fat are monounsaturated, polyunsaturated, saturated and trans fats. (1 mark)
- LDL cholesterol can stick to blood vessel walls, increasing the rate of atherosclerosis. HDL can have the opposite effect. (2 marks)
- Atherosclerosis relates to the build-up of plaque on blood vessel walls, making it harder for blood to get through. The vessel can eventually become fully blocked. (1 mark)
  - Atherosclerosis contributes to cardiovascular disease because it makes the heart work harder to get blood through and can cut off blood supply completely. (1 mark)
- The 'bad' fats are saturated and trans fats. They contribute to cholesterol production and can contribute to atherosclerosis and cardiovascular disease. (2 marks)
  - Mono and polyunsaturated fats are considered the 'good 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 work to increase HDL cholesterol and reduce blood clots and inflammation, further decreasing the risk of heart disease and stroke. (2 marks)

5.

	Explanation of impacts	Link/s to health status	Link/s to burden of disease
High intake of fat	<ul style="list-style-type: none"> <li>Is energy dense and will lead to weight gain if eaten in excess.</li> <li>Can contain LDL cholesterol which speeds up the process of atherosclerosis.</li> <li>Saturated and trans fats interfere with cell membranes increasing the impact of impaired glucose regulation.</li> </ul>	<ul style="list-style-type: none"> <li>Increases morbidity and mortality rates associated with cardiovascular disease, type 2 diabetes, colorectal cancer</li> <li>Lower life expectancy and HALE</li> </ul>	<ul style="list-style-type: none"> <li>Increases DALY associated with cardiovascular disease, type 2 diabetes, colorectal cancer</li> </ul>
High intake of salt	<ul style="list-style-type: none"> <li>Draws fluid out of cells which increases blood volume and blood pressure.</li> <li>Can cause the excretion of</li> </ul>	<ul style="list-style-type: none"> <li>Morbidity and mortality rates due to hypertension, heart failure, stroke and heart attack</li> </ul>	<ul style="list-style-type: none"> <li>It can contribute to higher levels of hypertension, which can increase the incidence and prevalence of cardiovascular disease and increase the DALY</li> </ul>

	calcium through the urine.	<ul style="list-style-type: none"> <li>Incidence of osteoporosis especially among older females</li> <li>Lower life expectancy and HALE</li> </ul>	<ul style="list-style-type: none"> <li>associated with these conditions</li> <li>It can cause calcium to be excreted, which can increase the rates of osteoporosis. Osteoporosis contributes significantly to YLD in Australia.</li> </ul>
High intake of sugar	<ul style="list-style-type: none"> <li>Is stored as fat if consumed in excess.</li> <li>Provides fuel for bacteria in the mouth which create acid that can rot enamel.</li> </ul>	<ul style="list-style-type: none"> <li>Higher mortality rates due to high body mass index and associated conditions</li> <li>Incidence and prevalence of dental caries</li> <li>Lower life expectancy and HALE</li> </ul>	<ul style="list-style-type: none"> <li>It can contribute to weight gain and obesity. Obesity contributes to a range of causes of premature death such as cardiovascular disease, which contributes significant YLL.</li> <li>It can contribute to dental decay, which contributes significantly to YLD, especially for children.</li> </ul>

(6 marks)

### Apply your knowledge

6.
  - a. 81.2 per cent (1 mark)
  - b. Stroke (1 mark)
  - c. Stroke (1 mark)
  - d. 66.8 per cent for males compared to 33.2 per cent for females (1 mark)
7.
  - a. Coronary heart disease (1 mark)
  - b. LDL cholesterol sticks to the walls of the blood vessels, narrowing and hardening the arteries. This can cause the blood vessels to become completely blocked and cut off supply to the heart. (1 mark)
  - c. Approximately 42 000. (1 mark)
8.
  - a. The rate of hypertension increases as people age. For example, for females, around 2 per cent of those aged 18–24 experience hypertension and this proportion increases to around 45 per cent of females aged 75 and over. (1 mark)
  - b. Due to having higher rates of hypertension, those aged 75 and over would have higher incidence and prevalence of cardiovascular diseases including heart attack and stroke. They would also have higher prevalence of kidney disease. These conditions can all be fatal which would result in higher mortality rates. (2 marks)

### 3.6 Exam questions

#### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.6.a.ii; © VCAA

Fat is the most concentrated source of energy. Excess fat in the diet can lead to weight gain and obesity, impacting on physical health and wellbeing by increasing risk of type 2 diabetes, heart disease and some cancers.

- fat
- saturated fat
- carbohydrates
- trans fat.

#### VCAA Examination Report note:

Students needed to use the information provided in the survey results to identify a nutrient that could be deficient and a nutrient that could be in excess in the diet of Australians. This question was

generally well answered, although students were better able to identify a nutrient that could be in excess than one that could be deficient.

**Question 2**

Source: VCE 2015, *Health and Human Development Exam*, Q.6.c; © VCAA

Excessive sodium raises blood pressure. High blood pressure can contribute to atherosclerosis and heart disease, negatively impacting on physical health.

Award 1 mark for outlining a function of excessive sodium.

Award 1 mark for how this function impacts on health.

**VCAA Assessment Report note:**

This question was not answered well. Sodium consumption is a risk factor for cardiovascular disease and is part of the key knowledge associated with Unit 3. Students are reminded that sodium is not related to energy and does not contribute to obesity.

**VCAA Assessment Report high-scoring response:**

Excessive sodium can impact fluid retention. This can cause blood retention in the body (increasing blood volume), leading to increased rate of high blood pressure, which can cause a stroke. Excess sodium can cause calcium to be excreted, which can cause bone strength to deteriorate increasing the risk of osteoporosis.

**Question 3**

Source: VCE 2012, *Health and Human Development Exam*, Section B, Q.4.b; © VCAA

Limiting the intake of sugary, fatty and salty takeaway foods will improve cardiovascular health.

Sugary and fatty foods contribute to excess kilojoules, salty foods can contribute to high blood pressure. Both excess kilojoules which lead to obesity and high blood pressure are risk factors for cardiovascular disease.

**Question 4**

Both trans fats and saturated fats raise low density lipoproteins in the blood, encouraging plaque buildup and atherosclerosis; the underlying cause of cardiovascular disease.

Both trans fats and saturated fats increase the impact of impaired glucose regulation, increasing the risk of type 2 diabetes.

**Question 5**

Foods high in sugar and saturated fat contribute excess kilojoules to the diet and foods high in salt contribute additional sodium to the diet. Excess kilojoules can contribute to excess body fat and sodium raises blood pressure; both are risk factors for cardiovascular disease. By raising taxes on these foods, fewer people may purchase them, improving cardiovascular health and reducing health care costs associated with cardiovascular disease, such as surgery or medication.

### 3.7 Dietary risks of low intake of fibre and iron

#### **ANSWERS**

##### **Case study review: A close up on anaemia**

1. Anaemia is a condition characterised by having a low volume of red blood cells or irregular red blood cells. As a result, oxygen cannot be transported to the cells effectively.
2. Haemoglobin is a protein molecule found in red blood cells that allows them to carry oxygen.
3. They may feel tired, forgetful and faint.
4. Anaemia could mean that the individual cannot concentrate, leading to frustration which can impact mental health and wellbeing. They may not have the energy to be physically active, which can impact on fitness levels and body weight (physical health and wellbeing). They may not have the energy to socialise, thereby impacting social health and wellbeing.

5. Females of childbearing age lose blood every month during their menstrual period, so more red blood cells must be made to replace those lost.
6. Blood volume increases during youth so more red blood cells must be made. If there are insufficient nutrients available, the person can develop anaemia. Girls also start menstruating at this time and may not be aware of the need to consume more iron, therefore making them more susceptible to anaemia.

### 3.7 Exercise

#### Test your knowledge

1. 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. Insoluble fibre does not absorb moisture. The peels of fruit and vegetables are sources of insoluble fibre which, if left in a bowl of water, will not change in texture. The same principle applies to soluble and insoluble fibre in the body. (4 marks)
2. Fibre:
  - provides a sustained feeling of fullness so it can prevent overeating and assist in weight management. Underconsumption can therefore contribute to weight gain, obesity and associated conditions such as cardiovascular disease, type 2 diabetes and some cancers.
  - adds bulk to faeces and assists in maintaining colorectal health. Low intake increases the risk of colorectal cancer as a result.
  - reduces the absorption of glucose and can assist in reducing cholesterol levels so low intake can contribute to cardiovascular disease this way. (3 marks)
3.
  - a. Iron is important for creating blood (1 mark)
  - b. Iron forms the 'haem' part of haemoglobin, which is the oxygen carrying component of blood. (1 mark)
4. Red meat is a rich source of iron but it often contains high levels of saturated fat. As a result, lean cuts of meat should be chosen and iron should also be gained from other sources such as nuts, brown rice and eggs. A balanced, varied diet is the best way to get adequate amounts of iron. (2 marks)
5.
  - a. Low fibre intake contributes the greatest number of DALY for coronary heart disease. (1 mark)
  - b. Fibre assists in reducing cholesterol levels, slowing the process of atherosclerosis. It also assists in weight management, which is a risk factor for coronary heart disease. As a result, low intake of fibre increases the risk of coronary heart disease. (2 marks)
- 6.

	Link/s to health status	Link/s to burden of disease
Low intake of fibre	<ul style="list-style-type: none"> <li>• Increased morbidity and mortality rates from colorectal cancer and cardiovascular disease</li> <li>• Lower life expectancy and HALE</li> </ul>	<ul style="list-style-type: none"> <li>• Contributes to DALY associated with colorectal cancer and cardiovascular disease</li> </ul>
Low intake of iron	<ul style="list-style-type: none"> <li>• Incidence and prevalence of anaemia, especially among females of child bearing age</li> </ul>	<ul style="list-style-type: none"> <li>• YLD due to anaemia, especially among females of child bearing age</li> </ul>

(4 marks)

#### Apply your knowledge

7. Females aged under 45 years are most susceptible to low levels of iron. Women of childbearing age lose blood through menstruation each month, and this contributes to higher rates of anaemia. (1 mark)
8. For example:
  - It would mean that more people (especially females) would have more energy. This would allow them to pursue their purpose in life and complete activities they enjoy and that improve their health and wellbeing such as exercise.

- It would mean that people are more likely to be productive at work. If they are self-employed, this could mean that they make more money which can be used to purchase things that enhance their lives such as healthcare. (2 marks)

### **3.7 Exam questions**

#### **Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.3; © VCAA

Red meat and spinach.

Award 1 mark for each major food source of iron listed.

**VCAA Examination Report note:**

This question was answered well, with most students able to identify two sources of iron. Possible answers include: Beef, liver, kidney, lamb, chicken, turkey, eggs, fish (tuna, salmon), legumes (including peas, lentils, chickpeas, soybeans and kidney beans), green leafy vegetables (broccoli, spinach), brown rice, tofu, nuts, apricots, iron-fortified cereal and wholegrain bread.

#### **Question 2**

Fibre provides a sense of fullness, which prevents overeating and weight gain. Maintaining a healthy weight range can assist in reducing the burden of disease from weight-related conditions such as cardiovascular disease and type 2 diabetes.

#### **Question 3**

A low intake of iron can lead to anaemia, in which a person experiences symptoms such as lethargy and poor concentration. This could impact on social health and wellbeing, as lethargy and tiredness may mean an individual does not have the energy to interact with others. It may also impact on mental health and wellbeing as being anaemic can impact on the ability to concentrate, which may reduce confidence levels when preparing for exams and tests.

#### **Question 4**

Bowel cancer contributes 9.7 per cent of burden of disease attributable to a diet low in fibre.

Please note: No marks are awarded for responses of 8982, as this is the number of cases not the proportion or percentage.

### **3.8 Topic 3 review**

#### **EXTENDED RESPONSE ANSWERS**

##### **Source 1**

- It is showing life expectancy (years) for both males and females in 2019.
- The age groups shown are birth, 15, 30, 45, 60, 75 and 90.
- Females consistently have higher life expectancy than males.
- The gap in life expectancy gets smaller between males and females as age increases.
- As people get older, life expectancy increases.

##### **Source 2**

- The graph is showing YLD, YLL and the overall number of DALY for major disease groups in 2015.
- The part in blue shows YLL and pink shows YLD.
- The graph is in thousands, so three zeros must be added to any figure taken from the graph.
- Cancer has the greatest number of YLL and overall DALY with around 870 000 DALY.
- Cardiovascular disease ranks second for overall DALY (around 650 000 DALY) with the majority coming from YLL.
- Musculoskeletal disorders are ranked third with around 610 000 DALY with most of these coming from YLD.
- Mental and substance use disorders have a relatively small number of YLL but a large number of YLD and ranks fourth overall in terms of DALY with around 570 000 DALY.

- Injuries are fifth with the majority coming from YLL.
- Respiratory diseases are next with around 350 000 DALY, mostly from YLD.
- Neurological disorders are seventh with around 350 000 DALY with YLD and YLL contributing fairly equal amounts.

### **Source 3**

- The graph is showing the number of DALY (broken down into YLL and YLD) and the rate of DALY per 1000 people).
- YLL numbers are relatively high in the 0 age group and then drop significantly in the 1 to 4 age group.
- The number of YLL is lowest in the 5 to 9 age group (at around 10 000 YLL).
- The number of YLL increases from 5 to 9 until 70 to 74 (when it reaches around 325 000 YLL).
- The number of YLL decreases between the 75-79 and 95+ age group.
- The number of YLD is lowest in the 0 age group and then gradually increases up to the 35 to 39 age group where it reaches around 230 000 YLD.
- The number of YLD fluctuates between around 220 000 and around 255 000 between the 30 to 34 and 70-74 age groups.
- The number of YLD decreases gradually from 70-74 to the 95+ age group.
- The rate of DALY is at around 300 per 1000 in the 0 age group and then drops to around 30 per 1000 in the 1-4 age group.
- The rate increases gradually from 1 to 4 to the 50 to 54 age group and then increases rapidly after that until it reaches around 1900 per 1000 in the 95+ age group.

## **ANSWERS: EXAM QUESTIONS**

### **Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.4; © VCAA

Vegetables are a good source of antioxidants which target free radicals and remove them from the body. Consuming the recommended five serves of vegetables each day will ensure that adequate amounts of antioxidants are consumed to remove free radicals from the body before they damage body cells and increase rates of cardiovascular disease and cancer. This can reduce Australia's burden of disease by reducing the YLL associated with cancer.

Award 1 mark for identifying key nutrient/s provided by vegetables.

Award 1 mark for explaining the role of the key nutrient/s in addressing a health condition.

Award 1 mark for showing an understanding of the impact this will have on burden of disease in Australia.

### **VCAA Examination Report note:**

Students should ensure their responses are phrased in the correct context. Responses needed to explain how consuming the recommended number of serves of vegetables could affect burden of disease, not what under-consumption can contribute to. Links to specific diseases should be included to demonstrate a higher level of understanding.

The following is an example of a high-scoring response.

By consuming enough vegetables, individuals will have enough fibre in their diet, which will promote satiety and prevent overeating (which could lead to weight gain and high BMI). By maintaining a healthy body weight, individuals are at a lower risk of developing weight-related conditions like type 2 diabetes, positively impacting YLD of burden of disease in Australia

### **Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.5.c; © VCAA

Table salt is a concentrated source of sodium. Sodium elevates blood pressure as sodium draws excess fluid out of cells, increasing blood volume. High blood pressure is a major risk factor for

cardiovascular disease, as high blood pressure makes the heart work harder increasing cardiovascular diseases such as heart failure.

- table salt
- processed foods such as tomato sauce
- snack foods such as potato crisps
- olives
- bread
- processed meats such as salami.

**VCAA Examination Report note:**

The majority of students were able to identify a major food source of sodium; however, many students were unable to explain the role that sodium plays in increasing the risk of cardiovascular disease. Students are reminded that processed food is a group of foods and an example of a relevant processed food needed to be provided.

**Question 3**

*Examples*

- Tobacco smoking — tobacco smoke can cause damage to cells and cause cancers tumours to grow in numerous places around the body.
- Alcohol use — excessive alcohol consumption can increase the risk of a range of cancers including mouth, lung and liver cancer.
- High body mass — high body mass increases the risk of a range of cancers including colorectal cancer.
- Underconsumption of fruit/vegetables — contributes to low intake of fibre which increases the risk of colorectal cancer.
- Underconsumption of dairy — has been shown to increase the risk of colorectal cancer.
- Saturated and trans fat intake — increases the risk of colorectal cancer.
- Low intake of fibre — increases the risk of colorectal cancer.

**Question 4**

High BMI:

- increases the risk of cardiovascular disease, which is a leading cause of mortality in Australia
- is a significant risk factor for type 2 diabetes, which is a leading cause of morbidity in Australia
- contributes to higher rates of arthritis, which has high prevalence in Australia.

**Question 5**

Low intake of iron is the main risk factor for iron-deficiency anaemia in Australia and contributes significantly to YLD among females under the age of 45 in Australia.

## Topic 4: Variations in health status between population groups

### 4.2 Biological factors contributing to variations in health status

#### ANSWERS

#### 4.2 Activities

##### Blood pressure animation worksheet

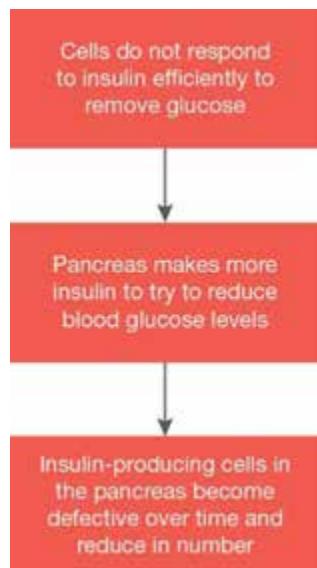
- a. Blood pressure is at its highest when the heart beats.
- b. Blood pressure is at its lowest when the heart relaxes.
- c. Healthy blood vessels are stretchy, which assists in decreasing blood pressure.
- d. Constant high blood pressure puts an added strain on the heart and blood vessels, and can increase the risk of heart attack, stroke, eye and kidney problems. It speeds up the process of atherosclerosis, which can lead to a blood clot.
- e. People lower their risk of high blood pressure by stopping or avoiding smoking, eating well, drinking less alcohol, losing weight, exercising, and talking to their doctor about medications.

##### Hypertension worksheet

- a. Around 1 in 3 adults in Australia experience high blood pressure.
- b. One half do not reach their blood pressure goal after diagnosis.
- c. Heart attacks and stroke
- d. Brain, heart and kidneys

##### Glucose regulation worksheet

- a. Flowchart illustrating how impaired glucose regulation works
- b. Fasting ensures that any glucose in the blood from the last meal should have been absorbed, so it can be determined whether the system is working adequately.



### 4.2 Exercise

#### Test your knowledge

1. Three of the following can occur as a result of high body mass: cardiovascular disease, type 2 diabetes, some cancers (such as colorectal cancer), respiratory problems, arthritis, self-esteem issues/depression. (1 mark)
2. a. Blood causes pressure on the blood vessel walls as it is pushed around the body by the heart. (1 mark)

- b. Blood pressure increases as the heart contracts because this is when blood is actually being pushed. As the heart refills, the blood in the blood vessels slows down and therefore exerts less pressure on the blood vessels. (1 mark)
3. Hypertension is high blood pressure. (1 mark)
4. High blood pressure increases the risk of cardiovascular diseases such as heart attack, stroke and peripheral vascular disease. Hypertension causes the heart to work harder, which adds to the strain placed on the heart. Hypertension may mean that blood is not travelling as smoothly through the blood vessels as it should. This could mean that there is a blockage that could contribute to a heart attack or stroke. Hypertension also contributes to kidney disease as the kidney regulate blood pressure and when it remains high, the kidneys are overworked and can become damaged. (2 marks)
5. Cholesterol is a type of fat that is present in some foods and produced in the liver. (1 mark)
6. High blood cholesterol rates increase from around 0 per cent for those aged 0–14 and then increases significantly from around 2.5 per cent of those aged 35–44 to around 20 per cent for those aged 65–74 and then plateaus for those aged 75 and over. (2 marks)
7. Glucose provides the body with energy. (1 mark)
8. Insulin assists in moving glucose from the bloodstream into the cells to be used for energy. (1 mark)
9. Two conditions associated with impaired glucose regulation are cardiovascular disease and type 2 diabetes. (1 mark)
10. As age group increases, so does the rate of DALY (per 1000) due to impaired glucose regulation. Rates increase from 0 DALY per 1000 in the under 15 age groups to around 65 per 1000 in the 85+ age group. (1 mark)
11. Anything under 2500 grams is considered a low birth weight. (1 mark)
12. Three of the following: premature birth, the age of the mother, the mother's nutritional status, smoking, excessive alcohol consumption, and drug use and illness of the mother during pregnancy. (1 mark)
13. Hormones are responsible for the sex characteristics common to each of the sexes and therefore influence the types of conditions males and females can develop, such as prostate cancer in men and ovarian cancer in females. They also control the characteristics that are typically male and female, such as muscle mass and fat distribution. Hormones also influence factors such as bone mass in women (particularly in later life). These factors, among others, can lead to different health concerns. (2 marks)

#### Apply your knowledge

##### 14. Examples

Biological factor	Explanation of impacts	Impact on health status
High body mass / Overweight and obesity	<ul style="list-style-type: none"> <li>• Increases the strain on the heart as it pumps harder to get oxygen to all cells.</li> <li>• Can mean that cholesterol levels are elevated increasing the rate of atherosclerosis.</li> <li>• Can place extra strain on joints which can lead to arthritis.</li> <li>• </li> </ul>	<ul style="list-style-type: none"> <li>• Can result in high prevalence of cardiovascular disease which can increase mortality rates.</li> <li>• Can contribute to higher rates of type 2 diabetes which can increase the incidence of kidney disease and contribute to lower life expectancy.</li> </ul>
Hypertension	<ul style="list-style-type: none"> <li>• Heart has to work harder, increasing the risk of heart attack and stroke.</li> <li>• Kidneys are strained as they try to control blood pressure.</li> </ul>	<ul style="list-style-type: none"> <li>• Can increase the risk of heart attack and lead to higher rates of premature mortality.</li> <li>• Can contribute to kidney failure which can lead to higher rates of morbidity.</li> </ul>

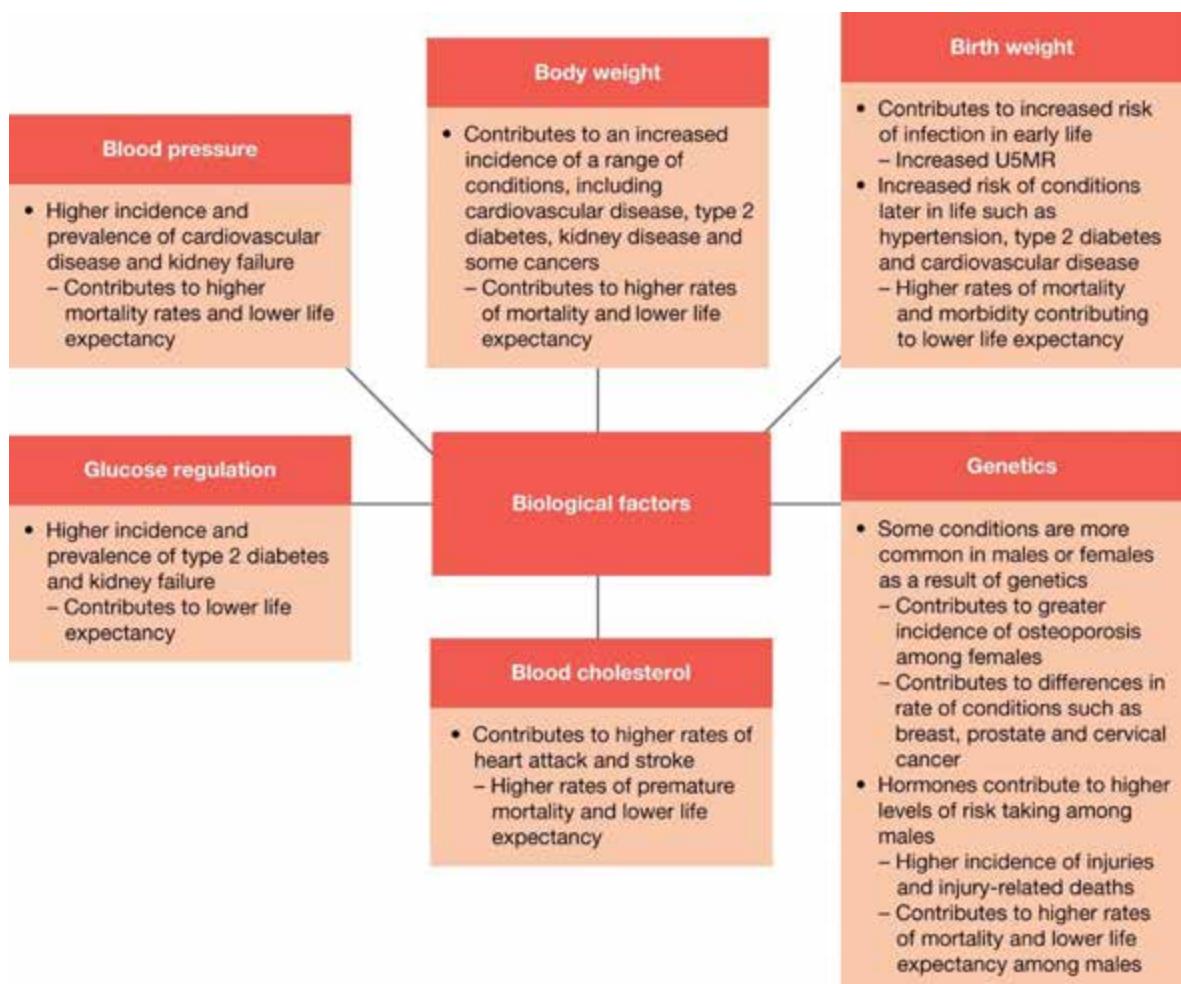
*Topic 4: Variations in health status between population groups*

High cholesterol levels	<ul style="list-style-type: none"> <li>• LDL cholesterol sticks to blood vessel walls increasing the rate of atherosclerosis.</li> </ul>	<ul style="list-style-type: none"> <li>• Can contribute to higher incidence and prevalence of cardiovascular disease.</li> <li>• Are an underlying cause of heart attack which can increase mortality rates and contribute to lower life expectancy.</li> </ul>
Impaired glucose regulation	<ul style="list-style-type: none"> <li>• Blood glucose is not absorbed into cells effectively.</li> <li>• Kidneys filter excess glucose out of blood.</li> </ul>	<ul style="list-style-type: none"> <li>• Can increase the incidence of type 2 diabetes.</li> <li>• Can lead to kidney damage and increase levels of mortality as a result.</li> </ul>
Low birth weight	<ul style="list-style-type: none"> <li>• Underdeveloped immune system making them more susceptible to infections.</li> <li>• Also increases the risk of hypertension, type 2 diabetes and cardiovascular disease later in life.</li> </ul>	<ul style="list-style-type: none"> <li>• Increases the risk of premature death and increases the U5MR.</li> <li>• Increases the risk of conditions such as cardiovascular disease and type 2 diabetes later in life, increasing the incidence of these conditions.</li> </ul>
Genetics	<ul style="list-style-type: none"> <li>• Determines body structures which can influence the sorts of disease males and females get (e.g. prostate cancer, cervical cancer).</li> <li>• Decreases in oestrogen during menopause increases the risk of osteoporosis among females.</li> <li>• Higher levels of testosterone increase risk-taking behaviours among males.</li> <li>• Hormones influence where fat is deposited among females and males, increasing the risk of cardiovascular disease among males.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase the risk of certain conditions among females compared to males such as osteoporosis, contributing to higher morbidity rates of this condition among females.</li> <li>• Hormones can contribute to higher rates of risk-taking behaviours among males compared to females, contributing to higher rates of injury deaths.</li> </ul>

(12 marks)

15. High blood cholesterol narrows the arteries and makes the heart work harder to pump blood around the body, therefore increasing blood pressure. (1 mark)

16. *Mind map example*



(8 marks)

## 4.2 Exam questions

### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.5.b

Body weight — Oliver's body weight is quite high. High body weight can put the heart under stress, as the heart has to work harder to pump blood to additional body tissue caused by weight gain. Over time this can lead to cardiovascular disease.

#### **VCAA Examination Report note:**

Most students identified a relevant biological determinant evident in the information, although many were unable to provide the necessary detail to explain how the selected determinant increases the risk of cardiovascular disease. Students are reminded that body weight is a biological determinant and obesity is a condition. Similarly, blood pressure is a determinant and hypertension is a condition.

#### **Suggested VCAA response:**

Biological determinant: high blood cholesterol

Explanation: Oliver was diagnosed with high cholesterol, which contributes to atherosclerosis. Cholesterol can build up on blood vessel walls and increase the risk of other fatty deposits and calcium deposits developing on blood vessel walls, which leads to narrowing of the blood vessels, restricting blood flow and an increasing risk of clots, stroke and cardiovascular disease.

Other examples of biological determinants included:

- body weight
- sex/genetics
- blood pressure
- age

**Question 2**

Examples of biological factors include:

- body mass
- cholesterol levels
- blood pressure levels
- glucose regulation
- birth weight
- genetics — including both sex and genetic predisposition to disease.

**Sample answer**

Body mass — people who are overweight or obese have an increased risk of cardiovascular disease and type 2 diabetes, which impacts on their physical health and wellbeing as they are not free from illness and disease.

**Question 3**

Suggested answers include:

- Blood pressure — having high blood pressure is a risk factor for cardiovascular disease which, if left untreated, could increase mortality and lower life expectancy.
- Glucose regulation — being glucose intolerant increases morbidity from type 2 diabetes.
- Body mass — being overweight or obese increases risk of morbidity from cardiovascular disease and some forms of cancer.
- Sex — being female increases risk of morbidity from osteoporosis and breast cancer.

**Question 4**

Examples and descriptions may include:

Blood pressure — having high blood pressure impacts on health status as it increases the risk of cardiovascular disease.

Blood cholesterol levels — having high blood cholesterol levels impacts on health status as it increases the risk of cardiovascular disease.

Body mass — having a high body mass impacts on health status as it increases the risk of cardiovascular disease and type 2 diabetes.

Genetics — determine whether an individual will develop male or female sexual characteristics. This will impact on health status as having male sexual characteristics increases the risk of prostate cancer.

**Question 5**

Testosterone may play a role in 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 compared to females.

## 4.3 Sociocultural factors contributing to variations in health status

### ANSWERS

#### 4.3 Activities

##### Social justice worksheet

- a. According to David Satcher, access to healthcare contributes no more than 15 per cent to health outcomes.
- b. Accessing healthcare can be considered a social factor because the situation a person lives in can affect opportunities to access healthcare.
- c. Denny Vågerö suggests we need to alter our thoughts and approaches to health by thinking about health as being rooted in daily life, not just something that a doctor fixes. He also says that we should change policies to improve health. He believes that health should be considered in the same way that poverty or climate change are.
- d. Discrimination against women can affect their health in the following ways: they may have little access to health services; they may be victims of violence; women often work in the worst kinds of jobs (low-paying jobs with poor or even dangerous conditions), which has an impact on health; and they may have no political voice to bring about change to the policies that affect women.

#### 4.3 Exercise

##### Test your knowledge

1. The three components are education, occupation and income. (1 mark)
2. *Examples*
  - a. Unemployment can lead to feelings of worry and anxiety (mental health and wellbeing). Financial problems may mean the person cannot afford to lead a healthy lifestyle and may resort to eating cheaper, poorer quality foods (impacting on physical health and wellbeing) and may not be able to lead a life that they find fulfilling (spiritual health and wellbeing). They may become excluded by friends as a result of long-term unemployment (social health and wellbeing). (2 marks)
  - b. A person who is living in ill health may not be physically or mentally capable of holding down a job. They may not be able to perform their job adequately or may have to take long periods of time off work to deal with their illness. This may make employers decide to replace them. (2 marks)
3.
  - a. Social exclusion refers to the segregation that people experience if they are not adequately participating in the society in which they live whereas social isolation refers to an individual who is not in regular contact with others.  
Impacts of social exclusion include:
    - Lower life expectancy
    - Higher morbidity rates
    - Not being able to access resources such as education, employment, housing, healthcare and social security.
    - Poor physical and mental health and wellbeing
    - Homelessness
    - Disability
    - Family breakdown
    - Discrimination
    - Low income (3 marks)
  - b. Examples of possible causes of social isolation include:
    - living in a remote area
    - not having access to transport (such as not being able to drive)
    - not being able to communicate with others due to language barriers or disability
    - having a condition that prevents the person from leaving the house. (2 marks)

4. Examples of ways in which culture may contribute to differences in health status include:
  - Culture influences gender stereotypes and these can affect behaviours such as accessing healthcare. This contributes to higher mortality rates for males compared to females.
  - Culture influences food intake which can in turn increase rates of obesity and related conditions.
  - Culture influences attitudes towards alcohol consumption and this increases alcohol related-diseases among many Australians. (3 marks)
5. Food security relates to the state in which all persons obtain nutritionally adequate, culturally appropriate, safe food regularly through local non-emergency sources. (1 mark)
6. Processed foods are often high in sugar, fat or salt. (1 mark)
7. Processed foods are often made with cheaper, poorer quality ingredients, so they are cheaper to make and can therefore be sold at a lower price than fresh produce. (1 mark)
8. Differences in health status that may arise out of food insecurity include obesity, increased risk of infection, type 2 diabetes, mental health problems, cardiovascular disease, and some cancers. (2 marks)
9.
  - a. For the pregnant woman: eat a nutritionally sound diet, maintain a healthy body weight, take folate and iodine supplements, access healthcare regularly, avoid too much physical exertion. All parents: become educated about parenting practices, join a playgroup, send their children to crèche or kindergarten, feed their children a healthy diet, have their children vaccinated. (2 marks)
  - b. Variations in health status that may occur as a result of early life experiences include differences in rates of:
    - infectious diseases
    - under-five mortality
    - life expectancy
    - obesity and related conditions (e.g. type 2 diabetes, some cancers, cardiovascular diseases). (3 marks)
10.
  - a. Examples of sociocultural factors that can affect a person's ability to access healthcare include:
    - language barriers
    - cultural barriers
    - geographical location of healthcare
    - access to transport
    - financial costs
    - lack of knowledge relating to healthcare. (2 marks)
  - b. Examples of variations in health status that may result from a lack of access to healthcare include:
    - higher rates of morbidity and mortality
    - lower life expectancy
    - higher rates of diseases such as diabetes and cardiovascular disease
    - higher rates of low birth weight babies. (2 marks)

### **Apply your knowledge**

11. Examples include:
  - Those who are educated are more likely to earn a higher income which can mean more money can be spent on resources such as private health insurance. This can reduce waiting times for elective surgery which can reduce morbidity rates.
  - Higher levels of education can result in more prestigious occupations. This can promote positive thought patterns which may reduce mental health issues such as depression.
  - Prestigious occupations often come with higher salaries which can be used to provide opportunities for children's education. This can mean that people are more aware of health promoting behaviours such as not smoking which can reduce the incidence of lung cancer. (2 marks)

12. Differences in health status

*From social exclusion:*

- higher rates of cancer, cardiovascular disease, type 2 diabetes, respiratory disease and depression as a result of having a lower socioeconomic status (which is a risk factor for smoking, sedentary behaviour etc.).

*From social isolation:*

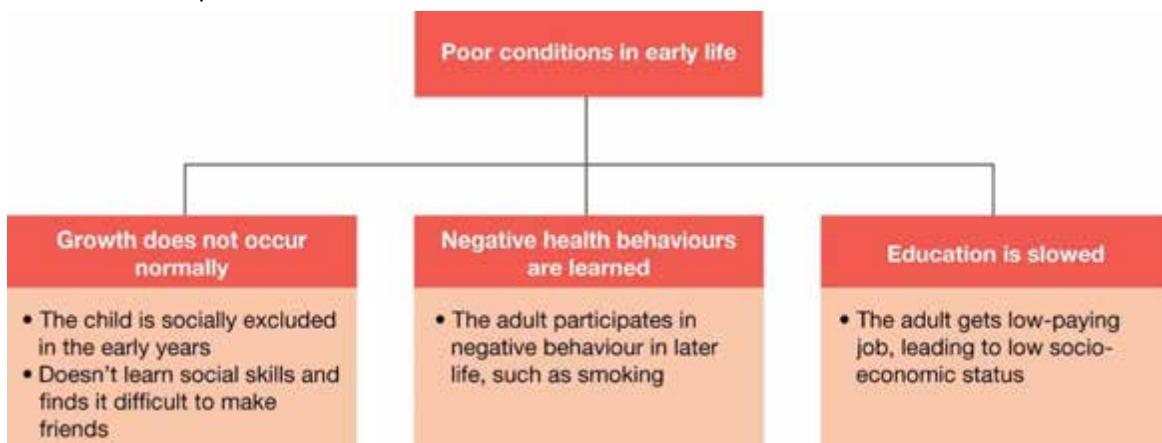
- higher rates of mental health problems such as depression and stress
- few opportunities for physical activity which may affect aspects such as fitness and contribute to obesity and associated factors such as cardiovascular disease. (2 marks)

13.

- Examples of the resources that socially excluded people may not have the opportunity to use include the education system, the healthcare system, social support resources (such as support groups and social groups) and social security. (2 marks)
- They may miss out on opportunities to access health promoting resources such as healthcare which can mean that conditions go untreated, contributing to higher rates of morbidity and mortality. They may lack access to adequate food, which can increase the risk of infectious diseases. They may use drugs and/or alcohol, which can lead to mental health disorders. (2 marks)

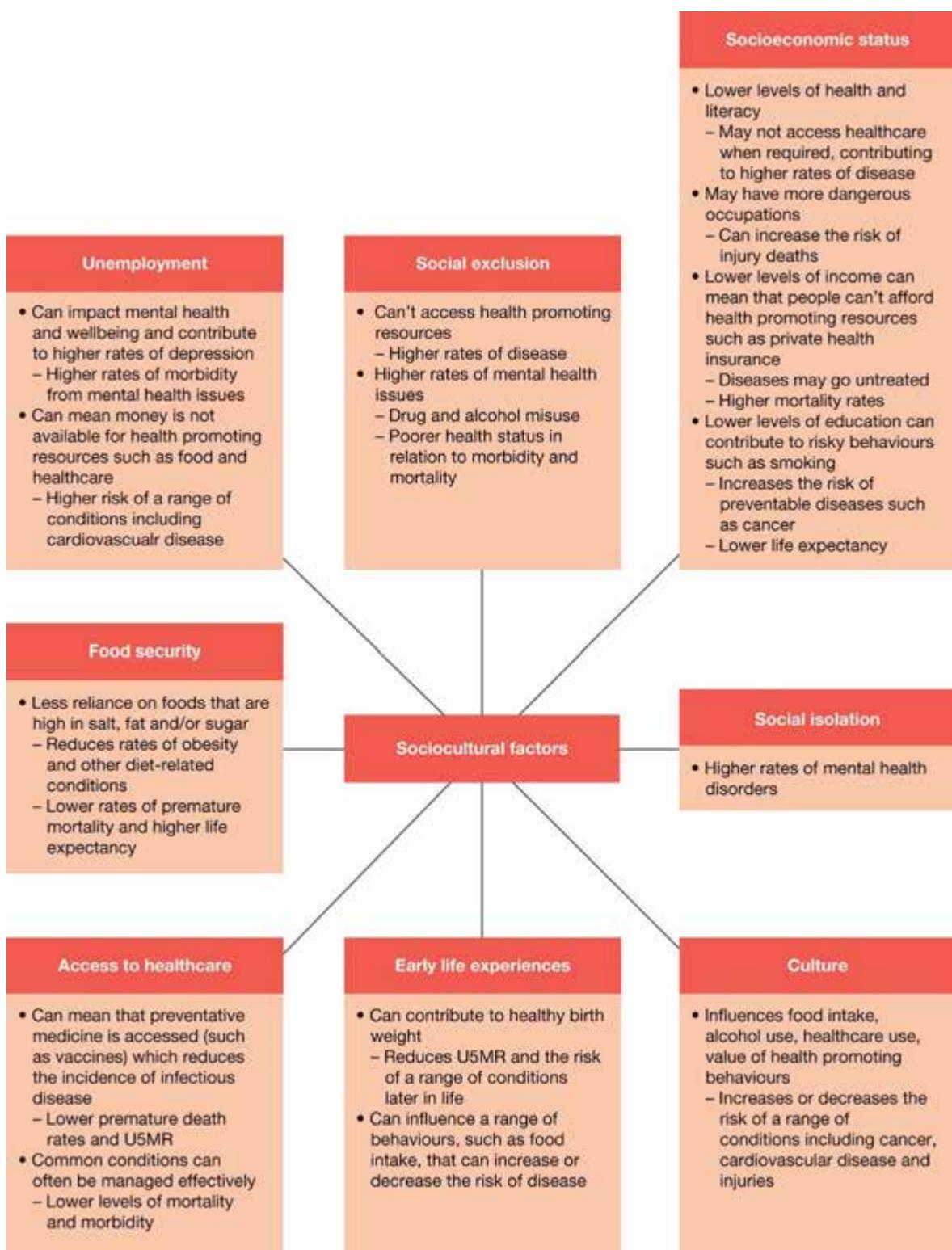
14. Those with mental illness may find it difficult to gain employment, which can contribute to homelessness and being socially excluded. Once excluded, the person may lose hope, which can further increase the level of mental illness being experienced. They are not likely to access healthcare and have very little social support. This creates a vicious cycle that can be very difficult to break. (2 marks)

15. *Flowchart example*



(3 marks)

16. Note that some of these examples are positive, some are negative. Use the context of the question in determining which type of link they should make.



(8 marks)

### 4.3 Exam questions

#### Question 1

Valid sociocultural factors include:

- socioeconomic status (income, occupation and education levels)
- food security
- unemployment
- social exclusion and isolation
- cultural influences, such as customs and traditions
- early life experiences

- access to healthcare.

**Question 2**

Those with mental illness may find it difficult to gain employment, which can contribute to homelessness and being socially excluded. Once excluded, the person may lose hope, which can further increase the level of mental illness being experienced. They are not likely to access healthcare and have very little social support. This creates a vicious cycle that can be very difficult to break.

**Question 3**

Being unemployed, language barriers preventing access to health care and levels of income and education are all sociocultural factors that impact on the health status of population groups.

**Question 4**

Being exposed to maternal smoking during pregnancy increases the risk of low birth weight babies.

Babies who are born with a low birth weight are more susceptible to infections and death during infancy.

**Question 5**

Suggested answers may include:

- Socioeconomic status — having sufficient income to buy nutritious foods such as fresh fruits and vegetables may improve health status, as fruits and vegetables contain fibre, which is a protective factor for health conditions such as obesity, cardiovascular disease and type 2 diabetes.
- Unemployment — being unemployed for a lengthy period of time may lead to feelings of failure and worthlessness, which could increase morbidity from depression and self harm.
- Social isolation — people who are isolated from others and have no one to turn to in times of difficulty may have higher rates of morbidity from depression.

Other sociocultural factors include:

- food security
- social exclusion
- cultural influences such as customs and traditions
- access to health care.

## **4.4 Environmental factors contributing to variations in health status**

### **ANSWERS**

#### **4.4 Activities**

##### **Climate change worksheet**

- a. *Possible consequences of climate change on health status*
  - Loss of life from an increase in the rate of natural disasters such as storms, tornados, hurricanes, floods, droughts and bushfires
  - Water-borne diseases caused by the scarcity of fresh water and by water pollution
  - Health consequences for survivors of natural disasters (e.g. disease, overcrowding, mental health problems)
  - An increase in respiratory, cardiac and allergic illnesses due to worsening air pollution (e.g. as a result of more frequent bushfires)
  - An increase in gastrointestinal illnesses, since food-borne diseases are more common in warmer climates

- An increase in heat-related illnesses, such as heat exhaustion and heat stroke, and possibly death
  - An increase in distress (e.g. anxiety, depression, anger or despair)
  - Increased stress if people cannot carry on with their normal activities such as farming
- b. *Groups at greatest risk from the impacts of climate change*
- Children — an immature immune system and the reliance on others for care makes them vulnerable
  - The elderly and people with certain medical conditions (e.g. cardiovascular disease; diabetes; cancer; respiratory disease including asthma; kidney disease; neurological disease; metabolic disease; quadriplegia and other conditions of immobility) — pre-existing health problems can be made much worse by climate-related health hazards
  - People who work outdoors — exposure to extreme weather conditions and air pollution increase a person's risk of illness
  - People living outside of Australia's major cities — risks include drought, bushfire risk, loss of livelihood for farmers and financial insecurity
  - People living along the coast — sea level rises and increases in storm severity and frequency could cause injury, death or homelessness

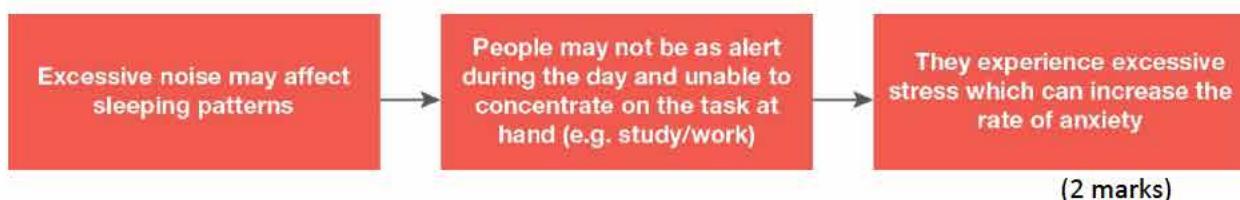
#### **4.4 Exercise**

##### **Test your knowledge**

1. Environmental factors relate to the physical surroundings in which we live, work and play. They include water and air, workplaces, housing, roads, nature, schools, recreation settings and exposure to hazards. (1 mark)
2. Adequate housing
  - a. *Promotes physical health and wellbeing*
    - Adequate housing is well ventilated, so provides clean air and reduces the risk of infection and asthma attacks.
    - Adequate housing provides clean water and adequate cooking facilities, which allows people to consume a healthy food intake and can assist in maintaining body weight.
    - Housing that provides a hygienic place to wash promotes physical health and wellbeing by reducing the risk of infection. (1 mark)
    - Adequate housing is clean, which reduces the risk of developing infections.
  - b. *Promotes mental health and wellbeing*
    - Housing with multiple living spaces can allow people to find their own space, which can relieve stress and enhance mental health and wellbeing.
    - Houses that are safe may decrease feelings of fear and anxiety over injuries. (1 mark)
3. Urban design and infrastructure relates to the design and infrastructure of the suburbs, towns, regions and cities in which people live. Examples include proximity to facilities such as hospitals, road quality and public transport networks. (1 mark)
4. People living in relative isolation may find it difficult to access fresh foods. Fresh foods that are available may be expensive because they incur significant transport and other associated costs. (1 mark)
5. Climate change can affect food availability, so people may develop diet-related diseases such as obesity. Climate change can allow diseases to spread to areas where they previously hadn't infiltrated. This can increase the prevalence of conditions such as malaria. Climate change produces more natural disasters which can increase the prevalence of injuries and mental health disorders. (2 marks)

**Apply your knowledge**

6. Discuss/view responses, for example:



(2 marks)

7. Ways that urban design and infrastructure may affect health status:

- Being in close proximity to health services allows people to access healthcare when required. This can provide timely treatment for conditions and reduce morbidity levels.
- Being able to access public transport can assist people, particularly those with limited mobility, in accessing resources such as education, employment, food and healthcare. This can promote health and contribute to lower rates of morbidity and mortality.
- Being able to access recreation facilities allows people to participate in physical activity. This can assist in maintaining body weight, which can reduce the risk of obesity and associated conditions such as cardiovascular disease. (2 marks)

8. Examples

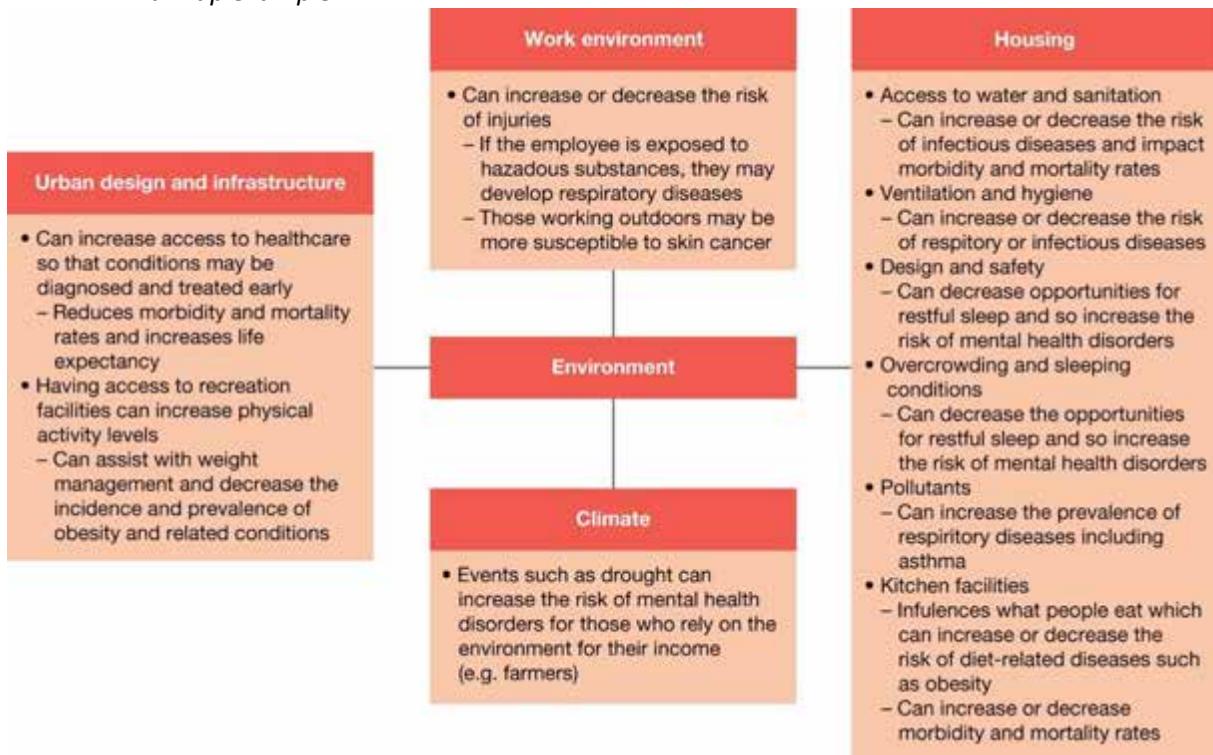
Work environment	How it may contribute to differences in health status
Carpenter/building site	<ul style="list-style-type: none"> <li>• Back injuries from heavy lifting</li> <li>• Falls from roofs and ladders leading to broken bones</li> <li>• Injuries such as cuts from power tools</li> </ul>
Nurse/hospital	<ul style="list-style-type: none"> <li>• Needlestic injuries</li> <li>• Back injuries from heavy lifting</li> <li>• Cuts from sharp instruments</li> </ul>
Receptionist/office	<ul style="list-style-type: none"> <li>• Back injuries from incorrect sitting position</li> <li>• Repetitive strain injuries</li> </ul>
Farmer/farm	<ul style="list-style-type: none"> <li>• Broken bones associated with farming machinery such as tractors</li> <li>• Being bitten or struck by animals such as sheep and cattle</li> <li>• Falls due to uneven surfaces</li> </ul>

(6 marks)

9. Discuss responses. For example:

- *Bike paths* — promote physical activity and fitness (physical health).
  - *Transport systems* — allows people to access supermarkets. This assists in food security which can maintain body systems and promote their correct functioning (physical health).
  - *Parks and gardens* — provide a place for people to access nature and relax. This can reduce levels of stress and anxiety (mental health).
10. Adequate housing can provide a refuge from the consequences associated with climate change. Without adequate housing, people may be particularly susceptible to the impacts of drought, flood and fire. (2 marks)
11. People in overcrowded housing may not be able to find a place to study, which can impact education. People may not be able to rest adequately to prepare for work. They may lack opportunities to access facilities such as bathrooms which can affect their ability to prepare for work. (2 marks)

12. Mind map example



(8 marks)

13.

a. Examples

- Electricity supplies disrupted
- Dams burst
- Housing destroyed
- Whole towns can be wiped out. (2 marks)

b.

- *Electricity supplies disrupted* — kitchen appliances may not be usable. This can increase the reliance on processed foods which can lead to weight gain and the incidence and prevalence of associated conditions such as cardiovascular disease.
- *Dams burst* — water for livestock and agriculture may be interrupted. This can reduce the ability of farmers to earn an income which can increase stress levels and morbidity rates due to mental health disorders.
- *Housing destroyed* — people may lose all of their possessions. This can cause feelings of sadness and despair and contribute to mental health disorders.
- *Whole towns can be wiped out* — this can prevent access to healthcare facilities so conditions can go untreated, increasing morbidity and mortality rates. (4 marks)

#### 4.4 Exam questions

##### Question 1

Exposure to dangerous chemicals in the workplace, the absence of hand rails on stairs and overcrowded housing are all examples of environmental factors that impact on health status.

##### Question 2

Overcrowded housing:

- Overcrowded living conditions may mean that multiple people have to share the one sleeping space. This may impact on physical health and wellbeing as sleep may be disrupted due to snoring and restlessness of others who share the same sleeping space, causing tiredness and a lack of energy to perform daily tasks.

- Overcrowding may mean that a person may never get any privacy as it would be difficult to find space to relax or unwind. This could negatively impact on mental health and wellbeing as it could increase stress and anxiety levels.

**Question 3**

- Work environment — a dangerous work environment, such as working on a building site, may increase the risk of injury from falls. These injuries could cause premature death, leading to lower life expectancy.
- Geographic location — living in a remote location where road quality is poor could increase the risk of injury and death from a car accident, which would lead to lower life expectancy.

Examples of other environmental factors include housing, urban design and infrastructure, and climate and climate change.

**Question 4**

Urban design and infrastructure could include the development of parks and gardens, adequate and safe cycling paths and well lit streets and walking paths. If Australians have access to recreational spaces that are safe and well maintained, they are more likely to use them and increase their physical activity. Being active burns kilojoules and helps maintain a healthy body weight which over time will decrease overweight and obesity levels.

**Question 5**

Adequate housing can provide a refuge from the consequences associated with climate change. Without adequate housing, people may be particularly susceptible to the impacts of drought, flood and fire.

## **4.5 Differences between Indigenous and non-Indigenous population groups**

### **ANSWERS**

#### **4.5 Activities**

##### **Discrimination worksheet**

- Discrimination could contribute to feelings of social isolation, which can increase the incidence of depression and anxiety.
- If people are denied employment because of discrimination, it can contribute to low socioeconomic status and an inability to afford the resources that can promote health such as access to healthcare and adequate food. This can contribute to higher rates of diet-related diseases.

#### **4.5 Exercise**

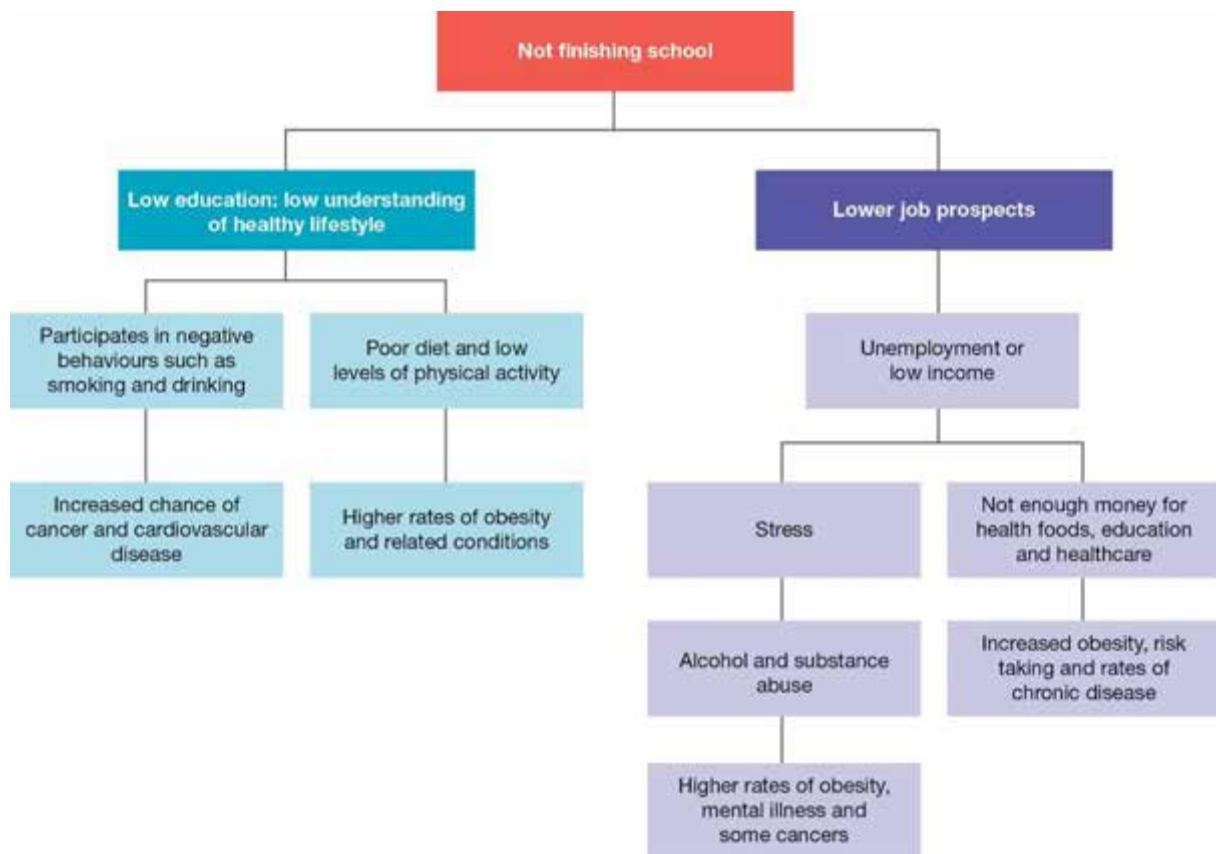
##### **Test your knowledge**

1. *Similarity:* Females in both groups have a higher life expectancy than males.  
*Difference:* Non-Indigenous Australians have a higher life expectancy than Indigenous Australians. (2 marks)
2. a. About 60 per cent of Indigenous deaths were among those aged under 65.  
About 20 per cent of non-Indigenous deaths were among those aged under 65.  
b. Possible reasons include:
  - Indigenous people are more likely to be injured, especially younger people.
  - Indigenous people are more likely to be obese, which can lead to premature death.
  - Indigenous people are more likely to have type 2 diabetes, which can lead to premature death. (2 marks)

3.
  - a. Compared to non-Indigenous Australians, Indigenous Australians are significantly less likely to assess their health as very good or excellent in each age group. (1 mark)
  - b. Possible reasons include:
    - Indigenous Australians are more likely to experience a severe or profound disability.
    - Indigenous Australians are more likely to experience psychological distress.
    - Indigenous Australians are more likely to experience type 2 diabetes and kidney disease.
    - Indigenous Australians are more likely to be overweight or obese.
    - Indigenous Australians are more likely to experience racism and be socially excluded.(3 marks)
4. *Examples*
  - Cardiovascular disease
  - Cancer
  - Diabetes, chronic kidney disease
  - Gum disease (3 marks)
5.
  - a. Syndrome X (also called metabolic syndrome) is a collection of risk factors that simultaneously occur, increasing a person's chance of developing cardiovascular disease and diabetes. These risk factors include high levels of abdominal fat, low levels of good cholesterol, high blood fat, high blood pressure and high blood glucose levels. (2 marks)
  - b. People could reduce their chance of developing Syndrome X by:
    - maintaining physical activity levels
    - eating a balanced diet (including one low in saturated fat)
    - avoiding excessive alcohol intake. (2 marks)
  - c. *Examples*
    - Lower life expectancy
    - Higher prevalence of type 2 diabetes / heart attack / stroke / some cancers
    - Higher rates of arthritis
    - Higher mortality rates (2 marks)

**Apply your knowledge**

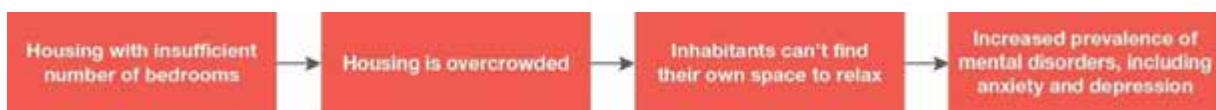
6. The following flowchart illustrates how not finishing school can lead to poor health status:



(3 marks)

7. *Variations in health status in the Indigenous population:*

- Higher rates of death from injuries — poor housing, lower levels of education (contributing to risk taking), substandard infrastructure (for those living outside of Australia's major cities), social exclusion (suicide rates) (2 marks)
  - Higher rates of infant mortality — low birth weight, low socioeconomic status, social exclusion, food insecurity, poor housing, lack of access to healthcare (2 marks)
  - Higher rates of cardiovascular disease — higher rates of obesity, hypertension, low birth weight, less access to healthcare (for preventative tips and interventions), food insecurity, lower socioeconomic status (2 marks)
  - Higher rates of type 2 diabetes — higher rates of obesity, low birth weight, less access to healthcare (for preventative tips and interventions), food insecurity, lower socioeconomic status (2 marks)
- 8.
- In 2019, 18.4 per cent of Indigenous Australians were unemployed compared to 5 per cent of non-Indigenous people. (1 mark)
  - Contributory factors include:
    - lower education levels
    - discrimination by employers towards Indigenous people
    - location — living outside of Australia's major cities (lack of jobs)
    - transport issues
    - drug and alcohol misuse
    - chronic illness. (2 marks)
- 9.



(2 marks)

#### 4.5 Exam questions

##### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.2; © VCAA

Life expectancy is approximately ten years less for Indigenous Australians compared to non-Indigenous Australians.

Indigenous Australians have higher mortality rates due to injury than non-Indigenous Australians.

Award 1 mark for each example of a difference in health status between Indigenous people compared to non-Indigenous people.

Students must reference both population sub-groups to be awarded the marks and should include a health indicator in each answer.

##### VCAA Examination Report note:

This is a comparison question that required students to make reference to both Indigenous and non-Indigenous Australians in their answer. Students were not expected to memorise data but should have been able to provide a general difference in health status between population groups. There are many differences in health status that students could draw on to answer this question, including differences in life expectancy, infant mortality, maternal mortality and morbidity, rates of specific diseases and health problems (such as obesity, mental health issues, cardiovascular disease, type 2 diabetes and kidney disease). Note that higher rates of high body mass index among Indigenous Australians compared to non-Indigenous Australians represents a difference in a biological factor, not a difference in health status. Reference should have been made to higher rates of obesity to receive a mark in this instance.

##### Question 2

Source: VCE 2016, *Health and Human Development Exam*, Q.2.a; © VCAA

Indigenous Australians have poorer health status than non-Indigenous Australians, as they have higher prevalence of diabetes mellitus at 15% (age standardised) compared to non-Indigenous Australians at 4.7% (age standardised).

##### VCAA Assessment Report note:

Most students were able to interpret and use the data in the table to compare the health status of Indigenous and non-Indigenous Australians. Students needed to cite accurate data in their answer.

*The following is an example of a high-scoring response.*

Non-Indigenous Australians have a higher health status than Indigenous Australians. The prevalence of diabetes mellitus (age standardised) is lower for non indigenous with 4.7% compared to Indigenous with 15%. Non-indigenous have a lower mortality with diabetes as an underlying cause with 15.6 deaths per 100000 compared to 89.4 deaths per 100000 for Indigenous Australians.

##### Question 3

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

Indigenous Australian males' life expectancy at approximately 70 years is lower than non-Indigenous males by approximately 10 years.

**VCAA Assessment Report note:**

This question was generally well answered, although some students failed to use data as required in the question.

**Question 4**

Source: *VCE 2015, Health and Human Development Exam, Q.1.c (adapted); © VCAA*

Indigenous Australians are more likely to be discriminated against than non-Indigenous Australians. Discrimination often leads to feelings of worthlessness and despair, which may lead to feelings of anxiety and depression. This could explain why Indigenous Australians have poorer mental health than non-Indigenous Australians.

**VCAA Assessment Report note:**

Overall, this question was not answered well by students. Students needed to explain why mental health differs between Indigenous Australians and non-Indigenous Australians. Many students simply stated that there was a difference, without explaining the reasons for the difference.

*VCAA Assessment Report high-scoring response:*

Indigenous Australians are less likely to engage in physical activity than non-Indigenous Australians. Physical activity enhances mental health, due to the release of endorphins. Thus, a lack of physical activity may increase feelings of anxiety/depression among Indigenous Australians, thus accounting for differences in mental health.

**Question 5**

Source: *VCE 2015, Health and Human Development Exam, Q.1.d (adapted); © VCAA*

Social – unemployment

Indigenous Australians are more likely to be unemployed than non-Indigenous Australians. Unemployment often leads to feelings of worthlessness and despair as you cannot provide for yourself or your family. This could lead to depression and possibly suicide and may explain why Indigenous Australians have lower life expectancy than non-Indigenous Australians.

**VCAA Assessment Report note:**

*VCAA Assessment Report high-scoring response:*

Lack of access to culturally-appropriate healthcare

- Access to healthcare
- Indigenous Australians may find it difficult to find culturally-sensitive healthcare, which could lead to avoiding doctors and nurses so diseases or ill health could go untreated for a period of time, leading to a lower life expectancy for Indigenous than non-Indigenous people (who are more likely to access doctors and healthcare professionals).

## 4.6 Differences between male and female population groups

### ANSWERS

#### 4.6 Exercise

##### Test your knowledge

1. The difference in life expectancy is about four years (on average, it is lower for males than females). (1 mark)
2. Females are more likely to experience osteoporosis, arthritis, mental problems and behavioural problems, core activity limitation and psychological distress. (2 marks)
3.
  - a. Rates of injury and poisoning deaths have decreased for both males and females over time. Males have always been more likely to die from injuries and poisoning compared to females. (2 marks)
  - b. Testosterone can make males more likely than females to take risks. Males may be more susceptible to peer group pressure, which can include encouraging them to take risks. Safety features such as seatbelts and airbags may have contributed to the decline in injury deaths. Laws against speeding and the introduction of random breath testing may have decreased the number of deaths from injuries. (2 marks)
4. Hormonal changes in women lead to a weaker bone density than in men. Women are more likely to visit doctors, which may mean that the condition is diagnosed in women more often. (2 marks)
5. Men may feel that they have to be the provider in the family and may become depressed when they are unemployed, perhaps feeling that they are failing their family. (1 mark)

##### Apply your knowledge

6. Factors that might account for a higher death rate among males due to injuries include:
  - Hormonal reasons (higher levels of testosterone) — men are more likely to take risks that can result in death.
  - Men are more likely to work in dangerous jobs.
  - Men are more likely to commit suicide if unemployed. (3 marks)
7. Having a higher body mass puts men at greater risk of developing cardiovascular disease, some cancers, type 2 diabetes and respiratory problems. This can contribute to the lower life expectancy and higher mortality rates experienced by males. (2 marks)
8. Examples
  - a. Males have higher rates of being overweight; less education about healthy eating; suffer more peer pressure contributing to higher rates of alcohol consumption. All of these factors contribute to higher rates of type 2 diabetes. (2 marks)
  - b. Males have higher rates of exposure to pollutants in the workplace; higher rates of risk taking such as smoking; less education about healthy eating. (2 marks)
  - c. Cultural factors portray males as being strong and to persevere when illness occurs; males are also more likely to take risks with their health. (2 marks)

#### 4.6 Exam questions

##### Question 1

Source: VCE 2014, *Health & Human Development Exam*, Q.4 (adapted); © VCAA

- a. Females have a higher life expectancy at birth than males over time. For example, in 1982 life expectancy at birth for females was approximately seven years higher, and in 2012 life expectancy for females was approximately four years higher than males.

##### VCAA Assessment Report note:

Most students were able to use the information in the graph to identify that females had a consistently higher life expectancy at birth than males between 1982 and 2010–2012.

b. Biological — bodyweight: males are more likely to be overweight/obese than females. Being overweight or obese is a risk factor for many diseases, including cardiovascular disease, that can lead to premature death. This may explain why males have lower life expectancy than females.

Biological — blood pressure: males are more likely to have higher blood pressure (hypertension) than females. Hypertension is a risk factor for cardiovascular disease, which is a major cause of premature death in Australia. This may explain why males have a lower life expectancy than females.

Sociocultural — unemployment: males are more likely to experience negative impacts of being unemployed than females. Often males are seen as the provider for their families and may feel their self-worth is based on what employment they have. Being unemployed may make them feel worthless and depressed. Depression is a risk factor for suicide, which is a cause of premature death in Australia and may explain why males have a lower life expectancy than females.

Sociocultural — peer pressure: males are more likely to be negatively influenced by peer pressure than females. This may increase the risk of death related to injuries, as they are more likely to participate in risky behaviour, such as speeding, if dared to by their mates. This could lead to higher rates of premature death and explain why males have a lower life expectancy than females.

For each factor:

**VCAA Assessment Report note:**

Students who were able to identify and explain relevant biological and social determinants were able to answer this question well; however, many students did not select examples that accounted for the differences in life expectancy between males and females.

**Question 2**

Source: VCE 2009, *Health and Human Development Exam*, Q.2; © VCAA

Possible examples include:

- Men experience higher rates of mortality and morbidity than women because they often do not access healthcare services as they have a 'macho' attitude and feel they can tough it out. Therefore, if a national policy was put into place to encourage men to access GPs more regularly, life-threatening diseases such as prostate cancer may be detected early and life expectancy for men may increase.
- Men have higher rates of cardiovascular disease than women so it is important to raise men's awareness of the risk factors associated with cardiovascular disease. A national policy to raise awareness through an advertising campaign on weight control and increasing the consumption of fruits and vegetables may better engage men about their health and reduce deaths from cardiovascular disease.

**VCAA Assessment report note:**

The following is an example of a good response.

Men often have a poorer level of health than women as they avoid seeing the doctor or addressing early symptoms as they feel it's unnecessary, not 'masculine'. As a result health problems increase in severity. By engaging men about their health they can learn to acknowledge the importance of seeing medical practitioners regularly.

Key issues for men regard preventable lifestyle diseases such as cardiovascular diseases, obesity, injury and some cancers. By raising awareness of the range of preventable measures that can be

applied to reduce health problems, the health status of men can be improved. Men can avoid such illnesses if they are aware of their causes in the first place.

**Question 3**

Source: *VCE 2007, Health and Human Development Exam, Q.2.b.iii (adapted); © VCAA*

*Note:* In the current study design, 'factors' are rephrased to biological, behavioural and social determinants of health.

Sample answer could include:

Biological:

- Men are more likely to have higher blood pressure and higher blood cholesterol levels than females.
- High blood cholesterol and high blood pressure are risk factors for cardiovascular disease, which may contribute to higher DALYs for cardiovascular disease in males aged 55–74 than females.

Environmental:

- Males are more likely to work in dangerous environments (such as building sites) than females.
- Dangerous work environments increase the risk of injury and may explain why injury DALYs are higher in men than women aged 35–54 years.

**Question 4**

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

Conclusions may include:

- Older males aged 55+ have higher rates of cancer than do females in the same age grouping.
- The rate of diabetes among males aged 55–74 is higher than for females in the same age category.
- Mental disorders are more common in males between 15 and 34 than for females in the same age grouping.

***VCAA Assessment Report note:***

Specific statistics from the table did not have to be cited, but students should have used them to guide their answer.

**Question 5**

- Males experience higher rates of premature death than females — 62 per cent of premature deaths were experienced by males.
- Males have higher rates of injury than females. The male death rate from injury is about twice the female death rate from injury.

## 4.7 Differences between high and low socioeconomic status population groups

### ANSWERS

#### Case study review: Living here will make you fat' — do we need a public health warning?

1. Those in low socioeconomic areas were 29 per cent more likely to be obese compared to those in high socioeconomic areas.
2. Obesogenic relates to physical surroundings that increase the risk of weight gain.
3. Factors that may contribute to a neighbourhood being obesogenic include 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).
4. Examples include
  - Higher rates of cardiovascular disease, type 2 diabetes and some cancers for low SES groups
  - Lower life expectancy for low SES groups
  - Higher rates of mortality for low SES groups.

### 4.7 Exercise

#### Test your knowledge

1. Differences in health status include low socioeconomic status groups having:
  - lower life expectancy (about three years lower for the most disadvantaged groups)
  - higher mortality rates
  - more avoidable deaths
  - higher infant mortality rates
  - higher rates of disability
  - higher rates of diabetes and kidney disease
  - higher rates of coronary heart disease and stroke
  - higher rates and mortality from injuries
  - almost twice the rate of mental and behavioural problems
  - higher prevalence and mortality rates from lung cancer
  - higher rates of asthma and chronic obstructive pulmonary disease (COPD)
  - higher rates of arthritis
  - higher rates of mental and behavioural problems. (3 marks)
2. Basically speaking, the wealthier you are, the healthier you are. People from low socioeconomic status (SES) groups experience poorer health outcomes with regard to most indicators. The level of health also increases as socioeconomic status increases. (1 mark)
3. Evident trend
  - Rates of premature death increase as socioeconomic status decreases.Possible reasons  
Those from low SES groups:
  - may be overweight or obese, leading to cardiovascular disease and fatal heart attacks
  - may take risks with their health such as smoking, leading to lung cancer
  - may avoid going to the doctor for various reasons, such as lack of money or education. (3 marks)
4. Diabetes shows the greatest difference between high and low SES groups (2.6 ratio). Note that 'oral health rated as fair or poor' is not considered a condition. (1 mark)
5. A quintile is a fifth of the population (20 per cent). Quintiles mean that the population is broken down into five groups of equal size. (1 mark)
6. People from the lowest socioeconomic status group have significantly higher rates of overweight/obesity compared to those in the highest SES group (around 72 per cent and 62 per cent respectively). (1 mark)
- 7.

- a. As socioeconomic status decreases, the rate of DALY due to high blood pressure and impaired glucose regulation increases. (1 mark)
- b. Answers include:
- Kidney disease
  - Cardiovascular disease (including heart attack and stroke)
  - Type 2 diabetes (1mark)
- 8.
- a. Just over 20 per cent of the lowest SES group smoke compared to less than 10 per cent of the highest group. Around 87 per cent of the lowest SES group had ‘inadequate exercise’ compared to around 77 per cent of the highest SES group. Around 45 per cent of the highest SES group had inadequate fruit consumption compared to around 52 per cent of the lowest SES group and around 14 per cent of the lowest SES consumed sugar-sweetened beverages each day compared to around 4 per cent of the highest SES group. (4 marks)
- b. Those from low SES groups are more likely to have low educational attainment, which means that they may not completely understand the risks of these behaviours. They are more likely to be unemployed, which also has a relationship with risk taking such as smoking. Health literacy is often lower, which can reduce access to knowledge about risky behaviours. Environmentally, lower SES groups are more likely to be exposed to fast food restaurants which can increase the consumption of sugar-sweetened drinks. They often also experience poorer public parks and gardens which can reduce opportunities for physical activity. (4 marks)

#### **Apply your knowledge**

9. Example: People from low SES groups may be more likely to suffer from mental or behavioural problems as a result of social exclusion (sociocultural), poor housing (environmental), higher rates of unemployment (sociocultural), and higher rates of obesity (physical). (3 marks)
- 10.
- a. As socioeconomic status decreases, the rate of burden of diseases increases (from 1 in the highest SES group, to 1.5 in the lowest SES group).
- b. *Examples*
- *Biological* — low SES group share higher rates of obesity than those in the highest SES group. This can contribute to higher rates of cardiovascular disease, which can contribute to the difference in the fatal burden between the two groups (1.7 times greater in the low SES group).
  - *Sociocultural* — lower levels of health literacy can mean that conditions go untreated for those in the low SES group compared to those in the highest group. This can contribute to higher levels of non-fatal burden (1.4 times higher than the highest SES group) as the untreated conditions have a greater impact for a longer period of time.
  - *Environmental* — greater geographical access to fast-food outlets can contribute to higher rates of hypertension. This can contribute to differences in cardiovascular disease and kidney disease, which contribute to the difference in the overall burden of disease (1.5 times greater for the lowest SES group). (6 marks)
11. People from low SES groups may experience higher rates of infant mortality as a result of any of the following:
- early life experiences including higher rates of maternal smoking (contributing to SIDS)
  - less education with regard to maintaining a healthy pregnancy
  - lower health literacy
  - less likely to access healthcare. (2 marks)
12. Possible reasons include: a lack of awareness of such services; lack of education about the benefits of screening; the feeling that they have less control over their health. (1 mark)

13. The following cycle diagram illustrates how people born into low socioeconomic status groups are more likely to belong to this status group later in life.



(2 marks)

14. Examples

*Biological*

- Low birth weight babies — can lead to higher infant mortality rates, and higher rates of illness (morbidity) among children.
- Higher rates of hypertension — can result in higher rates of cardiovascular disease.

*Sociocultural*

- Lower education levels — less knowledge of health behaviours and health messages can lead to an increased rate of chronic conditions such as diabetes and cardiovascular disease.
- Less likely to access healthcare — conditions may go undiagnosed, which may mean they develop further and have greater impacts on health status.

*Environmental*

- Greater exposure to fast food outlets — can lead to higher rates of obesity and related conditions such as type 2 diabetes and cardiovascular disease.
- More likely to live in poor-quality housing, leading to higher rates of respiratory conditions and higher rates of mental problems. (6 marks)

15. Lower health literacy can mean that even when health promotion messages are provided, there may not be a high level of understanding about how to incorporate these changes into their lives. There may be a lack of financial resources to put changes in place. Those from low SES groups often feel they lack control over their health status, which can influence whether health promotion messages are taken on board. (2 marks)

#### 4.7 Exam questions

##### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.7.a; © VCAA

- The lower the socioeconomic status, the higher the incidence rate of selected chronic conditions

- The higher the socioeconomic status, the lower the incidence rate of selected chronic conditions
- The lower the socio-economic status, the higher the incidence rate of diabetes
- The lower the socio-economic status, the higher the incidence rate of asthma
- The lower the socio-economic status, the higher the incidence rate of arthritis
- The lower the socio-economic status, the higher the incidence of oral health rated fair or poor.

**Question 2**

Source: VCE 2013, *Health and Human Development, Section B, Q.5.a*; © VCAA

The higher the socio-economic status the lower the premature death rate for males aged 15–64 by approx. 150 deaths per 100,000.

**Question 3**

Source: VCE 2013, *Health and Human Development, Section B, Q.5.b (adapted)*; © VCAA

Answers may include:

- Body weight — people with low socio-economic status (SES) have higher rates of overweight and obesity than people with high SES. Being obese is a risk factor for cardiovascular disease, which if left untreated can lead to premature death. This could explain why those with lower SES have higher rates of premature death than people with high SES.
- Blood pressure — those from a lower SES are more likely to experience higher rates of hypertension than those in higher SES. Hypertension contributes to higher rates of cardiovascular disease. Cardiovascular disease is the leading cause of premature death in Australia.
- Glucose regulation — those from a lower SES are more likely to experience high glucose intolerance levels that are a precursor to type 2 diabetes, therefore increasing the burden of disease associated with this. Type 2 diabetes also increases the risk of cardiovascular disease in this population group.
- Birth weight — women from low SES are more likely to give birth to children with a low birth weight. This increases the risk of diseases such as cardiovascular disease and type 2 diabetes later in life and contributes to higher infant mortality rates.

**VCAA Assessment Report note:**

Students who were able to identify a relevant biological determinant were able to answer this question well; however, many students did not provide a biological determinant.

**Question 4**

Source: VCE 2011, *Health and Human Development Exam, Section A, Q.4.a*; © VCAA

Education, occupation and income are the most commonly used measures of socioeconomic status.

**Question 5**

Source: VCE 2011, *Health and Human Development Exam, Section A, Q.4.b (adapted)*; © VCAA

Premature deaths are higher in males from the lowest socioeconomic status group than those from the highest socioeconomic group by approximately 150 deaths per 100 000 population.

## 4.8 Differences between those living within and outside of Australia's major cities

### ANSWERS

#### 4.8 Activities

**Losing the farm** worksheet

- a. Students read the article.
- b. Selling (or abandoning) the farm can be similar to losing a loved one. It can feel like betraying one's ancestors while robbing one's children of their birth right. Grief, guilt, despair and depression are common reactions.
- c. Grief issues associated with losing the farm include:
  - loss of identity, since farming is a way of life, not just a job
  - feeling professionally lost, since most farmers couldn't imagine doing anything else for a living
  - loss of the family home
  - a sense of having betrayed previous generations, if the farm was in the family for a long time
  - guilt over losing the only substantial inheritance for the children
  - feelings of guilt, failure and inadequacy.
- d. Factors leading to the loss of a farm may include:
  - marriage breakdown
  - natural factors such as drought, fires and floods
  - financial distress
  - changes in the market, making importing products from overseas cheaper
  - national and international economic crises
  - injury or disability
  - lack of children to carry on working the land
  - forcible acquisition of land.
- e. *Possible impact of losing the farm:*
  - Physical — lack of physical activity (while working) could lead to reduced fitness, increased body weight, decreased energy levels and so on; reduced income may affect which foods can be consumed, leading to underweight/overweight.
  - Social — may not want to socialise in professional circles (i.e. with other farmers) due to reduced income; may not be able to afford to go out with friends/visit family members interstate.
  - Emotional — may experience a range of emotions such as anger and fear. However, they may learn to respond to these emotions appropriately.
  - Mental — the stress and anxiety associated with reduced income and uncertainty about the future could be debilitating.
  - Spiritual — may lose their sense of purpose in life, which negatively impacts spiritual health and wellbeing.

**Geography and health status** worksheet.

Those living outside of Australia's major cities have a lower health status than those living within major cities due to:

- lack of access to healthcare
- lower levels of education
- lower incomes
- higher rates of disability
- higher rates of smoking
- higher rates of drinking
- less access to private hospitals
- less access to health promoting infrastructure
- less access to employment.

## 4.8 Exercise

### Test your knowledge

1. As remoteness increases, health status decreases. (1 mark)
2. Around 72% of Australia's population live in areas that are classified as major cities. (1 mark)
3. Any three of the following:
  - lower life expectancy (life expectancy decreases as the level of remoteness increases: 1 to 2 years less for rural areas, up to 7 years less for remote areas)

- higher mortality rates
  - higher rates of preventable cancers (lung, melanoma and detectable cancers such as cervical cancer)
  - higher death rates from cardiovascular disease
  - higher rates of coronary heart disease
  - higher rates of avoidable deaths
  - higher rates of diabetes. (3 marks)
- 4.
- a. Processed foods might be an attractive alternative to people living outside of Australia's major cities because they often have a longer shelf life (they last longer) than fresh foods. (1 mark)
  - b. The downside of using processed foods is that they are often high in fat, sugar and salt. This can lead to a range of differences in health status including higher rates of obesity and related conditions. (1 mark)
5. As remoteness increases, the rate of burden of disease increases. Compared to major cities for example, the burden is 1.1 times higher in inner regional areas, 1.2 times higher in outer regional, and 1.4 times higher in remote and very remote areas. (2 marks)

### **Apply your knowledge**

- 6.
- a. Sixty-five per cent of Indigenous Australians live outside major cities compared to 29 per cent of non-Indigenous Australians. (1 mark)
  - b. Because Indigenous Australians experience significantly lower health status than non-Indigenous Australians, many of the health concerns of Indigenous Australians are evident in the data for those living outside of Australia's major cities. (1 mark)
7. The natural environment provides many people living in rural and remote areas with a source of income from industries such as farming and mining. However, the natural environment can be harsh and can increase rates of sunburn and injuries (from working on the land). It can also be a source of stress when natural disasters, such as bushfires and floods, affect the land. (1 mark)
8. Yes; Victoria is relatively small in terms of land mass, so major towns and cities are closer than they would be for those in rural and remote Western Australia. This means that food security and access to healthcare may be better in Victoria. (2 marks)
9. Factors that could contribute to higher rates of cardiovascular disease include:
- Biological*
- higher rates of overweight and obesity puts extra strain on the heart, increasing the risk of heart attack and stroke.
  - hypertension is a leading risk factor for heart attack and stroke.
  - high cholesterol contributes to atherosclerosis which can block blood vessels and cause heart attack and stroke.
- Sociocultural*
- low SES contributes to higher rates of smoking and obesity, which are both risk factors for cardiovascular disease.
  - food insecurity can mean that people are more likely to consume processed foods that are higher in fat and salt which can increase hypertension and cardiovascular disease.
- Environmental*
- less access to health services can mean that conditions such as hypertension go undiagnosed and untreated, increasing the risk of heart attack.
  - less access to recreation facilities can mean that physical activity levels are lower, contributing to weight gain and related conditions, including heart attack and stroke. (6 marks)
- 10.
- a. As remoteness increases, so does the rate ratio of the fatal component of burden of disease. (1 mark)
  - b. *Examples*

- Access to healthcare — as remoteness increases, access to health services becomes more difficult. When events such as heart attacks occur, those in remote areas are the least able to access life-saving treatment, which contributes to the higher rates of fatal burden experienced in these areas.
- The quality of roads often decreases as remoteness increases. This can contribute to more car crashes and injury deaths, which is a factor in the higher rates of fatal burden experienced in more remote areas.
- Food security would be more of an issue as remoteness increases, which can contribute to higher rates of obesity, hypertension and cardiovascular disease. This can lead to more deaths from these causes and higher fatal burden than for people living in and close to major cities. (3 marks)

#### **4.8 Exam questions**

##### **Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.9; © VCAA

a. For most of the health professionals listed in the graph above, the rate of health professionals per 100,000 population decreases as remoteness, or distance from major cities, increases. For example, the rate of psychologists in major cities is approximately 105 per 100,000 population, whereas in the rate of psychologists in remote and very remote areas is approximately 35 per 100,000 population.

The one exception to this pattern for all the health professionals listed in the graph is for GPs. GPs have a rate of approximately 160 per 100,000 population in remote and very areas, and this rate decreases as remoteness decreases, so those in major cities have a rate of approximately 115 per 100,000 population.

Award 1 mark for outlining the overall difference in availability of health professionals according to remoteness and using data to support this.

Award 1 mark for identifying the higher rate of GP's per 100 000 population for those in remote and very remote areas compared to major cities and using data to support this.

##### **VCAA Examination Report note:**

The correct units must be used when referring to data. The graph did not show the number of health professionals in any one region, but rather the rate per 100 000 people. To say that there are 'more GPs in remote and very remote areas compared to major cities' was not correct. Students received one mark for outlining the overall difference in availability of health professionals according to remoteness, and another for identifying the anomaly of a higher ratio of GPs to people in remote and very remote areas compared to major cities.

b.

i. Those living in remote/very remote areas have a higher avoidable mortality rates due to injury and suicide than those who live in major cities.

Award 1 mark for providing an example of a difference in health status between those living in remote/very remote areas compared to those living in the major cities.

Students must reference both population sub-groups to be awarded the mark and should include a health indicator in their answer.

##### **VCAA Examination Report note:**

This question required reference both to people living in major cities and those living in remote and very remote areas. Students were not expected to memorise data but should have been able to identify a general difference in health status between the two groups. There are many differences in health status that students could draw on to answer this question, including differences in life expectancy, infant mortality, maternal mortality and rates of specific diseases and health problems (including obesity, mental health issues, cardiovascular disease, injuries and some cancers).

i.i. If the rate of health professionals like psychologists is greater in major cities (approximately 105 per 100,000 population) compared to remote/very remote areas (approximately 35 per 100,000 population) then those who are experiencing mental health issues have greater access to the psychologists for support and treatment. Greater access to treatment and support for mental health issues may help people to improve their health and may prevent them from committing suicide resulting in a reduced mortality rate due to suicide in major cities compared to those in remote/very remote areas.

Award 1 mark for outlining how access to health professionals could contribute to the difference outlined in question 9bi.

Award 1 mark for outlining how access to health professionals varies between those living in major cities compared to those living in remote/very remote areas.

**VCAA Examination Report note:**

This question asked how access to health professionals could contribute to the difference identified in question 9bi. The most common error was to discuss how health status could be promoted if access to health professionals was improved in remote and very remote areas, which did not answer the question.

**Question 2**

Source: VCE 2016, *Health and Human Development Exam*, Q.8; © VCAA

a. **VCAA Assessment Report note:**

When interpreting trends, students should not simply state a fact related to one aspect of the data rather than a pattern or trend.

*The following are examples of possible responses.*

- Cardiovascular disease death rates are consistently higher for men than women regardless of location.
- Males always have a higher death rate from cardiovascular disease than females
- As remoteness increases, the death rate from cardiovascular disease increases
- Males living in major cities have higher cardiovascular disease death rates than females living in major cities.

b. Biological – Blood cholesterol levels

Males generally have higher blood cholesterol levels than females, high blood cholesterol levels are a risk factor for cardiovascular disease and premature death and may explain why males had consistently higher cardiovascular disease death rates than women regardless of location.

Sociocultural – Social Norms

Males generally access health care less often than women due to social norms associated with masculinity and toughening out illness and disease. Due to less access to health care high blood pressure and high blood cholesterol levels may go undiagnosed increasing risk of cardiovascular disease and premature death and may explain why males had consistently higher cardiovascular disease death rates than women regardless of location.

**VCAA Assessment Report note:**

While many students were able to correctly identify an example of one social and one biological determinant of health, their choices often made it difficult to apply the example to the trend. Students are advised to read the question and make careful selections to enable them to answer what is being asked. Students should note that access to health care as a social determinant is about the social and cultural reasons why people do not access health care as opposed to the behavioural reasons.

*The following is an example of a high-scoring response.*

Body weight – men are more likely to be overweight than females. As being overweight is a risk factor for cardiovascular disease, this may help to explain why in all regions, men have higher deaths from cardiovascular disease than women.

Access to healthcare – men are less likely to access health care due to a ‘macho’ attitude and social stigma than females. Accessing healthcare may help with early diagnosis of conditions such as cardiovascular disease, which may prevent premature death. This may help to explain why females have lower deaths per 100000 population for cardiovascular disease.

**Question 3**

Source: VCE 2013, *Health and Human Development, Section A, Q.2.b (adapted)*; © VCAA

Social — food security:

- People in rural and remote areas have poorer food security than people in metropolitan areas.
- Often, fresh food is expensive or has a short shelf life. Therefore, processed foods with longer storage are consumed. These foods can be higher in kilojoules, which if overeaten can lead to overweight and obesity. Obesity is a risk factor for diabetes and may explain why diabetes rates are higher in rural and remote populations.

**Question 4**

Source: VCE 2013, *Health and Human Development, Section A, Q.2.a (adapted)*; © VCAA

Examples of sociocultural factors may include:

- social isolation
- food security
- unemployment
- socio-economic status.

**Question 5**

Source: VCE 2008, *Health and Human Development Exam, Q.5.b*; © VCAA

Comparisons may include:

- The life expectancy for males decreases according to the remoteness of where they live. Males living in major cities have a life expectancy of 79, compared with 76.5 in remote areas and 72.1 in very remote areas
- The life expectancy for females also decreases according to the remoteness of where they live. Females living in major cities have a life expectancy of 83.8 compared with 81.8 in remote areas and 77.6 in very remote areas.

**VCAA Assessment Report note:**

Students needed to compare males and females according to remoteness, not simply compare males and females as this was not answering the question. Students needed to use the data in the graph in their answer as the question asked them to use the graph to compare life expectancy for one mark each. If students did not include the data, they did not receive any marks. Students did not have to provide reasons to explain the difference. Students who did provide reasons were not answering the question so may not have achieved any marks.

## **4.9 Key Skills**

### **ANSWERS: PRACTISE THE KEY SKILL**

1. The prevalence of diabetes has generally increased over time, from around 1.5 per cent in 1990 to around 4.5 per cent in 2015, although there was a small decrease between 2015 and 2018.
2. Note that these factors can relate to any reason for the increase in the prevalence of diabetes. So even though behavioural factors are not a specific focus of this course, they can be used because this question does not state which types of factors should be used.

Examples include:

- Body weight — rates of obesity have increased over time, which is a risk factor for type 2 diabetes. This could have contributed to increasing rates of diabetes over time.
- Glucose regulation — impaired glucose regulation is seen as a precursor to type 2 diabetes. If rates of this risk factor have increased, it could have contributed to increased rates of type 2 diabetes and therefore the overall prevalence of diabetes.
- Social factors such as time and convenience may have contributed to people consuming more energy dense foods. This is a risk factor for obesity, which increases the risk of type 2 diabetes.

3. *Trends*

- As age group increases, the proportion of those who are overweight/obese increases, from around 58 per cent of non-Indigenous people aged 25-34 to around 74 per cent of those aged 45-54.
- Indigenous Australians are more likely to be overweight/obese in every age group. For example, around 72 per cent of Indigenous Australians aged 25-34 are overweight/obese compared with 58 per cent of non-Indigenous Australians in this age group.

4. *Examples*

- *Biological* — Indigenous people are more likely to be born with low birth weight compared to non-Indigenous Australians. This increases the risk of obesity in later life.
- *Sociocultural* — Indigenous Australians are more likely to be socially excluded than non-Indigenous Australians, which can contribute to alcohol use. This can lead to excess energy being consumed, which can add to weight gain.
- *Environmental* — Indigenous Australians are more likely to live in remote areas than non-Indigenous Australians. This leads to a lack of geographical access to recreation facilities, which can contribute to lower levels of physical activity and therefore overweight and obesity.

## 4.10 Topic 4 review

### ANSWERS: EXTENDED RESPONSE

Source 1:

- The graph presents life expectancy and HALE for males and females between 1990 and 2019.
- Values for all four indicators have increased between 1990 and 2019.
- Females have consistently experienced higher life expectancy and HALE than males.

Source 2:

- Males are less likely to consume the recommended amount of fruit and vegetables than females (3% and 7.7% respectively).
- Males are twice as likely to consume sugar-sweetened drinks than females.
- Males are more likely to be overweight and obese than females.
- Males are more likely to drink alcohol and smoke tobacco than females.

This information can be further unpacked to explore possible impacts of these differences:

- Fruit and vegetables are high in fibre and lower intake among males can contribute to higher rates of colorectal cancer.
- Being more likely to consume sugar-sweetened drinks can contribute to overweight and obesity and dental decay.
- By being more likely to be overweight and obese than females, males are at an increased risk of a range of conditions such as hypertension, cardiovascular disease, type 2 diabetes and a number of cancers. All of these conditions can be fatal.
- Higher alcohol and tobacco use among males can contribute to higher rates of liver disease, injuries, cancers and respiratory disease.

Source 3:

- Brett is male and is 19 years old.
- Is working in a trade in a coal mine.
- He has moved away from his home in Melbourne for work.
- He is consuming moderate to high amounts of alcohol.
- He lacks cooking skills so resorts to take away and processed foods (which are often energy dense).
- His body mass has increased over time (but it is unclear as to whether he is overweight or obese).

Linking information between sources:

- Brett (source 3) displays a number of risk factors identified in source 2:
  - Alcohol use
  - Relies on take-away and processed foods so may not be consuming enough fruit and vegetables.
- Many of the risk factors in source 2 can lead to premature death which may contribute to the differences in life expectancy shown between males and females in source 1.
- The risk factors common to Brett and source 2 can also contribute to periods of ill-health from injuries and chronic conditions such as cancer and type 2 diabetes which can help to explain why the rate of HALE is lower for males than it is for females.

**ANSWERS: EXAM QUESTIONS**

**Question 1**

Source: VCE 2020, *Health and Human Development Exam*, Q.3; © VCAA

- a. High blood pressure

Award 1 mark for identifying a biological factor from the graphs.

**VCAA Assessment Report note:**

Answers include:

- (high) blood pressure
- (high) fasting plasma glucose
- (high) body mass index.

b. Males experience higher incidence of diabetes than females in Australia. Males have higher dietary risks than females such as the over consumption of sugar and fats which can lead to obesity. Obesity can cause insulin resistance leading to type 2 diabetes.

Males also experience higher rates of burden of disease. As males have higher intake of tobacco this can lead to the development of lung cancer and an increase in the years of life lost due to premature death.

Award 1 mark for each variation in health status between Australian males and females listed.  
Award 1 mark for each explanation of how a factor evident in the graphs could contribute to each variation.

**VCAA Assessment Report note:** This was a comparison question that required students to make reference to males and females in their answer. Once differences in health status were identified, students were required to use information from the graph to explain reasons for each.

Common errors included stating that males have higher rates of morbidity than females and that females have higher rates of cardiovascular disease than males. Another common mistake was to explain why differences in the graph exist, which did not answer the question.

The following is an example of a high-scoring response.

1. *Females have a higher life-expectancy than males. This can be due to males consuming more tobacco than females as tobacco can cause respiratory and cardiovascular diseases which reduce individual's life expectancy.*
2. *Males have higher mortality rates than females. This can be due to the higher dietary risks males experience than females. An unbalanced diet, containing saturated fats can cause cardiovascular disease which can be seen in males and increase their mortality rates.*

c. An Australian Dietary Guideline states that people should enjoy a wide variety of nutritious foods from the five food groups each day. By consuming a wide variety of foods, people can consume an adequate intake of fibre which can assist in allowing people to feel full and therefore not overeating. This can assist in reducing obesity levels. As obesity is a risk factor for conditions like type 2 diabetes, death rates associated with type 2 diabetes can be reduced.

Another Australian Dietary Guideline states that we should limit the intake of foods containing saturated fat, added salt, added sugar and alcohol. By limiting the intake of salt/sodium the rates of

hypertension can be reduced thereby reducing the deaths associated with coronary heart disease resulting from hypertension.

Award 1 mark for each explanation of how an Australian Dietary Guidelines can bring about dietary change

Award 1 mark for each explanation of how the dietary change can decrease death rates.

**VCAA Assessment report note:**

Many students were able to show an accurate understanding of one or more Australian Dietary Guidelines, but few were able to link each to a decrease in death rates. Referring to a specific disease was required, but without a specific link to a decrease in death rates, the question was not correctly answered and full marks could not be awarded.

Common mistakes included referring to decreasing intake of fats (as opposed to saturated fats), stating that salt is energy dense and focusing on the impact of physical activity (relating to guideline 1), which is not related to dietary change and therefore does not correctly answer the question.

The following are examples of possible responses.

- One of the Australian Dietary Guideline states ‘in order to maintain a healthy weight, be physically active and choose amounts of nutritious foods and drinks to meet energy needs’. By consuming nutritious foods that are high in fibre, consuming drinks that are low in sugar such as water and eating according to energy needs, premature deaths from diseases such as cardiovascular diseases, some cancers and type 2 diabetes may decrease.
- It is important to limit the intake of foods containing saturated fat, added salt, added sugars and alcohol. Excess intake of saturated fat can lead to a high levels of LDL cholesterol, which is a risk factor for heart disease. By replacing foods containing high levels of saturated fats with mono and polyunsaturated fats, deaths from heart disease may decrease.

**Question 2**

Source: VCE 2011, *Health and Human Development Exam, Section B, Q.1 (adapted)*; © VCAA

a. Food security. Many Indigenous Australians live on government pensions in isolated remote communities compared to non-Indigenous Australians. Lack of money and geographic isolation can create food insecurity due to cost and availability of foods.

Limited food options may mean that the diet is high in processed carbohydrates, which is a risk factor for obesity. This impacts on health status as obesity is a major risk factor for many diseases that lead to premature death, such as CVD, which will cause a decrease in life expectancy.

**VCAA Assessment Report note:**

It was important for students to explain the variations between Indigenous and non-Indigenous Australians, not simply describe the impact on Indigenous Australians. Many students did not use the information given in the stimulus material; for example, life expectancy differences, rates for diabetes mellitus, rates of hospitalisations and mortality rates.

b. Biological — body weight. Indigenous Australians are more likely to be obese than non-Indigenous Australians. This contributes to poorer health status, as obesity is a risk factor for diabetes mellitus, which may explain why diabetes mellitus rates are higher for Indigenous than non-Indigenous Australians.

Environmental — Indigenous Australians have poorer access to safe water and sanitation than non-Indigenous Australians. Inadequate water and sewerage systems in remote Indigenous communities

may increase infection rates, contributing to higher infant mortality rates than for non-Indigenous Australians.

**VCAA Assessment Report note:**

Genetic predisposition/family history was often used to explain diabetes or obesity; however, this was incorrect.

Examples of social determinants could also be used as long as students used a different example from that in Question 1a.

**Question 3**

Source: VCE 2008, *Health and Human Development Exam*, Q.5.c.i; © VCAA

Comparisons may include:

- Asthma: The rates of self-reported asthma are 22% higher in inner regional areas and 8% higher in outer regional and remote areas than in metropolitan areas.
- Injuries: Injury rates are 20% higher in inner regional areas and 21% higher in outer regional and remote areas than in metropolitan areas.
- Overweight/obesity: Overweight/obesity rates are 5% higher in inner regional areas and 12% higher in outer regional and remote areas than they are in metropolitan areas.

**VCAA Assessment Report note:**

This question required students to analyse data to draw informed conclusions about the health status of Australians. Students needed to interpret the graph and the data associated with the levels of asthma, injuries and overweight/obesity, and use the data to draw comparisons between metropolitan and inner regional, and metropolitan and outer regional and remote areas. Students were not awarded marks if they simply compared inner regional to outer regional and remote areas as this did not answer the question.

**Question 4**

- Low birth weight — those from low SES groups are more likely to have low birth weight babies, which contributes to a higher U5MR than found among high SES groups.
- Access to healthcare — those from low SES groups are less likely to access healthcare during pregnancy than those from high SES groups. This means that complications may go unnoticed, which can contribute to a higher U5MR.
- Education levels — are lower in low SES groups compared to high SES groups. This can mean that health promoting behaviours are not practiced during pregnancy, which can contribute to a higher U5MR.

**Question 5 (5 marks)**

- a. Around 30 per cent of Indigenous Australians assess their health status as fair or poor, compared to around 12 per cent of non-Indigenous Australians.
- b. *Examples*
  - Indigenous Australians are more likely to be obese, which can contribute to more people assessing their health as fair or poor compared to non-Indigenous Australians.
  - Indigenous Australians are more likely to be unemployed, which can contribute to more people assessing their health as fair or poor compared to non-Indigenous Australians.
  - Non-Indigenous Australians are more likely to have a high SES than Indigenous Australians, which could contribute to the difference in those assessing their health as fair or poor.

*Topic 4: Variations in health status between population groups*

- Indigenous Australians are more likely to experience psychological distress, which can contribute to more people assessing their health as fair or poor compared to non-Indigenous Australians.

## Topic 5: Changes in Australia's health status

### 5.2 Changes in Australia's health status over time

#### ANSWERS

#### 5.2 Exercise

##### Test your knowledge

1. Two health indicators used to measure health status within a country include life expectancy and infant mortality rates. Life expectancy refers to the number of years people are expected to live if current conditions remain the same. Infant mortality rates refer to the number of deaths of infants before their first birthday per 1000 live births. (4 marks)
2. The five broad categories of diseases that contribute to mortality patterns overtime are:
  - cardiovascular diseases – diseases that affect the heart and blood vessels in the body and interfere with the circulation of blood around the body
  - cancers (neoplasms) – this is the uncontrolled growth of abnormal cells. The site of the uncontrolled growth determines the type of cancer eg if the uncontrolled growth of cells occurs in the lungs, a person will suffer from lung cancer.
  - respiratory diseases – these are diseases that affect the lungs and other parts of the body that are involved in breathing. They include pneumonia, influenza and asthma.
  - infectious and parasitic diseases – These are diseases that can be transmitted from one person to another such as COVID-19, polio and TB.
  - injury and poisoning – this includes deaths from motor vehicle crashes, suicide, assaults, workplace accidents and complications from medical and surgical care. (5 marks)
3. The infectious diseases that were responsible for the increase in death rates in the early part of the twentieth century were:
  - diarrhoea
  - cholera
  - smallpox
  - polio
  - tuberculosis
  - measles
  - whooping cough
  - diphtheria
  - scarlet fever. (2 marks)
4. Cancer death rates reached their peak in the mid-1980s. This was due to an increase in lung cancer for which the uptake in cigarette smoking in the 1920s was responsible. (2 marks)
5. The two most significant types of circulatory diseases are:
  - ischaemic heart disease (coronary heart disease-heart attack)
  - cerebrovascular disease (mainly stroke). (2 marks)
6. Respiratory diseases are diseases affecting the lungs and other parts of the body that are involved in breathing. They include pneumonia, influenza, asthma and chronic obstructive pulmonary disease (COPD). (2 marks)
7. Death rates for injury and poisonings declined rapidly from 1970 when deaths from motor vehicle crashes were at their highest with 49 deaths for males per 100 000 population and 18 per 100 000 for females. The death rates fell to 14 and 6 per 100 000 for males and females respectively by 2000 mainly due to the range of public health actions that were introduced by the government, commencing with the introduction of the compulsory wearing of seatbelts in 1970. (4 marks)

8. Many deaths that occurred due to war are not represented in the data for injury and poisoning because deaths that occurred overseas were not counted as part of Australian official mortality statistics. (1 mark)
9. 'Danger money' is an additional allowance paid to people who agree to work in risky or hazardous environments. (1 mark)

### Apply your knowledge

10. Age profile of the population according to figure 5.2

- In 1900, young people aged 5–9 represented the highest percentage of the population. This was followed by those aged 10–14 and then 0–4. As people got older, they represented an increasingly lower percentage of the population.
- In 2000, people aged 35–39 represented the highest percentage of the population. As age groups got younger, they represented correspondingly lower percentages of the population. The percentage of older people in the population was significantly higher than in 1900.
- The reasons for the change in age profile in the population include increased life expectancy due to better living conditions and healthcare and lower fertility rates. This meant fewer babies were born but people were living longer. (6 marks)

11. Trends in death rates for respiratory diseases according to figure 5.9

- Death rates for respiratory diseases have decreased since 1907. However, in 1919 there was a massive spike in deaths for both males and females, increasing to over 500 deaths per 100 000 for males and 400 deaths per 100 000 for females. Deaths from respiratory diseases have always been higher for males than females, with an increase in deaths for males occurring between 1960 and 1980, compared to females.
- The reduction in deaths over time from respiratory diseases is due to improvements in living conditions and healthcare which has helped prevent deaths from diseases such as pneumonia, particularly in children. Deaths from asthma also decreased in the first part of the twentieth century.
- The spike in deaths in 1919 was due to the Spanish flu pandemic that killed many people, particularly children.
- Respiratory diseases were very common among workers in the mining industry, predominantly men. This contributes to the higher rates of respiratory diseases in males compared with females.
- The increased rates of smoking in males that occurred in the 1920s accounted for an increased number of deaths from diseases such as chronic obstructive disease in males in the 1960s to the 1980s.
- Males are more likely to smoke cigarettes than females, which is another reason why death rates for respiratory diseases are higher in males than females. (6 marks)

12. Changes in death rates for infectious and parasitic diseases between 1907-2018

Infectious and parasitic diseases were the most common cause of death in Australia in the first part of the twentieth century, contributing to 13 percent of all deaths. This was due largely to high rates of diarrhoea and diseases such as cholera, smallpox, polio, tuberculosis, measles, whooping cough and diphtheria which had the greatest impact on children. Death rates from both diarrhoea and tuberculosis fell dramatically over the twentieth century, and by 1960 contributed to less than 30 per 100000 population. In the last part of the twentieth century, other infectious diseases such as HIV/AIDS and hepatitis C were responsible for an increase in deaths from infectious and parasitic diseases.

These changing death rates were due to improvements in living conditions which saw better disposal of sewage, garbage and improved water supply. (6 marks)

- 13.

- a. The life expectancy of Angus John, born in 1918 would have been approximately 54 years of age whereas the life expectancy of James Michael, born in 2018 would have been expected to live until 80.7 years.
  - b. Diseases that were common in Australia during the first half of the twentieth century are different from those that Australians now face. Therefore Angus and James would experience quite different risks of diseases and injuries.  
Angus would have had a high risk of dying during infancy and childhood from a range of infectious diseases, such as diarrhoea, measles, cholera, smallpox, polio, tuberculosis, whooping cough, diphtheria and scarlet fever. Angus would have also been at high risk of contracting respiratory diseases due to poor living conditions.
- Surviving through to adulthood, he would then have faced a high risk of suffering or dying from circulatory diseases and cancers, due to the high rates of cigarette smoking.
  - James has a reduced risk of dying from infectious and parasitic diseases and injury and poisoning given improved living conditions he would experience. He could however, suffer from respiratory diseases such as asthma and will still be at risk of suffering or dying from a range of lifestyle diseases such as cancer, cardiovascular disease and obesity.
- (5 marks)

## 5.2 Exam questions

### Question 1

Source: VCE 2020, *Health and Human Development Exam*, Q.5; © VCAA

#### a. Sample response:

From 1890 to 2018 life expectancy at birth has continued to increase.

From 1890 to 2018 males have consistently had a lower life expectancy at birth than females.

Award 1 mark for each trend identified.

#### VCAA Assessment Report note:

This question required students to identify two trends evident in the graph.

Trends relate to patterns within the data. Stating, for example, the difference in life expectancy between males and females at one point in time did not answer the question. Increasing life expectancy for males and females over time relates to one trend and using, for example, the increase experienced by males and females as two separate answers did not show enough understanding for two marks. Using data was not required to be eligible for full marks.

The following is an example of a high-scoring response.

1. *Both male and female life expectancy at birth increases over time.*
2. *Female life expectancy is always higher than males throughout time.*

#### b. Sample response:

From 1890 to 2018 life expectancy at birth has continued to increase. This could be due to the introduction of the social model of health which involves providing people with the knowledge and skills so they are empowered to take control of their health and wellbeing and implement healthier behaviours to assist in increasing life expectancy. Old public health policies and practices to improve access to safe drinking water led to a reduction in deaths related to water-borne diseases which would have contributed to the increase in life expectancy between 1890 and 2018.

Award 1 mark for each reason provided for a trend identified in part a.

**VCAA Assessment Report note:**

Students received one mark for each reason they provided for one of their trends (from part 5a.) for a total of two marks.

The most common error was not linking specifically to life expectancy (or differences in mortality rates between males and females).

The following is an example of a high-scoring response.

*Life expectancy has overall increased for both males and females from 1890 to 2018. This may be due to vaccines which have prevented the spread and therefore death of diseases such as polio. Another reason maybe advancements in technology such as x rays which allow people to be scanned for their health problems and for them to be treated early. Therefore increasing life expectancy at birth.*

**Question 2**

Suggested answers could include:

- Age-standardised death rates for males have decreased since 1900. In 1900 the age-standardised death rate for males was approximately 2300 deaths per 100 000 population, compared to approximately 700 deaths per 100 000 population in 2013.
- Age-standardised death rates for females have decreased since 1900. In 1900 the age-standardised death rate for females was approximately 2000 deaths per 100 000 population, compared to approximately 500 deaths per 100 000 population in 2013.

**Question 3**

Valid reasons could include:

- introduction of compulsory seatbelts in 1970
- improved working conditions for workers and the introduction of 'work safe' practices
- laws developed to ensure pools and spas are fenced to prevent drowning-related injuries.

**Question 4**

Valid reasons could include:

- improvements in water quality and sanitation
- introduction of immunisations for infectious diseases such as measles and whooping cough
- improved food supply
- introduction of maternal and child health services
- improved housing conditions.

**Question 5**

Gastroenteritis, diphtheria, scarlet fever, whooping cough and measles are examples of infectious diseases.

### 5.3 Policy and practice relating to the 'old public health' and Australia's health status

#### ANSWERS

##### 5.3 Activities

**Life. Be in it. worksheet**

- a. The focus of the campaign was to reduce the level of obesity in the Australian population.

- b. The diseases that were identified as being of concern were heart disease, stroke and diabetes.
- c. The government developed this public health campaign because lifestyle diseases such as heart disease, diabetes and stroke became more common during the 1950s and 1960s.
- d. The public health advice that was provided in this campaign was to eat less, eat a balanced diet and exercise more.
- e. Students can provide reasons to support their view that the campaign would have been effective in bringing about behaviour change; would not have been effective; or a blend of both.

*A sample answer*

The campaign would have been successful in raising awareness of the dangers of obesity and, with two simple messages, it would have been easy to understand. The campaign also uses humour, which might have attracted people's attention so they listened to or watched it. However, the campaign doesn't tell viewers how to eat healthily or what a healthy diet looks like. In a similar way, the campaign doesn't provide information about the type of exercise or for how long people should exercise if they are to improve their health.

### 5.3 Exercise

#### Test your knowledge

1. Public health is concerned with the organisation and collective effort to improve the health of the entire population. It refers particularly to the ways in which governments monitor, regulate and promote health and prevent illness. (2 marks)
2. The 'old public health' refers to actions taken by the government that focused on improving the physical environment. They included the establishment of government-funded water and sewage systems so people had clean water to drink, better sanitation, improved nutrition, improved housing conditions and better work conditions. (2 marks)
3. Factors that led to the introduction of policies and practices associated with the old public health were that pressure was placed on governments to take action to improve people's health. This was due to the living conditions that existed at the time. Access to clean water and sanitation facilities were minimal and little was known about good hygiene practices. Garbage and waste littered the streets which attracted 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. (3 marks)
4. The public health measure that was introduced by the Commonwealth Government in response to the outbreak of the bubonic plague in 1900 and helped contain the spread of COVID-19 in Australia is the introduction of quarantine laws. (1 mark)
5. The discovery of vaccines influenced public health policy and practice. The success of vaccines in reducing mortality from a range of infectious diseases led to the government undertaking mass vaccinations in the 1930s for diphtheria; in the 1950s for pertussis, tetanus and poliomyelitis; and in the 1960s for measles. (2 marks)
6. Publicly funded health promotion campaigns were introduced in the early 1970s as a result of the emergence of lifestyle diseases during the 1950s and 1960s. (1 mark)

#### Apply your knowledge

7. Students are only required to provide a brief summary of the contribution to improvements in Australia's health and they will provide greater detail in question 8 below.

Example of old public health policy	Contribution to improvements in Australia's health
Better quality food and nutrition	Children in particular had better functioning immune systems that enabled them to fight

	infection and disease or to better recover from them
Better quality housing and fewer slums	Reduction in diarrhoeal deaths and infectious diseases
Introduction of quarantine laws	Reduced the rate of infectious diseases particularly those coming in from other places
Improved water and sanitation	Reduction in deaths from diarrhoeal diseases and improved infant mortality rates
More hygienic birthing practices	Fewer deaths during birth and improvements in maternal and infant mortality rates.

8. Students can select any three policies or practices that were introduced as part of the old public health and provide a more detailed discussion of how they contributed to improvements in Australia's health status.

Policies and practises associated with the old public health	Contribution to improvements in Australia's health status
Improved water and sanitation.	<ul style="list-style-type: none"> <li>This provided people with clean water to drink and removed garbage and waste from the streets, contributing to a reduction in deaths from infectious diseases such as diarrhoea, typhoid and cholera.</li> </ul>
Quarantine Laws	<ul style="list-style-type: none"> <li>Prevented the arrival and transmission of infectious diseases from other countries, in particular the bubonic plague.</li> </ul>
Elimination of housing slums and introduction of better-quality housing	<ul style="list-style-type: none"> <li>Reduced deaths from respiratory diseases, such as pneumonia, and infectious diseases, such as typhoid, cholera and diarrhoea.</li> </ul>
Improved food and nutrition	<ul style="list-style-type: none"> <li>Reduction in deaths from stomach cancer. The School Milk Program was introduced after World War I which saw milk being provided to school children to reduce protein and calcium deficiencies.</li> <li>Improved nutrition resulted in better physical health and wellbeing as children and adults had better resistance to infectious and respiratory diseases and were able to more quickly recover from them.</li> </ul>
More hygienic birthing practices	<ul style="list-style-type: none"> <li>This contributed to a reduction in maternal and infant mortality rates.</li> </ul>

(6 marks)

1. A timeline of public health actions that were introduced between 1900 and 1970

Public health action	Date of introduction
Establishment of strict quarantine laws	1900 (old public health)
Government funded water and sewage systems to provide clean water, sanitation, improved nutrition, better housing conditions and better work conditions.	Early 1900 (Old public health)
Tuberculosis and venereal disease campaigns were introduced	1915–21 (old public health)
First commonwealth Department of Health was established to provide funds for health research and data collection.	1921
Mass vaccinations for diphtheria, in the 1950s for pertussis, tetanus and poliomyelitis and in the 1960s for measles.	1930s (Old public health)
Infant welfare centres were operating in Victoria	1937
Mass vaccinations for pertussis, tetanus and poliomyelitis and in the 1960s for measles.	1950 (Old public health)
Mass vaccinations for measles.	1960 (Old public health)
Implementation of publicly funded health promotion campaigns.	Early 1970

(6 marks)

### 5.3 Exam questions

#### Question 1

Old public health focused on nutrition, immunisation programs and quarantine.

#### Question 2

The establishment of infant welfare centres saw a significant decrease in infant mortality rates.

#### Question 3

'Life: be in it' was a health promotion campaign designed to encourage people to become more active to prevent lifestyle diseases. Encouraging people to get off the couch improves health status as people will be more active, which will help maintain a healthy weight. This can reduce morbidity and mortality from lifestyle diseases linked to being overweight and obese, such as cardiovascular disease and type 2 diabetes.

#### Question 4

Examples of old public health could include:

- development of quarantine practices
- development of immunisation programs
- development of safe water and sewerage systems.

#### Question 5

Lifestyle diseases include:

- cardiovascular disease
- type 2 diabetes
- obesity
- lung cancer.

## 5.4 The biomedical approach to health

### ANSWERS

#### 5.4 Exercise

##### Test your knowledge

1. The biomedical approach to health involves diagnosing and treating illnesses and conditions 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. (2 marks)
2. The biomedical approach is sometimes called the ‘band aid’ or ‘quick-fix’ approach because it waits for an individual to become ill before working to return them to their pre-illness state. It does not focus on preventing ill health. (1 mark)
3. The biomedical approach places pressure on the healthcare system because it tends to rely on expensive medical technology that accounts for a large part of the healthcare budget. (1 mark)
4. The discovery of antibiotics contributed to a reduction in death rates from infectious diseases such as pneumonia, venereal disease and syphilis. The discovery of penicillin as a form of antibiotic helped reduce morbidity and mortality associated with infections. It also contributed to a decline in maternal mortality as many women had died from infections during childbirth. It therefore helped to bring about changes in the patterns of disease and illness. (2 marks)
5. *Advantages of the biomedical approach to health include the following:*
  - *It creates advances in technology and research.* Without the biomedical approach to health, there would be no x-rays, antibiotics or anaesthetics. There would also be relatively little knowledge about how to diagnose and treat illness.
  - *It enables many common problems 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 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.
  - *It improves quality of life.* Many chronic conditions can be managed with medication, therapy or surgery. These interventions can improve the level of health and wellbeing experienced by many individuals.

*Disadvantages of the biomedical approach to health include the following:*

- *It relies on professional health workers and technology and is therefore costly.* As individuals are the focus of this approach, people with specialist knowledge about 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.
- *It doesn't always promote good health and wellbeing.* The biomedical approach encourages a reliance on quick-fix solutions to health issues. As the focus is on the condition itself rather than the determinants 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; however, 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.
- *Affordability.* 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. (6 marks)

### Apply your knowledge

6. How the biomedical approach and technology have contributed to improvements in health in 1900 in relation to cardiovascular diseases:
- The introduction of the sphygmomanometer and stethoscope in 1910 enabled doctors to measure blood pressure for the first time.
  - In 1941 new X-ray techniques enabled doctors to view the action of the heart using dye inserted into a blood vessel.
  - 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, which helped relieve pain, improve individual's quality of life and decrease mortality.
  - The development of antihypertensive drugs helped reduce mortality from cardiovascular disease by managing hypertension. (4 marks)
7. Factors that led to the dominance of the biomedical approach were an increased interest in diseases, what caused them, and the ways to diagnose and treat them during the 1950s and 1960s. This led to an increased demand for hospital and medical care. Treatment now involves skilled diagnosis and the use of complex and expensive medical technology.
- The disadvantages associated with this were the increasing reliance on expensive medical technology which places considerable financial pressure on the healthcare system. As a result, technology accounts for a large proportion of the healthcare budget. (4 marks)
8. The advantages of technology that has been developed to keep very pre-term babies alive are:
- A reduction in grief and sadness for the family because the baby can survive. Sometimes grief and sadness experienced after the death of a baby can lead to the break-up of families and long-term mental health issues.
  - When these babies survive, they will contribute to improved health and human development for families, communities and governments.
- The disadvantages of technology used to keep pre-term babies alive include:
- The enormous cost to the healthcare system. These babies must be kept on resuscitators and are hospitalised for many months, which is very expensive for the healthcare system.
  - Very pre-term babies may suffer ill health and developmental delay for their entire lives, which means ongoing costs are being put onto the healthcare system or into care for those who need to provide support for these children into adulthood and beyond. (4 marks)

### 5.4 Exam questions

#### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.8.d (adapted); © VCAA

Due to the medical technologies and resources involved in the biomedical approach to health, not all individuals will be able to afford to access them.

There are still a number of conditions that cannot be treated or managed using the biomedical model of health thereby not allowing optimal health to be achieved.

Award 1 mark for each disadvantage of the biomedical model outlined for a maximum of two marks.

#### VCAA Examination Report note:

This question required students to outline two disadvantages of the biomedical model. No marks were awarded if the disadvantage was simply identified. For example, 'it is expensive' is an identification of a disadvantage, whereas 'it relies on medical professionals and technology and can therefore be expensive' reflects an outline of the disadvantage.

Other disadvantages included:

- Education on how to prevent diseases and promote health is generally absent and people may still suffer from a disease before it can be treated.
- The focus is on the disease, not behavioural or sociocultural factors that could lead to its development, so individuals are not empowered to take responsibility for their health.

Not every condition can be treated, nor effectively managed once diagnosed, so reliance on this model may not prolong life.

### Question 2

Source: VCE 2010, *Health and Human Development Exam, Section A, Q.7; © VCAA*

Major characteristics may include:

- It is a medical model of care practised by doctors and/or health professionals.
- It is associated with the diagnosis, cure and treatment of disease.
- It focuses on an individual's health rather than the health of the population.
- It focuses on the physical or biological aspects of disease and illness.

### Question 3

Source: VCE 2009, *Health and Human Development Exam, Q.4.b; © VCAA*

Examples may include:

- the use of x-rays for diagnosis and treatment
- antibiotics and other medications
- blood tests
- surgery
- transplants

## 5.5 Development of new public health and the social model of health

### ANSWERS

#### 5.5 Exercise

##### Test your knowledge

1. New public health or the social model of health is an approach to health that considers the significant role that factors — such as socioeconomic status, access to healthcare and social connectedness — play in bringing about improved health status. If these factors can be addressed, many diseases and illnesses could be prevented altogether. (2 marks)
2. New public health was developed because it became apparent that, while people were aware of behaviours that contributed to poor health and wellbeing, not everyone was able to change their behaviour. Inequalities in health and wellbeing continued to increase and it became evident that there are many factors, often beyond the control of an individual, that can affect health and wellbeing — particularly the physical, sociocultural and political environments. New public health focused on changes that could be made to people's environment as a way to improve health and wellbeing. (3 marks)
3. *The five principles of the social model of health*
  - *Addresses the broader determinants of health*  
Behavioural factors/determinants, such as reducing tobacco smoking and food intake, are an important part of improving health and wellbeing. These factors are often influenced by other, broader determinants such as gender, culture, race or ethnicity, socioeconomic status, geographical location and the physical environment. This principle focuses on the determinants that sit outside the control of the individual.
  - *Involves intersectoral collaboration*

This is when government and non-government organisations who have an influence over the sociocultural and environmental factors/determinants that influence health status work together to promote health and wellbeing. They consider how policies made in each sector can impact health and wellbeing. Examples include the employment, education and finance sectors, as well as the private sector, such as service providers and manufacturers who sit outside the health system.

- *Acts to reduce social inequities*

This principle addresses the social factors/determinants that contribute to inequities in health status. They include gender, culture, race, socioeconomic status, access to healthcare, social exclusion and the physical environment.

- *Acts to enable access to healthcare*

This principle addresses the social and environmental factors/determinants that reduce access to healthcare for all people. They include cultural and language barriers, economic and geographical factors, and education levels.

- *Empowers individuals and communities*

This principle aims to empower individuals and communities so they can participate in decisions made about their health and wellbeing. When people have the knowledge and skills needed to make changes to their health, they feel more empowered to make positive changes to their health. (10 marks)

4. *Advantages of the social model of health* (any three of the following)

- *It promotes good health and wellbeing and assists in preventing diseases.* As the social model focuses on the broader determinants of health, it can prevent conditions from developing in the first place, therefore improving health status.
- *It promotes overall wellbeing.* As the social model doesn't just focus on diseases that are present, it has the potential to promote the overall health and wellbeing of individuals.
- *It is relatively inexpensive.* Although health promotion programs can cost millions of dollars to implement, the investment is often significantly cheaper than treating conditions once symptoms arise.
- *It focuses on vulnerable population groups.* As it focuses on promoting equity, many disadvantaged groups are the target of health promotion programs, including Indigenous Australians, 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. This knowledge can be passed on to future generations, promoting sustainable improvements in health status.
- *The responsibility for health is shared.* The social model 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.

*Disadvantages of the social model of health* (any three of the following)

- *Not every 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.* As 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 health status in the population.
- *Health promotion messages may be ignored.* The social model of health relies on the cooperation of the public. If people choose to ignore the health messages provided, health and wellbeing may not improve. (6 marks)

5.

<b>Example of intervention for measles</b>	<b>Biomedical (B) or Social (S)</b>	
	<b>B</b>	<b>S</b>
All children enrolling in primary school must be immunised.		✓
Free measles vaccinations are provided for all children.		✓
Antibiotics 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.		✓

(6 marks)

**Apply your knowledge**

6. *Factors that may exist outside the control of individuals that could impact on health and wellbeing:*
- *Gender*  
The factors that determine health and wellbeing and ill health are different for men and women. Males and females have biological differences and different gender roles, so they experience different patterns of health and wellbeing and illness. Some conditions, such as endometriosis, affect only women; others, such as depression, are more prevalent in women; and some conditions, such as heart disease, are more common in men.
  - *Culture*  
Culture plays an important role in how health and wellbeing is viewed as well as beliefs about medical care and treatment, the role of family members, gender roles in the community (especially of women) and beliefs about food and diet. Culture also includes religious practices. All these factors are associated with culture and can influence health and wellbeing.
  - *Race*  
A person's race or ethnicity can influence body types and composition, including the deposition of fat and types of muscle tissue. Some races are also more susceptible to some diseases. Disadvantages in health compared exist for many groups such as the Indigenous community and Pacific Islanders.
  - *Socioeconomic status*  
Those from low socioeconomic status are known to experience lower levels of health. This can be due to occupational risks such as working in higher risk jobs, lack of money to purchase healthy food, medical care and shelter. Low SES is also associated with lower levels of educational achievement. These can all have an impact on levels of health and wellbeing.
  - *Access to healthcare*  
Without access to healthcare, people are more likely to die from a range of diseases. This is due to less access to treatment for acute illnesses, less access to early diagnosis and treatment options and less access to preventative care and services.
  - *Social exclusion*  
Mental, social and spiritual health and wellbeing is often much lower for people who are excluded or who are unable to participate in the society in which they live. Social isolation can occur because of disability, family breakdown, homelessness or low income.
  - *Physical environment*  
The quality of the surroundings in which we live and work — such as the quality of the air we breathe, the water we drink and the house we live in — can all impact on our health. In addition, hazardous working conditions can contribute to higher rates of morbidity and mortality than for those working in less hazardous jobs. (8 marks)
7. The biomedical and social models of health view health, wellbeing and illness from different perspectives.

- The social model of health considers the role that factors such as socioeconomic status, access to healthcare and social connectedness play in bringing about improved health status. The focus is on addressing these social determinants as a way of preventing many diseases and illnesses. The model adopts a population or community development approach as opposed to the individual focus of the biomedical approach. Policies, education and health promotion activities are key aspects of this model.
  - The biomedical model of health focuses on the physical or biological aspects of disease and illness and involves diagnosing and treating illnesses and conditions once symptoms are present. (4 marks)
8. The biomedical and social models of health are both important in bringing about improvements in health in each of the five broad categories of diseases shown in the table below. Examples could include:

Category of disease	Contribution of the biomedical model of health	Contribution of the social model of health
Infectious and parasitic	<ul style="list-style-type: none"> <li>• Technology to diagnose these diseases</li> <li>• Antibiotics and penicillin to treat infectious and parasitic disease</li> </ul>	<ul style="list-style-type: none"> <li>• Exclude children from school if they suffer from these diseases to prevent their spread</li> <li>• Conduct free vaccinations for children and adults to build immunity and prevent these diseases</li> </ul>
Cancers	<ul style="list-style-type: none"> <li>• Technology to conduct biopsies, X-rays and MRI scans to diagnose cancer</li> <li>• Chemotherapy and radiotherapy to treat cancer</li> <li>• Surgery to remove cancerous cells</li> </ul>	<ul style="list-style-type: none"> <li>• Use health promotion campaigns such as Quit and SunSmart to encourage people to undertake behaviours that will prevent the development of cancer</li> <li>• Make changes to the environment in which people live and work to reduce exposure of people to cancer-causing substances</li> <li>• Introduce laws and policies that help people to make healthy decisions such as increasing the cost of tobacco, unhealthy food and alcohol</li> </ul>

Cardiovascular diseases	<ul style="list-style-type: none"> <li>• Technology to diagnose problems with the cardiovascular system</li> <li>• Heart transplants</li> <li>• Open heart surgery to repair blockages in the arteries</li> <li>• Medication to reduce blood pressure, cholesterol levels and blood thinners</li> </ul>	<ul style="list-style-type: none"> <li>• Use health promotion campaigns designed to encourage people to consume a healthy diet, to not smoke and to exercise more</li> <li>• 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</li> </ul>
Respiratory diseases	<ul style="list-style-type: none"> <li>• Technology to diagnose respiratory diseases</li> <li>• Antibiotics to treat respiratory infections</li> <li>• Ventolin and oxygen to manage the impact of respiratory diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Use health promotion campaigns such as Quit to encourage people to give up or never take up smoking</li> <li>• Make changes to the environment in which people live and work to reduce exposure of people to air contaminants</li> </ul>
Injury and poisoning	<ul style="list-style-type: none"> <li>• Technology to diagnose and treat those who suffer from injuries and poisoning</li> <li>• Surgery to repair broken bones or to treat damage to the body from accidents</li> <li>• Antibiotics to prevent infection following an injury</li> </ul>	<ul style="list-style-type: none"> <li>• Use health promotion campaigns such as Kidsafe to provide a safe environment for children</li> <li>• 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</li> <li>• Use road safety campaigns to encourage safe driving</li> <li>• Improve the safety of the roads to prevent road crashes</li> </ul>

(10 marks)

## 5.5 Exam questions

### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.2; © VCAA

- a. Acts to reduce social inequities refers to addressing the sociocultural factors that can contribute to inequities, such as culture. The Bush Classroom project incorporates the traditions and beliefs of male Indigenous Australian culture, such as hunting, fishing, dancing and music, with education and counselling opportunities held on culturally significant sites to help improve their health status.

Award 1 mark for accurately identifying a principle of the social model of health.

Award 1 mark for explaining how it is reflected in the Bush Classroom project using evidence from the stimulus material.

**VCAA Examination Report note:**

Most students who correctly identified a principle of the social model of health were able to explain how it was reflected in the case study. Some students changed the wording of the principle and therefore changed its meaning. For example, 'Addresses the broader determinants' and 'Addresses the broader dimensions of health' were used in place of 'Addresses the broader determinants of health'. These responses did not receive marks.

Other principles reflected are:

- Empowers individuals and communities
- Involves intersectoral collaboration
- Acts to reduce social inequities
- Enables access to healthcare.

The following is an example of a high-scoring response.

Acts to enable access to healthcare: the Bush Classrooms project aims to help Aboriginal men access 'modern health services' by making healthcare more culturally appropriate to them (to address their 'shame and lack of confidence').

**b.** Life expectancy is approximately ten years less for Indigenous Australians compared to non-Indigenous Australians.

Indigenous Australians have higher mortality rates due to injury than non-Indigenous Australians.

Award 1 mark for each example of a difference in health status between Indigenous people compared to non-Indigenous people.

Students must reference both population sub-groups to be awarded the marks and should include a health indicator in each answer.

**VCAA Examination Report note:**

This is a comparison question that required students to make reference to both Indigenous and non-Indigenous Australians in their answer. Students were not expected to memorise data but should have been able to provide a general difference in health status between population groups. There are many differences in health status that students could draw on to answer this question, including differences in life expectancy, infant mortality, maternal mortality and morbidity, rates of specific diseases and health problems (such as obesity, mental health issues, cardiovascular disease, type 2 diabetes and kidney disease). Note that higher rates of high body mass index among Indigenous Australians compared to non-Indigenous Australians represents a difference in a biological factor, not a difference in health status. Reference should have been made to higher rates of obesity to receive a mark in this instance.

**Question 2**

Source: VCE 2018, *Health and Human Development Exam*, Q.2; © VCAA

**a.** New public health is an approach to health that expands on the traditional focus of individual behavioural change to one that considers the ways in which the physical, sociocultural and political environments impact on health.

It is also known as the social model of health.

**VCAA Examination Report note:**

This question was answered reasonably well, with many students being able to explain the 'new' public health. The most common error was not providing sufficient detail in the explanation and this prevented many students from being awarded full marks.

**b.** New public health involves health promotion that reflects the elements of the social model of health. Health promotion such as the various TAC campaigns empowers individuals and communities to become safer drivers on the roads through the development of skills and knowledge such as speed kills. The TAC road safe campaigns also involve inter-sectorial collaboration through different government and non-government agencies working together to ensure safer roads and cars. If roads are safer and people have the skills to be safer drivers there should be less road trauma causing death contributing to improvements in life expectancy over time.

**VCAA Examination Report note:**

Many students found the application of an example of 'new' public health to improvements in health status difficult, with many selecting an example of a biomedical approach. Where students could identify one example of the 'new' public health, they were often able to explain it but not discuss how it could have contributed to improvements in life expectancy over time. Students who chose other health campaigns such as SunSmart, Road Safety or Quit were better able to answer this question.

The following is an example of a high-scoring response.

New public health may have contributed to health status improvements in many ways, one being through health promotion campaigns. By promoting healthy behaviours and educating people on the effects of unhealthy behaviours such as smoking, people gain a greater level of health literacy, empowering them to take control of and improve their own health. By knowing the adverse effects of smoking, people are less likely to smoke, reducing prevalence of cardiovascular disease and improving life expectancy.

**Question 3**

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

Involves inter-sectorial collaboration — this principle is reflected in the Victorian workplace mental wellbeing collaboration project as 'VicHealth, SuperFriend and WorkSafe Victoria have formed a collaboration to help workplaces create positive and supportive cultures and environments'. This is an example of inter-sectorial collaboration as groups outside the health sector are working together to improve health outcomes.

**VCAA Examination Report note:**

Students needed to identify one principle of the social model of health that was evident in the project and explain how it was reflected. Many students were unable to identify a principle. Students who did identify a principle tended to describe it rather than explain how it was reflected in the project. Students who chose 'acts to reduce social inequities' or 'acts to enable access to healthcare' had difficulty linking this to the project.

The following are possible examples.

- Empowers individuals and communities. The project is empowering individuals and communities by helping develop the knowledge and skills necessary to provide a positive and supportive workplace. This includes developing positive leadership style, designing jobs, work-life demands, communication skills and developing employees.

- Addresses the broader determinants of health. This project seeks to address the social environment in which people work to improve their health. This includes creating a positive and supportive culture and environment by providing recognition and reward for individual workers and teams, which helps build a positive sense of community and connection with others and builds self-esteem.

#### Question 4

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

Empowers individual and communities

- The Men's Shed teaches men new skills such as woodworking and the restoration of old furniture. This allows participants to feel good about themselves which is empowering and provides control over their own health.

Involves intersectorial collaboration

- The Men's Shed is funded by the Federal Government and run by local communities, illustrating groups working together to improve men's health.

**VCAA Assessment Report note:**

Many students found this question difficult because they didn't know the principles of the social model of health. In some cases, students who accurately identified the principles found it difficult to make explicit how they were evident in the Men's Shed initiative.

#### Question 5

Source: VCE 2011, *Health and Human Development Exam*, Section B, Q.3.c.ii; © VCAA

Any two of the following could be chosen:

- address broad determinants of health beyond the individual
- involve intersectorial collaboration with other sectors
- aim to reduce social inequities
- empower individuals and communities.

**VCAA Assessment Report note:**

Many students wrote sectorial instead of intersectorial, and inequalities for inequities. The correct principles should be learned.

## 5.6 The Ottawa Charter for Health Promotion

### ANSWERS

#### Case study review: The WHO's health promotion logo

1. The logo represents a circle with three wings. It incorporates five key action areas in health promotion (build healthy public policy, create supportive environments, strengthen community action, develop personal skills, and reorient health services) and three basic health promotion strategies (enable, mediate and advocate).
2.
  - a. The wing is breaking the circle to symbolise that society and communities as well as individuals are constantly changing and, therefore, the policy sphere has to constantly react and develop to reflect these changes: a 'Healthy Public Policy' is needed.
  - b. Examples of healthy public policies include:
    - internet usage policies

- cyber-bullying laws
- canteen policies (aimed at decreasing obesity levels)
- gambling laws
- gaming classification laws
- tobacco laws
- alcohol policies.

#### The Ottawa Charter in action — My Health for Life

1. The aims of the My Health for Life program are to help people living in Queensland to stay well and reduce their risk of developing conditions such as type 2 diabetes, heart disease, stroke, high cholesterol and high blood pressure.
2. This program is important because these diseases are major burdens of disease in Australia and the program is seeking to prevent them from occurring.
3. The action area of the Ottawa Charter not represented in the program is *Build healthy public policy*
4. How the My Health for Life program reflects four of the areas of action of the Ottawa Charter:

Area of action of Ottawa Charter	How it is represented in the LiveLighter program
Create supportive environments	<ul style="list-style-type: none"> <li>• Over a period of six months participants work with a health coach to achieve their health goals.</li> <li>• Participants can work in small group sessions, or one-on-one phone coaching where they develop an action plan to achieve their health goals.</li> <li>• The first coaching session is a one-on-one appointment to gain an understanding of the participant's needs and goals with further fortnightly sessions being run to support participants to meet their health goals. A 12-week break is provided between sessions five and six where participants put into practice what they've learnt.</li> <li>• Participants are supported by a range of resources available on an online portal, peer support via online platforms, a manual and workbook to track progress, emails after each session with a review of what was covered and a reminder about at-home activities.</li> <li>• 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.</li> </ul>
Strengthen community action	<ul style="list-style-type: none"> <li>• The program is delivered by an alliance of health organisations.</li> <li>• 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.</li> </ul>

Develop personal skills	<ul style="list-style-type: none"> <li>Participants learn how to break goals into small achievable steps, learn how to incorporate physical activity into everyday movement, learn how to make healthy food choices and create strategies to overcome hurdles when they arise.</li> <li>Participants develop an understanding of their personal risk of developing health conditions and how to make healthier choices a part of everyday life.</li> </ul>
Reorient health services	<ul style="list-style-type: none"> <li>Funding has been provided to implement a program to prevent these diseases from occurring and to remain in good health rather than focusing on a curative and biomedical approach.</li> </ul>

## 5.6 Exercise

### Test your knowledge

- Health promotion is the process of enabling people to increase control over, and to improve, their health. (1 mark)
- The Ottawa Charter was developed to guide government and non-government organisations in the development of health promotion strategies (the social model of health). (1 mark)
- The three strategies in the Ottawa Charter are:
  - Advocate* — advocacy for health and wellbeing refers to actions that aim to gain support from governments and societies in general to make the changes necessary to improve the factors that influence health and wellbeing for everyone.
  - Enable* — people cannot achieve optimal health and wellbeing unless they are able to take control of those things that determine their health and wellbeing. This must apply equally to women and men, Indigenous and non-Indigenous people, those in low and high socioeconomic groups, and those living within and outside of major cities. ‘Enable’ relates to making the determinants of health favourable for all people.
  - Mediate* — different groups have different wants and needs. Mediating relates to helping different groups resolve conflict and produce outcomes that promote health and wellbeing. (6 marks)
- The five action areas of the Ottawa Charter are:
  - Build healthy public policy* — this relates directly to the decisions made by government and organisations in relation to laws and policies that affect health and wellbeing. Examples include removing the goods and services tax (GST) on unprocessed foods (which are healthier options than processed foods) and increasing the tax on certain alcoholic drinks.
  - Create supportive environments* — a supportive environment is one that promotes health and wellbeing by being safe, stimulating, satisfying and enjoyable. Supportive environments promote health and wellbeing by helping people practise healthy behaviours.
  - Strengthen community action* — this action area focuses on building links between individuals and the community and centres around the community working together to achieve a common goal.
  - Develop personal skills* — education is the key aspect of this action area. Education refers to gaining health-related knowledge.
  - Reorient health services* — this action area refers to reorienting the health system so that it promotes health and wellbeing as opposed to focusing only on diagnosing and treating illness, as is the case with the biomedical model. (10 marks)

### Apply your knowledge

- For each example the most appropriate column is: (6 marks)

Example	Build healthy public policy	Create supportive environments	Strengthen community action	Develop personal skills	Reorient health services
The new nutrition facts label will now 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					✓
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				✓	

#### 6. How the Ottawa Charter reflects the principles of the social model of health

- *Build healthy public policy* is closely aligned to the principle of the social model of health that relates to intersectoral collaboration. Build healthy public policy recognises that decisions made by governments and other organisations in relation to laws and policies affect health and wellbeing. In a similar way intersectoral collaboration recognises that partnerships with a range of organisations are important for the promotion of health and wellbeing.
- *Create supportive environments* reflects the principle of the social model of health that addresses the broader determinants of health. Supportive environments assist people to achieve good health and wellbeing by creating healthy physical and social environments for all members of the community. It recognises factors beyond individual behaviour that have an impact on health and wellbeing.
- *Strengthen community action* is closely aligned to the principle of intersectoral collaboration as well as acting to reduce social inequities. Strengthening community action focuses on building links between individuals and a range of community organisation and governments (a range of sectors) who work together to achieve a common goal around promoting health and wellbeing. The more people who work together, the more likely it is to achieve success and promote health and wellbeing. Strengthening community action helps reduce social

inequities by involving all individuals and population groups in developing strategies to promote health and wellbeing.

- *Developing personal skills* is aligned to the principle of empowering individuals and communities. Educating people and building their health literacy helps empower people to be able to participate in the decisions that affect their health and wellbeing. Greater health literacy helps develop a greater sense of power and control over their situation.
  - *Reorient health services* is aligned to acting to enable access to healthcare. By reorienting health services away from a curative to a more preventative approach, and one which promotes health, barriers such as cultural and language barriers, economic barriers and education levels are more likely to be addressed. (10 marks)
- 7.
- a. *How the Ottawa Charter could be used to reduce the incidence of skin cancer*
    - *Build healthy public policy* — no hat no play policies introduced into schools
    - Create supportive environments — plant trees and erect shade structures to allow people to find shade easily
    - *Strengthen community action* — involve schools, parents, sporting and other community groups in promoting sun smart behaviours
    - Develop personal skills — teach parents and children how to correctly apply sunscreen and educate them on the importance of staying out of the sun and reapplying sun screen at regular intervals.
    - *Reorient health services* — doctors routinely undertake skin checks and discuss sun smart behaviours when people come in for an appointment. (5 marks)
  - b. *How the Ottawa Charter could be used to reduce the incidence of respiratory diseases*
    - *Build healthy public policy* — banning smoking in cars and in the home to reduce exposure of children to cigarette smoke
    - *Create supportive environments* — ensuring that homes and schools are free from plants that are known to cause asthma in children and adults
    - *Strengthen community action* — involve schools, parents, community groups and the media to work together to take action to reduce exposure of children to tobacco smoke and to triggers that bring about asthma attacks in children
    - *Develop personal skills* — provide education to parents, teachers and the wider community on the relationship between smoking and asthma and the types of plants and activities that are likely to bring about an asthma attack so these can be avoided and people can make healthy choices
    - *Reorient health services* — ensure that doctors educate adults on the dangers of smoking and refer those who smoke to programs such as the Quit campaign to assist them to stop smoking. (5 marks)

## 5.6 Exam questions

### Question 1

Source: VCE 2018, Health and Human Development Exam, Q.11.a; © VCAA

For health promotion to be effective, all action areas of the Ottawa charter should be represented. Although building healthy public policy is evident in taxing soft drinks, this alone will not be sufficient to cause a decrease in obesity levels. Effective health promotion requires people to develop personal skills. That is, they need the knowledge to know how to reduce the causes of obesity and also the skills to do this. For example, people may reduce their consumption of soft drink if they are more aware of the dangers of sugary drinks to their health. Effective health promotion also requires a supportive environment. It is much easier to control weight if sugary foods are less available, such as limiting the availability of sugary drinks and foods at school canteens and work places. Obesity rates should decrease if community groups work together to reduce the consumption of sugary foods and promote the benefits of exercise. Through strengthening community action, schools, sports groups and local governments can promote the benefits of healthy eating and physical activity. Effective

health promotion also requires medical professionals to promote the benefits of physical activity and healthy eating. By reorienting health services people are more likely to change their behaviour and adopt a healthier lifestyle to reduce obesity risks, if encouraged by a medical professional.

**VCAA Examination Report note:**

Students who understood the principles of effective health promotion or the challenges associated with bringing about dietary change were able to explain why the taxing of soft drinks is not the only solution to the obesity epidemic. Some students provided a description of the action areas of the Ottawa Charter without linking to obesity. Overall, this question was not answered well.

**Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.7.c; © VCAA

Chronic condition — asthma

Create a supportive environment — schools could be encouraged to remove trees and other asthma triggers such as carpet from their buildings and grounds. This will help support asthma sufferers and may reduce the condition if asthma triggers are reduced in their environment.

Developing personal skills — if people have the skills and knowledge to change their behaviour, they are more likely to do so. If people are educated on how to reduce the risk of asthma attacks by reducing exposure to triggers such as pet hair, grasses and pollens, then the incidence of asthma may reduce.

For each action area of the Ottawa Charter chosen:

**VCAA Examination Report note:**

Many students could accurately state two action areas of the Ottawa Charter but had difficulty applying them to the chronic disease they had selected. A common error was to describe the action areas that had been chosen without explaining how they would address the chronic disease. Some students were unable to accurately name the action areas.

The following is an example of a high-scoring response.

*Governments could develop laws and regulations on sugary and processed foods (Build healthy public policy) to reduce consumption of foods high in fat, salt and sugar which could reduce weight gain and obesity, as well as impaired glucose regulation, reducing incidence of diabetes (type 2).*

*Reorient health services-doctors and health professionals could take on an educating role rather than just treating diabetes, advising overweight or obese patients to lose weight to prevent development of diabetes. Nurses could also go to schools and educate primary and secondary children about maintaining a healthy weight to prevent diabetes.*

**Question 3**

Source: VCE 2014, *Health and Human Development Exam*, Q.10; © VCAA

a.

i.

- create supportive environments
- develop personal skills

- reorient health services
- build healthy public policy
- strengthen community action.

**VCAA Assessment Report note:**

Most students were able to accurately identify two of the priority action areas of the Ottawa Charter.

ii. Create supportive environments — this was done through encouraging children to walk to and from school and making it a school focus. It will be easier for children to walk to school if others from the school are also doing this.

Developing personal skills — the program was designed to raise awareness of the physical, environmental and social benefits of walking to school. If people are aware of the benefits of walking they are more likely to change their behaviour and put this knowledge into practice.

**VCAA Assessment Report note:**

This question required students to link one of the action areas selected to the Walk to School program. Most students had little difficulty in doing this, provided they selected an action area that was evident in the program. Students who selected 'Reorienting Health Services' struggled to link this to the program. Students are reminded that they should select an option carefully to ensure it enables them to best show their understanding.

**Question 4**

Source: VCE 2012, *Health and Human Development Exam, Section B, Q.2.c;* © VCAA

Any two of:

Building healthy public policy

The government could develop policies to ban TV advertising of fast foods. Fast foods are high in fat, simple carbohydrates and protein, all of which contribute additional kilojoules to the diet. By banning these foods, fewer people may consume them which will assist in weight control and reduce obesity levels.

Creating supportive environments

Sports clubs could offer low-cost memberships to children, which may encourage more children to play sport. Playing sport increases physical activity, which burns kilojoules and assists in controlling weight, helping reduce levels of obesity.

Strengthening community action

Community groups could work together to promote free physical activity facilities in their community. Through doing this, more members of the community may become aware of ways to be physically active. Physical activity assists in weight control, reducing the risk of obesity.

Developing personal skills

Running low-fat cooking classes provides people with the skills to reduce total fats in their diet. By knowing how to change behaviour through increasing skills, more people will be able to control their weight and reduce risk of obesity.

Reorientating health services

GPs could offer dietary advice and physical activity tips when patients present for general consultations rather than treating with drugs. People are more likely to change behaviour if told to do so by a medical professional. Being more active and eating less kilojoule-dense foods will help reduce obesity.

**Question 5**

Source: VCE 2011, *Health and Human Development Exam, Section B, Q.8.b*; © VCAA

- Advocacy — This strategy aims to be a voice for health promotion. Lobbying policy makers to improve health will lead to better health outcomes.
- Enabling — This strategy aims at reducing inequalities in health status through ensuring equal opportunities and resources to all people to achieve their fullest health potential. This is important for health promotion as it creates supportive environments and enables people to gain the skills and knowledge to improve and maintain their health.
- Mediating — Health promotion cannot be achieved by the health sector alone; its success will depend on the collaboration of all sectors of government as well as independent organisations working together. Health promotion will be more successful if the community works as a whole to improve and maintain health.

VCCA sample answers:

- Advocacy — lobbying governments and other organisations to improve access to and provision of health care services. Groups and/or individuals working to influence public policy in cancer services, for example, to improve health outcomes.
- Enabling — creating supportive environments and providing access to information and skills to enable people to achieve their health potential. For example, providing dietary guidelines to enable people to choose a balanced diet.
- Mediating — ensuring the coordination of health services across and within sectors. Working between clinicians and consumers to reorient health services to bring about a greater focus on health promotion rather than on diagnosis and treatment or ensuring that government and non-government organisations work together to improve health outcomes for people.

## 5.7 Improving health status using the social and biomedical approaches to health

### ANSWERS

#### 5.7 Activities

##### Smoking worksheet

###### Personal consequences ads

- a. Students watch the advertisements.
- b. These campaigns have many similarities:
  - They use graphic images to show the effects of smoking on the body.
  - Each advertisement uses a doctor to show the effects of smoking on parts of the body that cannot be seen.
  - The campaigns are attempting to shock smokers into wanting to quit smoking by showing very graphic images.
  - There is no information in any of the campaigns to tell smokers how to give up other than referring them to Quit.
- c. Adult smokers are the target audience in each of these campaigns as they are the largest group of smokers and are at greatest risk of lung cancer.
- d. These advertisements could be very effective because they use graphic images and a doctor to show the horrific effects that smoking can have on the body. They are very realistic and clearly show the possible effects of smoking. They gain the attention of the viewers and then

provide a link to Quit to provide further support for people wanting to quit smoking. However, the ads may not always be effective. Sometimes their graphic nature can turn people off and they may choose not to watch. The ads also fail to provide people with any strategies on how they should give up smoking and just hope those motivated to quit will access the resources from Quit to help them.

- e. The approach taken in the advertisement called 'Parents' is different in that it uses a more emotional approach by including the impact that smoking has on the whole family, particularly on children. It also tries to convey that smoking-related illnesses will take away opportunities to share events with the smoker's children. This is a different approach to the previous advertisements, which use a medical approach to smoking-related illnesses.
- f. The 'Parents' campaign may be more effective as it doesn't just focus on the impact of smoking on the individual but on the family, particularly children. It uses emotions such as guilt and regret to encourage people to rethink their smoking habits. These emotions may be more powerful in bringing about behaviour change.

#### **Breakthrough in lung cancer treatment**

- g. The biomedical approach to health is the focus of the article.
  - h. The new drug for the treatment of lung cancer has successfully treated the condition of people involved in the trial of the drug. It has extended their life expectancy and, in some cases, has led to the complete cure of the disease.
  - i. Of the 37 000 preventable cancer deaths in Australia each year, 15 500 of them are due to tobacco smoking. If people did not smoke, then most deaths from lung cancer would be prevented and the biomedical approaches would not be needed. This is why prevention should remain the focus of research efforts.
2. *Example for cardiovascular disease*
- Cardiovascular disease is a major cause of burden of disease in Australia. It reached its peak in relation to death rates in the 1960s and has decreased steadily since then.
  - A range of biomedical approaches have assisted in reducing deaths from cardiovascular disease. These include improvements in technology that have seen successful bypass surgery extend life expectancy, along with improved medications for managing risk factors such as cholesterol and blood pressure. Diagnostic techniques, such as CT scans, have also contributed to much earlier diagnosis of heart disease.
  - The social model of health has also been very effective in reducing deaths from cardiovascular disease. A range of health promotion activities have been introduced designed to increase people's awareness of the importance of exercise, healthy eating and an active lifestyle in reducing cardiovascular disease. A range of health policies have been introduced such as those implemented by Quit which have helped reduce the levels of smoking and therefore reduced a risk factor for cardiovascular disease.

#### **5.7 Exercise**

##### **Test your knowledge**

1. It is important to understand the strengths and limitations of the biomedical and social models of health because both approaches are important in bringing about improvements in health and wellbeing. (1 mark)
2. Deaths from lung cancer as a specific type of cancer started being recorded in 1945. (1 mark)
3. Tobacco smoking was responsible for the increase in lung cancer deaths for males between 1945 and 1980. (1 mark)
4. The factors that contributed to the decrease in lung cancer deaths for males from 1980 to the present were: the range of health promotion strategies that were introduced; public health policies that were put in place; and improved technology that resulted in better diagnosis and treatment of lung cancer. (3 marks)
5. Anti-smoking campaigns were first introduced in Australia in early 1970 because of the growing understanding of the relationship between smoking and many forms of cancer, particularly lung cancer. (2 marks)

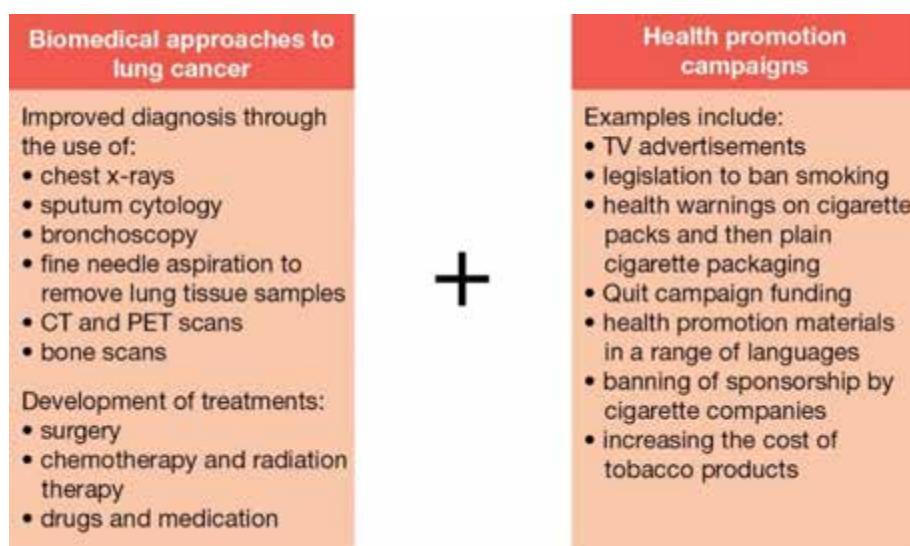
6. The social model of health has been very effective in reducing the prevalence of smoking. It has helped reduced the uptake of smoking and encouraged many smokers to quit. Data from the National Drug Strategy Household Survey estimated that 11.6 per cent of adults smoked daily in 2019. This daily smoking rate has declined from an estimated 12.8 percent in 2016 and has halved since 1991 (25 per cent). (2 marks)
7. The biomedical model of health is important if we are to further reduce death and disability from lung cancer because there are still people who smoke; if they develop lung cancer, they need to be provided with medical care to ensure the disease is diagnosed as early as possible and they have access to medical care and treatment. Not all cases of lung cancer are due to smoking and not all cases can be prevented. (2 marks)
8. The biomedical model of health can help reduce the level of death and disability from lung cancer by undertaking a range of diagnostic techniques and curative procedures. These 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 and PET scans
  - bone scans.

Once diagnosed, a range of treatments can take place. These include surgery to remove the affected parts of the lung, along with radiotherapy and chemotherapy. (3 marks)

### Apply your knowledge

9. *Trends in death rates for lung cancer over time and reasons for each*
  - Males have a higher death rate than females from lung cancer. This is because more males than females smoke tobacco.
  - Death rates for males from lung cancer increased rapidly between 1940 and 1980, when they reached their peak. After this time, rates dropped steadily. This is due to the effects of a high number of males taking up smoking during World War I. Lung cancer takes time to develop, which is why it reached a peak in 1980. The decline in lung cancer deaths in men was due to the health promotion strategies put in place to increase the level of understanding of the effects that smoking has on health.
  - Death rates from lung cancer for females have increased gradually over time. This could be due to the impact of advertising encouraging women to smoke, and the increase in the uptake of smoking by adolescent girls. (4 marks)
10. *Examples of two of the public health approaches and how they reflect the social model of health*
  - The first health warnings on cigarette products reflect the social model of health by building healthy public policy and developing personal skills. The health warnings act to remind people of the dangers of smoking and target all smokers, not just those who are suffering from smoking-related diseases.
  - Quit is established and anti-smoking commercials appear on Australian television. This reflects the social model of health as it represents actions taken to target the entire population and encourage them to quit or not take up smoking in the first place. This shows a focus on preventing lung cancer, rather than waiting for it to occur and then treating it. The Quit campaign was set up to prevent people from smoking and encourage smokers to quit using a wide range of strategies including providing practical support for people to give up smoking before they develop lung cancer. (4 marks)

11. An example of a diagram that shows how the biomedical and social models of health have brought about improvements in lung cancer deaths over time.



These approaches have contributed to a reduction in the number of smokers and better survival of those who develop lung cancer. (6 marks)

## 5.7 Exam questions

### 4Question 1

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

Burden of disease – Maternal and neonatal conditions

The biomedical approach relies on services provided by doctors, specialists and hospitals. This, along with medical technology used to diagnose conditions, can then efficiently treat any signs and symptoms the mother or newborn may be experiencing to restore them to a pre-illness state of health thereby reducing the proportion of DALYs attributed to maternal and neonatal conditions.

The social model of health aims to empower individuals and communities. They can do this by providing expectant mothers with the education and awareness needed to ensure they know how to take care of themselves and their baby during and after the pregnancy. By knowing how to take care of themselves and make healthier choices they can reduce the proportion of DALYs attributed to maternal and neonatal conditions.

Award 1 mark for showing an understanding of the biomedical model of health by including specific aspects of the model.

Award 1 mark for linking the biomedical model to the reduction in the proportion of DALYs for their selected burden of disease.

Award 1 mark for showing an understanding of the social model of health by including specific aspects of the model.

Award 1 mark for linking the social model of health to the reduction in the proportion of DALYs for their selected burden of disease.

**VCAA Examination Report note:**

Those who referred to specific actions reflecting each model and then linked them back to the contributor to burden of disease received four marks. Some responses were too general (e.g. 'the biomedical model works to treat diseases') and lacked the detail required for full marks. Responses had to be clear as to whether they were discussing the biomedical or social models in each part, to gain full marks.

The following is an example of a high-scoring response.

#### Burden of disease – Communicable disease

Biomedical: Improvements in medical technologies, particularly vaccinations and antibiotics have resulted in the ability to cure/prevent previously untreatable communicable diseases, like tuberculosis, which has resulted in the decrease of communicable diseases.

Social: Health campaigns raising awareness on safe health practices (for example, using barrier methods to prevent the spread of STI's like HIV/AIDS) have changed people's behaviours and prevented the spread of communicable diseases, positively contributing to the reduction

#### Question 2

Source: VCE 2016, *Health and Human Development Exam*, Q.8.d; © VCAA

The biomedical model of health focuses on diagnosing and treating disease and illness using health professionals. Doctors could diagnose cardiovascular disease with blood pressure and blood cholesterol tests and treat with medications. These treatments should help control the disease and help reduce years of life lost due to premature death from cardiovascular disease.

The social model of health focus on improving health for all by using a preventative focus to stop the disease/ condition happening in the first place. The social model could use health promotion messages empowering different groups in Australia to stop smoking and make blood cholesterol and blood pressure testing more readily available in rural areas to reduce inequities in health access. Both these actions could improve cardiovascular health for all and reduce the burden of disease from cardiovascular disease.

#### VCAA Assessment Report note:

This question required students to apply their knowledge of the biomedical and social models of health to cardiovascular disease. This question was not well answered as many students did not provide the necessary depth in their responses. Other students were able to apply their knowledge of the biomedical model but had difficulty applying the social model of health.

*The following is an example of a high-scoring response.*

The biomedical model assists in diagnosis of cardiovascular disease (CVD) and then treating the disease through medication such as blood pressure lowering medication, reducing the risk of hypertension and associated CVDs such as stroke or heart failure which could lead to death. The biomedical model can help reduce mortality rates from CVD therefore contributing to a reduction in the overall burden of disease associated with cardiovascular diseases.

The social model of health focuses on health promotion, for example educating people on the dangers of tobacco smoking as a risk factor for CVD or healthy eating as a protective factor for CVD all in an attempt to reduce risks of cardiovascular disease incidence and prevalence, reducing the overall burden of disease associated with cardiovascular disease.

**Question 3**

Source: VCE 2014, *Health and Human Development Exam*, Q.13; © VCAA

Biomedical model of health — advantages:

- Extends life expectancy because many diseases and illnesses can be diagnosed and treated, preventing death.
- Investing in research leads to improved knowledge of disease and can lead to better/improved treatments.
- Effective in controlling the spread of disease.
- Reduces pain and suffering through effective treatments for illness.
- Can use the latest technology to help decrease the risk of disease.
- The community has an expectation that medical help to cure illness will be available when required and the biomedical system meets this community expectation.

Social model of health — advantages:

- Focuses on health for everybody — not just a one-on-one approach.
- More cost effective as it targets populations not individuals.
- Endeavours to improve health for those groups with traditionally poor levels of health, such as Indigenous Australians.
- Looks at more than just physical health — the focus is on the whole person.
- Decreases pressure on the health care system; reduces waiting lists by preventing health conditions.
- Improving the health of population groups through population-based health-promotion initiatives.
- Increases quality of life and extends life expectancy by delaying or preventing the onset of illness or disease.
- Considers other reasons for why people have poorer health — doesn't just look at lifestyle and behavioural reasons.
- Endeavours to increase health access to all people, not just those who already have good health.

Biomedical model of health — disadvantages:

- Certain treatments and medications that are not covered by government funding can be costly to individuals.
- Expensive because it is delivered by highly trained professionals and uses the latest technology.
- Only focuses on the treatment of the disease, not the whole person.
- Does not address the broader determinants of health.

Social model of health — disadvantages:

- At times there is a lack of coordination of services to promote the broader determinants of health.
- Health promotion programs can be ignored or don't reach the intended targets.
- Regardless of preventative programs, people still become ill.

**VCAA Assessment Report note:**

This question drew on students' ability to analyse the different models of health and health promotion as required in Unit 3, Area of Study 2. Many students were able to provide an example of the advantages and disadvantages of the biomedical and social model of health, although students who provided a brief explanation rather than just listing the examples provided higher-quality answers. Students are also encouraged not to provide the same example stated differently or reversed as both an advantage and a disadvantage.

**Question 4**

Source: VCE 2013, *Health and Human Development, Section A, Q.6*; © VCAA

The biomedical model of health focuses on the diagnosis and treatment of disease by medical professionals whereas the social model of health addresses the broader determinants of health and looks beyond the physical causes of disease and poor health.

**Question 5**

Both the social and biomedical models of health are essential and need to work together to address breast cancer. Through mobile breast screen vans, the social model principle 'addresses the broader determinants of health' is evident as the physical environment determinant of distance is addressed by bringing the screening vans to rural and remote women free of charge. Screenings allow breast cancer to be detected earlier and the biomedical model can then be involved in treating and hopefully curing breast cancer.

### 5.8 Key skills

#### ANSWERS: PRACTISE THE KEY SKILL

1. Between 1907 and 2003, deaths from diarrhoea went from being one of the leading causes of death in Australia to no deaths being recorded. Until 1918, deaths from diarrhoea for both males and females were high, accounting for 700 per 100 000 deaths in males and 600 per 100 000 in females. In 1918, there was a rapid decline in deaths which was followed in 1919–21 by another spike in deaths. After this time deaths rates fell steadily until 2003, when no deaths from diarrhoea were recorded.
2. *Actions implemented by the government as part of the old public health that contributed to a reduction in deaths from diarrhoea*
  - *Improved water and sanitation* — In the early part of the twentieth century there was limited access to safe water, and sanitation facilities were poor. This resulted in water supplies that were contaminated with bacteria, and this led to diarrhoea. The government invested in water and sanitation infrastructure that provided people with safe water to drink and removed waste products, preventing people from coming into contact with the organisms that caused diarrhoea.
  - *Improved nutrition* — The government introduced measures to improve the nutritional quality of the food that was sold. This meant that people were better nourished and had improved immune systems, increasing their resistance to diseases and illness including diarrhoea.
  - *Improved housing* — The government introduced policies designed to improve the quality of housing that was built or available to rent. Improved housing meant safer water supplies and sanitation, better shelter from the heat and extreme cold, and less overcrowding. This reduced the level of respiratory diseases that people were susceptible to as well as reducing the likelihood of diseases such as diarrhoea being passed from one family member to another.
3. The Spanish influenza pandemic would have been responsible for the spike in diarrhoea deaths at this time. Diarrhoea is more likely to occur when people's immune system is low and when they are suffering from other diseases and illnesses. When people, particularly children, contract diarrhoea and are suffering from influenza, they are at an increased risk of dying.
4. The relationship between the biomedical and social models of health evident in the statement is that the biomedical approach to health is important in being able to reduce the effects of heart disease once it has occurred but it can't cure the problem. However, the social model of health is important because it would mean that action could be taken to ensure that the disease does not develop and women would not have to rely on the biomedical approach which has its limitations.

5. *Treatments and medication to minimise the impact of heart disease*

- Treatments and medication can be used to minimise the impact of heart disease by reducing risk factors such as high cholesterol and high blood pressure.
- Medication can also be used to thin the blood and stop it from clotting, which minimises the risk of a blood clot forming in the brain, heart or limbs.
- Treatments such as bypass surgery or stents can reduce blockages that restrict blood supplies to the heart and brain which, if left untreated, can bring about a stroke or heart attack.

*Ways to prevent heart disease*

- Heart disease can be prevented by undertaking regular physical activity, which keeps the heart muscle toned and pumping blood effectively and helps reduce the build-up of plaque on the artery walls.
- A healthy balanced diet is important to reduce the risk of becoming overweight or obese, as excess weight places additional pressure on the heart and contributes to a heart attack. A healthy balanced diet also helps prevent high cholesterol and high blood pressure, both of which are risk factors for heart disease.
- Choosing not to smoke is also important in reducing the risk of heart disease. The chemicals in tobacco line the walls of the arteries and build up over time to form plaque and cause atherosclerosis. This can restrict blood flow and eventually lead to a blockage and a heart attack or stroke.

## 5.10 Topic 5 review

### EXTENDED RESPONSE- SAMPLE RESPONSE

Australia's health status is very good when compared with other countries, having a high life expectancy and low levels of U5MR and maternal mortality. However, as shown in Source 2, our leading causes of death are lifestyle diseases such as Ischaemic heart diseases, dementia, cerebrovascular diseases, malignant neoplasms or cancer, especially of the trachea, bronchus and lung, and chronic lower respiratory diseases.

For all of these leading causes of disease except for dementia, the age standardized death rate has been reducing over time. This is particularly evident in the age standardised death rate of ischaemic heart disease which has decreased from 82 in 2010 to approximately 58 in 2019. This can be attributed to both the biomedical and social models of health.

According to source 3, Australia has made progress in reducing chronic diseases through tobacco and blood pressure controls and these have contributed to halving the deaths from heart disease and stroke. This reflects the advantages of the social model of health. However, we still have a long way to go, particularly in reducing the risk of chronic disease in high-risk and vulnerable groups including our First Nations people, the aged, those from low socio-economic status and those from non-English speaking background.

Source 3 also states that we could prevent 80 percent of heart disease and type-2 diabetes and 40 percent of all cancers by eliminating risk factors such as overweight and obesity, being physically active, not smoking and reducing alcohol intake, again illustrating the advantages of the social model of health. However, the social model of health has limitations and not all diseases can be prevented. Dementia for example is a disease associated with ageing and is difficult to prevent. Source two shows this disease is increasing and the care of dementia patients often requires a biomedical approach. People will also continue to develop lifestyle diseases and therefore the biomedical approach will still be necessary. However, the biomedical model also has limitations. It often requires the use of expensive technology. In source one we can see that the total health care spending in Australia is \$195.7 billion dollars or \$7772 per person and has steadily increased over time. 40.4 percent of these costs went towards funding hospitals and 33.5 percent was spent on

providing primary health care. This means almost 74 percent of all health care funding is spent on funding the biomedical model. With an ageing population who are often higher users of health care services, there is some concern about the ability of our health care system to be able to sustain the increasing costs, highlighting the importance of focusing on a preventative approach which will reduce the burden on the health care system.

Both the biomedical and social models of health have strengths and limitations but it is evident that investment in both models is needed if we are to continue to bring about improvements in Australia's health

(8 marks)

### **ANSWERS: EXAM QUESTIONS**

#### **Question 1**

*VCE 2020, Health and Human Development, Section A, Q.8 (adapted); © VCAA*

- a.** One of the principles of the ASH program is to ensure health care services are culturally appropriate and accessible. If health care services are accessible then Aboriginal and Torres Strait Islanders are able to be diagnosed and receive treatment promoting physical health and wellbeing as once treated the body can return to functioning efficiently again.

Providing tailored HIV/AIDS education and prevention knowledge and training to community organisations can assist in improving mental health and wellbeing as the individuals within the organisations have the knowledge to make more informed decisions regarding their health behaviours.

Award 1 mark for using specific information from the stimulus material

Award 1 mark for linking the stimulus material to a specific aspect of a dimension of health and wellbeing.

Award 1 mark for linking the stimulus material to a specific aspect of a second dimension of health and wellbeing.

#### **VCAA Examination Report note:**

This question required students to make meaningful links between the case study and health and wellbeing. Although many students could identify aspects of health and wellbeing, fewer were able to explain how the program could promote each aspect; rather, they simply stated that the program would promote it.

Students could make fewer links with more discussion or more links with less discussion for three marks.

The following is an example of a high-scoring response.

*The ASH program improves health and wellbeing outcomes for Aboriginal and Torres Strait Islander people as healthcare services are culturally appropriate, meaning they would have lower stress and anxiety when accessing healthcare, promoting mental health and wellbeing. Further, this cultural appropriateness means more Aboriginals would access health services allowing illness / diseases to get treated, promoting physical health and wellbeing.*

- b.** Social model principle: acts to reduce social inequities

Explanation: The ASH program assists in reducing social inequities as it is delivered in a culturally appropriate way which assists in removing the barrier faced by the Aboriginal and Torres Strait Islander culture at times in accessing appropriate health care. Being culturally appropriate means they can receive the information and treatment they need to improve their health.

Award 1 mark for identifying a principle of the social model of health

Award 2 marks for showing an understanding of the principle and linking it to the case study.

**VCAA Examination Report note:**

To be eligible for any marks for this question, students had to correctly identify a principle of the social model of health.

Many responses did not follow this with two points of discussion linking it to the program.

The following is an example of a possible response.

Principle: Empowers individuals and communities

Explanation: The program provides HIV/AIDS education and prevention knowledge, thus empowering Aboriginal and Torres Strait Islander people to make informed decisions to improve their health and wellbeing. Aboriginal and Torres Strait Islander people are also involved in the planning of health care which empowers the community.

**Question 2**

*Causes of death for males in 1907 compared to 2018*

*Similarities in the causes of death*

- Heart disease is the leading cause of death for males in both 1907 and 2018.
- Cerebrovascular disease is listed as one of the diseases in the top 10 causes of death for males in both 1907 and 2018.

*Difference in the causes of death*

- Tuberculosis is the second leading cause of death for males in 1907 but does not appear in the top 10 diseases causing death in 2018.
- Lung cancer is the second leading cause of death for males in 2018 but does not appear in the top 10 leading causes of death in 1907.

**Question 3**

*How the policies and practices undertaken as part of the old public health would have an impact on the top 10 causes of death between 1907 and 2018*

- In the early part of the twentieth century, there was limited access to fresh water and sanitation systems. This exposed people to a range of diseases, particularly those that contributed to diarrhoea and cholera. These diseases accounted for a significant number of deaths at that time. The government took action to develop systems to provide safe water and to dispose of wastes, significantly reducing deaths from diarrhoea.
- Quarantine measures were introduced in the early part of the twentieth century, and these helped reduce the spread of diseases such as tuberculosis.
- Improved housing and living conditions contributed to a reduction in infectious diseases such as tuberculosis, diarrhoea, bronchitis and pneumonia.
- The discovery of vaccines were very effective in reducing deaths from infectious diseases such as tuberculosis, and less illness also helped reduce deaths from diarrhoea.

**Question 4**

- a. Action areas of the Ottawa Charter could include any three of the following:
  - Build healthy public policy
  - Create supportive environments
  - Strengthen community action
  - Develop personal skills
  - Reorient health services.
- b. Action areas of the Ottawa Charter that could contribute to reducing the death rates associated with colorectal cancer could include any two of the following:
  - *Build healthy public policy.* Provide free screening tests for people over the age of 50 to identify early stages of colorectal cancer.
  - *Create supportive environments.* Provide walking groups and walking tracks for people to exercise and maintain a healthy body weight, thereby helping to reduce the risk of colorectal cancer.
  - *Strengthen community action.* A range of community organisations and groups could all work together to promote a healthy lifestyle and reduce the rates of smoking, promote a healthy diet and encourage regular exercise. This information could be made available in supermarkets, chemists and train stations; and messages could be placed on billboards and through the media so a combined effort is made to get the message across.
  - *Develop personal skills.* Cooking classes could be made available to increase the capacity of people to know how to shop, prepare for and cook healthy meals. Nutrition information could also be provided in brochures and posters and through the media to build people's level of understanding and knowledge of what constitutes a healthy diet.
  - *Reorient health services.* Funding could be provided to publicise health promoting behaviours, and doctors could also talk to people who present at their practice about their lifestyles and how they could undertake behaviours that promote health and reduce their risk of developing colorectal cancer.

**Question 5**

How the biomedical and social models of health have contributed to addressing death rates associated with coronary heart disease.

- *The biomedical approach to health*
  - This approach is important when someone is diagnosed with coronary heart disease or has a heart attack. They can be provided with life-saving procedures such as bypass surgery.
  - CT scans can detect early signs of coronary heart disease and medication can be used to reduce cholesterol and high blood pressure which are risk factors for a heart attack.
  - Stents can be inserted to open up blocked arteries and reduce the risk of further heart attacks.
- *The social model of health*
  - This model is important in order to prevent coronary heart disease from occurring in the first place.
  - Promoting the importance of a healthy diet and exercise can reduce the risks associated with coronary heart disease.
  - Providing recreation spaces in communities helps promote physical activity.
  - Public health campaigns designed to prevent smoking or to quit smoking helps reduce the risk of coronary heart disease.
  - Improving people's understanding of the risks associated with coronary heart disease can help ensure people adopt healthy lifestyle practices.

## Topic 6: Australia's health system

### 6.2 Medicare

#### ANSWERS

#### 6.2 Activities

##### Medicare worksheet

- a. Because the government helps people pay their hospital bills
- b. Taxpayers
- c. The public system is largely funded by Medicare. Private health insurance companies largely fund private hospitals.
- d. Choice of hospital and doctor, and shorter waiting times
- e. To save money

### 6.2 Exercise

#### Test your knowledge

1.
  - a. Medicare is Australia's universal healthcare system that provides free or subsidised treatment for all Australians. (1 mark)
  - b. Medicare covers consultation fees for doctors (including specialists); tests and examinations by doctors that are needed to treat illnesses, including x-rays and pathology tests and eye tests performed by optometrists; most surgical and other therapeutic procedures performed by doctors; some surgical procedures performed by approved dentists; and treatment by doctors and specialists in public hospitals (if being treated as a public patient), including the initial treatment and aftercare. (4 marks)
  - c. Medicare doesn't cover cosmetic or unnecessary procedures; treatment in a private hospital (although a contribution is made); alternative medicines such as physiotherapy, occupational therapy, speech therapy, eye therapy, chiropractic services, podiatry, acupuncture (unless part of a doctor's consultation); or psychology (except in certain circumstances). Health-related appliances such as glasses and contact lenses, hearing aids and the cost of prostheses are also not covered by Medicare. (4 marks)
2.
  - a. The schedule fee is the amount that Medicare will contribute for a given procedure. (1 mark)
  - b. Bulk-billing is when the doctor charges only the schedule fee so the patient does not have to make any co-payment. (1 mark)
3. Seventy-five per cent (1 mark)
4. The Medicare Safety Net is a system that allows people to pay less for their medical treatment once they have paid a certain amount for medical care in a calendar year. (1 mark)
5. Medicare is funded in three main ways — the Medicare levy, the Medicare levy surcharge and general taxation revenue. Most taxpayers pay an extra 2 per cent of their income in the form of the Medicare levy. Those who are considered to be high-income earners who do not have private health insurance pay an extra 1–1.5 per cent, called the Medicare levy surcharge. Medicare requires more funds than this to operate, however, so funds from general taxation are also used to fund Medicare. (3 marks)

#### Apply your knowledge

6. Medicare is an example of a biomedical approach. It focuses on individuals and pays for services to diagnose, treat and manage health conditions. Students could also state that part of it reflects the social model as it works to make healthcare more affordable (which is addressing a broader determinant of health and is working to increase access to healthcare). (2 marks)

7. Generally not, but people in some circumstances can receive some Medicare support for dental treatment including some surgical procedures performed by approved dentists and children who qualify for the Child Dental Benefits Schedule. (1 mark)
8. People who are chronically ill would benefit (such as the elderly) and those on low incomes who need ongoing medical care. The Medicare Safety Net increases the ability of people to afford their co-payments. This means they can continue to receive treatment, which could assist in decreasing morbidity and mortality. (2 marks)
9. Medicare improves health status in Australia by providing access to essential health treatments and medicines when necessary. This allows many health concerns to be treated or managed, and therefore improves the health status of Australians and reduces burden of disease. This can contribute to lower rates of morbidity and mortality, and can increase life expectancy. Children can receive access to treatment when required, which can also decrease U5MR. Having affordable access to essential health services can also decrease levels of stress among those who have health concerns which promotes mental health and wellbeing. If individuals can have diseases and injuries treated, it can restore their physical health and wellbeing by reducing pain, for example. (4 marks)
10.
  - a. The average number of Medicare services per person has increased from 14.2 per person in 2009–10 to 16.9 per person in 2019–20. (1 mark)
  - b. *Examples*
    - More services might be covered by Medicare, which means more people are making claims.
    - Australia's population is ageing. Older people are more likely to be sick, so this could increase the number of services per person.
    - Fertility rates may have gone up, meaning that more women are using Medicare for pregnancy and child birth procedures.
    - People are more likely to be treated for mental health issues than in the past, which leads to more healthcare encounters. (2 marks)

## 6.2 Exam questions

### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.11.c; © VCAA

Medicare provides free access to public hospitals to all Australian citizens regardless of their ability to pay. This provides universal health coverage as all Australians have access to treatment in a public hospital without financial hardship.

#### **VCAA Examination Report note:**

This question relied upon the student's understanding of the concept of universal health coverage. Students who could outline the meaning of universal health coverage were generally able to apply this to Medicare.

The following is an example of a high-scoring response.

*Medicare provides all Australian citizens with access to health care services at a subsidised cost, regardless of the socio-economic status, religion, race and so on. This promotes health coverage nationwide in Australia, and enables universal health coverage to be reached also.*

### Question 2

Source: VCE 2016, *Health and Human Development Exam*, Q.1.a; © VCAA

Medicare subsidises the cost of x-rays and blood tests. This encourages people to use these diagnostic tools, which will improve health status as an illness or injury can be diagnosed and then treated reducing risk of morbidity and mortality.

**VCAA Assessment Report note:**

Most students were able to identify a service covered by Medicare, although the explanation of how the service could improve the health status of Australians was a little more challenging for some students.

*The following is an example of an appropriate response.*

GP visits – some or all of the cost involved in GP visits is covered by Medicare, which can encourage people to take action quickly when they become unwell, and this may reduce morbidity and mortality rates if treatment can be prescribed early.

Other relevant examples were: specialist consultations, pathology tests, X-rays, surgery and in-hospital treatment.

**Question 3**

Source: VCE 2015, *Health and Human Development Exam*, Q.11.c; © VCAA

Services that could be chosen include:

- x-rays
- blood tests
- consultation with a GP
- surgery costs in a public hospital
- consultation with a medical specialist.

**Question 4**

Source: VCE 2014, *Health and Human Development Exam*, Q.3.b; © VCAA

Examples of services:

- Physiotherapy at a private clinic
- Podiatry service at a private clinic
- Chiropractic services
- Alternative health services
- Treatment in a private hospital
- Cosmetic surgery
- Home nursing care
- Ambulance transport

**VCAA Assessment Report note:**

Many students provided examples of health products such as glasses rather than health services.

**Question 5**

Source: VCE 2012, *Health and Human Development Exam*, Section A, Q.8.d; © VCAA

Any of the following would be acceptable.

- GP consultations for the diagnosis or treatment of illness or disease
- Diagnosis of prostate cancer
- Eye tests at participating optometrists
- Diagnostic procedures; for example, x-rays and blood tests
- Specialist consultations for the diagnosis or treatment of illness or disease

**VCAA Assessment Report note:**

Many students simply wrote doctors or hospitals but these were not acceptable; services, treatments or consultations needed to be mentioned.

Services that are not claimable through Medicare include: dental treatment, physiotherapy, osteopathic treatment, ambulance services, public hospital treatment (not claimable through Medicare as service is provided by state/federal funding).

### **6.3 The Pharmaceutical Benefits Scheme and the National Disability Insurance Scheme**

#### **ANSWERS**

##### **Case study review: New \$160 000 drug for multiple myeloma blood cancer to be added to PBS at a cost to patients of \$480**

1. a. People with multiple myeloma. It will be a second-line treatment for when patients relapse.  
b. Over 1000 (or around 1165)
2. a. \$40 a month (or \$480 a year).  
b. Up to \$160 000 per year.
3. For example:

This can help people to access essential medicines that can treat common conditions, thereby enhancing physical health or mental health if it is a mental health issue. People may not be as anxious if they know they can afford the medicine they need, and this can enhance mental health. If people can have their condition managed, they are less likely to feel ill which can mean that they can spend time with family and friends, promoting social health and wellbeing.

##### **Case study review: Sarah's story — How we might provide a personal plan and supports over a lifetime**

1. Sarah was provided with daily in-home assistance with some tasks to help improve her independence. She was provided with funding for a new wheelchair. She was helped to locate a film club, and the NDIS worked with the club to support her involvement. Sarah's plan also included transport to and from these events.
2. Sarah was provided with a new wheelchair, which would increase her mobility and provide her with more opportunities to socialise; this enhances social health and wellbeing. She became involved in a film club, which could assist her in developing a sense of purpose, promoting spiritual health and wellbeing. She would feel more independent, which enhances feelings of self-esteem and thus promotes mental health and wellbeing.

#### **6.3 Activities**

##### **PBS worksheet**

- a. Results will vary depending on the year.
- b. This is the amount that the patient must pay for their medication, regardless of how much it actually costs.
- c. The co-payment amount is increased each year in line with inflation.

##### **NDIS worksheet**

- a. These are organisations in your community that deliver the NDIS and can help you navigate the supports and services in your local area.
- b. They are both Partners in community and are experts in navigating the broader disability sector. If you are between 7 and 64 you contact the Local Area Coordinator, under 7s use an Early Childhood partner.
- c. Independence, community involvement, education, employment, health and wellbeing
- d. You may also use your NDIS plan to work with a support worker, engage a carer, or to access assistive technology, or complete home modifications that help you in your everyday life.
- e. Family and carers
- f. People can still receive advice and get connected to services and support.

### 6.3 Exercise

#### Test your knowledge

1. The PBS is Australia's essential medicine subsidy scheme that allows Australians to have access to many medicines at a subsidised cost. (1 mark)
2.
  - a. The PBAC is an independent committee made up of health professionals who review and consider new medications for inclusion in the PBS. (1 mark)
  - b. PBAC decides which medicines will be included in the PBS. (1 mark)
  - c. 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. (1 mark)
3. The co-payment is the amount that the patient contributes to the cost of PBS-covered medicines. (1 mark)
4. The NDIS is a national insurance scheme that provides services and support for people with permanent, significant disabilities, their families and carers. (1 mark)
5. To be eligible for the NDIS, a person must be aged under 65 and meet all the residency and disability requirements.

*Residency requirement*

- You are an Australian citizen or hold a permanent visa or a Protected Special Category visa.

*Disability requirements*

- 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. (4 marks)

6. If the 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. (1 mark)
7. Through the individualised plan, the NDIS assists participants to access mainstream services and supports, access community services and supports, maintain informal support arrangements and receive reasonable and necessary funded supports. (2 marks)
8. Assistive technology relates to a device, system or design that allows an individual to perform a task that they would otherwise be unable to do, or that increases the ease and safety with which a task can be performed. (1 mark)

#### Apply your knowledge

9. *Similarities*

- Both Medicare and the PBS are administered by the federal government.
- Both are funded through taxation.
- Both provide access to subsidised healthcare.

*Differences*

- The PBS usually always requires a co-payment but Medicare services in hospitals do not.
- The PBS focuses on medication but Medicare generally focuses on health services. (2 marks)

10. The PBS improves the health status of Australians by providing access to essential medicines when necessary, at a subsidised cost. This allows many health concerns to be treated or managed at an affordable cost, and therefore improves the health status of Australians and reduces burden of disease. This can contribute to lower rates of morbidity and mortality, and can increase life expectancy. Children can receive access to treatment when required, which can also decrease U5MR. (2 marks)

The NDIS assists in providing services and resources that assist people in managing their disabilities. This can reduce the level of morbidity experienced. (2 marks)

11. Assistive technologies help people carry out tasks with greater ease and safety. This can assist in conserving energy (physical health and wellbeing) and provide feelings of satisfaction and self-esteem, which promotes mental health and wellbeing. They may be more mobile, which assists in socialising and so enhances social health and wellbeing. They may be able to work, which can provide a sense of purpose in life and therefore enhances spiritual health and wellbeing. (2 marks)

### 6.3 Exam questions

#### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.10.a; © VCAA

The PBS is a government-funded program that subsidises the costs of the most common essential medicines for all Australians. Consumers are required to make a co-payment.

Award 1 mark for describing the Pharmaceuticals Benefit Scheme.

#### VCAA Examination Report note:

Most students were able to describe the PBS as a federal government scheme that subsidises the cost of essential medicines.

#### Question 2

Source: VCE 2015, *Health and Human Development Exam*, Q.2.c; © VCAA

Similarities could include:

- Both are funded by the federal government.
- Both have a safety net to protect from high out-of-pocket medical expenses.

Differences could include:

- Medicare subsidises essential health services, the PBS subsidises essential medicines.
- PBS requires a co-payment for the cost of medicines, whereas some aspects of Medicare are free, such as public hospitals.
- Some medical services through Medicare can be bulk billed, whereas the PBS does charge a small amount for all essential medicines — this is known as the co-payment.

#### Question 3

Source: VCE 2012, *Health and Human Development Exam*, Section A, Q.3.a; © VCAA

The Pharmaceutical Benefits Scheme (PBS) is a Federal Government-funded scheme that subsidises the cost of a wide range of prescription medications.

Not all medications are covered under the PBS, only those deemed essential to the needs of the Australian public.

#### Question 4

Source: VCE 2012, *Health and Human Development Exam*, Section A, Q.3.b; © VCAA

PBS medicines are low-cost medicines available to all Australians regardless of ability to pay.

This will improve the health status of Australians as people can use low-cost medicines to treat illness (such as asthma), reducing morbidity, and because most are effective in curing diseases, mortality will also decrease.

### Question 5

Suggested answers could include:

- The National Disability Insurance Scheme provides support for disabled people to reconnect with their communities; this may be in the form of assisting a disabled person to join a sport or interest group. This can help promote the social health and wellbeing of the individual as they will increase their communication skills as they build a new network of friends.
- The National Disability Insurance Scheme provides support for disabled people and assists them in accessing mainstream services such as doctors. This would promote the mental health and wellbeing of a disabled person as it could assist in reducing stress and worry of how they would be able to get to their medical appointments.

## 6.4 Private health insurance

### ANSWERS

#### 6.4 Exercise

##### Test your knowledge

1. Private health insurance is health insurance that can be purchased in addition to Medicare. Clients pay a premium (or membership fee) in return for financial contributions towards health services not covered by Medicare. It provides clients with more options in terms of their medical care. (2 marks)
2. *Four incentives*
  - Lifetime Health Cover — those who take out insurance after the age of 31 pay an extra 2 per cent on their premium for every year they are over the age of 30.
  - Private health insurance rebate — based on income, some people with private health insurance are eligible for a rebate (or refund) from the federal government ranging from 9 to 27 per cent.
  - The Medicare levy surcharge — high income earners who do not have private health insurance pay a higher premium. This is income tested so those with higher incomes pay a higher surcharge (the surcharge can be 1, 1.25 or 1.5 per cent).
  - Age based discount – insurers can offer people under the age of 30 a discount. The younger the person is, the greater the discount can be, ranging from 2 to 10% (4 marks)
3. A premium is the amount a person has to pay to join a health insurance fund. (1 mark)
4. The ‘gap’ is the co-payment that an individual must pay if the cost of a service is above what Medicare and their private health insurance policy will pay. (1 mark)
5. *Advantages*
  - Enables access to private hospital care which can shorten waiting times
  - 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, glasses and dietetics could be covered
  - Helps to keep the costs of operating Medicare under control
  - High income earners with private health insurance do not have to pay the additional 1–1.5 per cent Medicare levy surcharge
  - Private health insurance rebate available to some people
  - ‘Lifetime cover’ incentive
  - Aged-based discount incentive

*Disadvantages*

- Costly in terms of the premiums that have to be paid
- Sometimes there is a 'gap', which means that the insurance doesn't cover the whole fee and the individual must pay the difference
- Qualifying periods apply for some conditions (e.g. pregnancy) (6 marks)

**Apply your knowledge**

- 6.
- a. *Examples*
- By providing access to extra health services, private health insurance can contribute to a greater range of conditions being treated, which can promote physical health and wellbeing.
  - People with private health insurance may not experience as much anxiety if they require surgery because they normally do not have to wait as long for the procedure, therefore enhancing mental health and wellbeing. (2 marks)
- b. *Examples*
- By providing shorter waiting times, people are more likely to have conditions operated on earlier, which can reduce the risk of it causing death. This can reduce mortality rates and increase life expectancy.
  - By being able to have a greater range of conditions treated, morbidity rates may decrease overall as people recover from treatable conditions. (2 marks)
7. Private health insurance provides many services that assist in taking pressure off the public sector (including Medicare). It also contributes vital funds to the healthcare system. (1 mark)
8. It provides people with greater choice in terms of the care they receive. It also contributes essential services and much needed health system funding. (1 mark)
9. Yes, but they must have enough money to pay a significant portion of the bill (which private health insurance companies normally pay). (1 mark)
10. *Examples*
- Medicare covers all Australian citizens and permanent residents whereas private health insurance is optional.
  - For hospital services, people cannot choose their own doctor under Medicare but can with private health insurance.
  - For elective surgery, waiting lists are generally shorter under private health insurance than under Medicare.
  - Medicare doesn't generally cover services such as physiotherapy whereas private health insurance can. (2 marks)

**6.4 Exam questions**

**Question 1**

Source: VCE 2015, *Health and Human Development Exam*, Q.2.a; © VCAA

- Private health insurance is optional health insurance that is taken out in addition to Medicare.
- It can include private hospital cover and extra cover for allied health services such as physiotherapy.

**Question 2**

Source: VCE 2008, *Health and Human Development Exam*, Q.7.d.ii; © VCAA

In 1999 the Federal Government introduced 'lifetime health cover', meaning that people who signed up for private health insurance by the age of 30 would receive cheaper premiums. After the age of 30, Marco would pay 2 per cent extra for insurance for each year of age over 30. It would therefore be cheaper for him to take out private health cover before turning 30.

**VCAA Assessment Report note:**

Students needed to identify and then explain 'lifetime health cover' (but did not have to name it) as the reason for Marco being advised to take out private health insurance before he turns 30. Students must have shown an understanding of the principles of lifetime health cover. Many students were unable to answer this question.

### Question 3

Valid reasons could include:

- shorter waiting lists in a private hospital for elective surgery
- to provide cover for health services not covered by Medicare, such as dental treatment
- to have a private room in a public or private hospital
- to have choice of doctor in hospital.

### Question 4

The federal government's three incentives are:

- Medicare levy surcharge — high income earners who don't have private health insurance pay an additional 1-1.5% Medicare tax.
- Private Health Insurance Rebate — the government provides a rebate of up to 30% of the cost of private health insurance premiums. The rebate is income tested.
- Lifetime Health Cover — people who choose to take out private health insurance after the age of 31 pay an additional 2% on their premiums for every year they are over the age of 30.

### Question 5

Suggested answers could include:

- An advantage of taking out private health insurance is that Michelle will not have to pay the Medicare levy surcharge. This is because, if she is a high income earner, she can avoid the Medicare levy surcharge by taking out private health insurance.
- An advantage of taking out private health insurance is that it covers Michelle for health services that are not covered by Medicare. Michelle may need glasses or dental treatment: these would be covered under a private health insurance extras policy.
- An advantage of taking out private health insurance is that it provides choice of doctor in hospital. Michelle may, in the future, wish to start a family and may want to choose her doctor in hospital to assist with the delivery of her children.
- An advantage of Michelle taking out private health insurance is that if she takes it out before her 31<sup>st</sup> birthday she will not have to pay the 'lifetime cover' loading. This means that Michelle will pay less for her health insurance premiums than if she chooses to take out private health insurance when she is older.

## 6.5 Funding and sustainability and the role of Australia's health system

### ANSWERS

#### 6.5 Activities

##### My Health Record worksheet

- *Health and wellbeing of individuals*  
In a medical emergency, healthcare providers connected to the My Health Record system can see an individual's health information to provide the best possible care quickly, which enhances physical health and wellbeing. The patient can also list any allergies, adverse reactions and medical conditions they may have to help healthcare providers provide better advice and treatment. This reduces the risk of adverse reactions to medicines for example, and this can reduce anxiety when accessing healthcare, therefore promoting mental health and wellbeing.
- *Health status of communities*

It allows health professionals to review medical history quickly, which can enhance treatment options. This can assist in reducing morbidity and mortality in Australia.

### PBS worksheet

Answers will vary depending on current co-payment amounts.

### 6.5 Exercise

#### Test your knowledge

1. Four areas that can be used to explore the way the health system targets health in Australia are funding, sustainability, access and equity. (1 mark)
2. Money effectively goes from individuals and businesses to the health system. It can get there in numerous ways:
  - Individuals pay taxes and this money is collected by federal and state governments. Some of this money is put into the health system.
  - Individuals make payments for health-related goods and services.
  - Individuals pay the Medicare levy (some pay the surcharge), which is paid to the federal government and ends up in the health system.
  - Individuals purchase insurance such as TAC insurance and private health insurance. Some of this money ends up in the health system.
  - Businesses purchase insurance. Some of this money ends up in the health system. (4 marks)
3. *Examples*
  - Through the Medicare levy
  - General taxation
  - Individual payments
  - Medicare payments
  - PBS payments (government and patient)
  - Private health insurance (premiums and payments)
  - Insurance (TAC and business insurance)
  - Government grants (5 marks)
4. The sustainability of the Australian health system relates to the capacity to provide a workforce and infrastructure such as facilities and equipment, and be innovative and respond to emerging needs through interventions such as research and monitoring. (1 mark)
5.
  - a. eHealth refers to an electronic health record system. (1 mark)
  - b. eHealth promotes sustainability by streamlining the recordkeeping system and allowing healthcare information to be accessed electronically by an individual's healthcare provider anywhere in Australia. (1 mark)
6. *Examples*
  - Early detection programs such as BreastScreen mean that more women will be diagnosed earlier, which can simplify treatment options. This can reduce the risk of death and the duration of treatment, thus decreasing morbidity and mortality in Australia.
  - Disease prevention through programs such as Immunise Australia can reduce the incidence and prevalence of certain infectious diseases. This can assist in decreasing morbidity and mortality in Australia and increasing life expectancy. (2 marks)
7. *Examples*
  - Finding new treatments for diseases such as cancer can reduce the risk of premature death and decrease mortality rates.
  - New methods to prevent disease can be developed, which can reduce the incidence and prevalence of conditions such as STIs. (1 mark)

#### Apply your knowledge

8. *Examples include:*

	Funding	Sustainability
Medicare	Funding necessary services such as doctors' consultations and hospital treatment (in public hospitals) can treat many common conditions and reduce mortality rates.	Determining which services will be subsidised through Medicare can preserve funds for the most necessary services, yielding the greatest gains in health outcomes. For example, cosmetic procedures are generally not covered, which means more money is available for treatment such as heart surgery which can decrease morbidity and mortality rates from cardiovascular disease.
The PBS	Essential medicines are subsidised through the PBS, providing treatment for many conditions, promoting health outcomes such as morbidity and mortality rates.	Continually reviewing the medicines available through the PBS means those that will have the greatest benefits are prioritised. This means that drugs that will have the greatest impact on morbidity and mortality rates are prioritised, improving health outcomes.
The NDIS	The NDIS can provide funding for a range of resources that promote health status, such as assistive technology. This means that more people with disabilities can stay socially connected, improving social health and wellbeing.	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.
Private health insurance	Private health insurance provides much of the funding for private hospitals which are responsible for around 40 per cent of hospital treatments. This means more people can be treated which reduces morbidity and mortality rates and increases life expectancy.	Incentives such as the private health insurance rebate and Lifetime Health Cover 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.

(8 marks)

9.

- a. Health system funding has increased over time, from around \$75 billion in 1996 to around \$195 billion in 2019. (1 mark)
- b. Reasons include:

- The average age is increasing in Australia, which results in a higher proportion of chronic conditions requiring care.
- Rising incomes and a growing economy mean that there is more money to be spent on healthcare. As more money is available for spending, the population expects that more can be done to improve their health when required.
- As research and development progress, there are more medical technologies and services available which contribute to increased expenditure. (3 marks)

10.

- a. Hospitals, primary healthcare and referred medical services (1 mark)
- b.
  - Hospitals — this category was the greatest recipient of funding and includes both private and public hospitals.
  - Primary healthcare — primary healthcare relates to general health goods and services delivered outside of the hospital environment. It includes general practitioner's consultations, dental services, medications and public health initiatives.
  - Referred medical services — these services relate to specialist's consultations that have been referred by a general practitioner. (3 marks)
- c. This mostly reflects the biomedical model of health, although public health initiatives may include some health promotion, reflecting the social model of health.

11.

- a. The rate has increased from around 320 per 100 000 people in 2005 to around 420 per 100 000 in 2018. (1 mark)
- b. The health workforce must continue to develop in size and skill in order to achieve the objective of improving health for all Australians as the population continues to grow. (2 marks)

## **6.5 Exam questions**

### **Question 1**

- The Australian government raised the Medicare levy from 1.5% to 2% to ensure that there was adequate funding for the sustainability of Medicare.
- The Australian government introduced the Medicare levy surcharge to ensure sustainability of the public health system by encouraging high income earners to take out private health insurance.
- The Australian government restricts the number of medications on the PBS to essential medicines. This helps reduce cost and ensure sustainability of being able to provide low-cost medications.

### **Question 2**

Private hospital services receive most of their funding from non-government sources.

### **Question 3**

A sustainable health care system must be sustainable in order to continue providing a high level of health care to all individuals. This is achieved through:

- an efficient and well trained workforce
- adequate funding and regulation
- research, monitoring and promoting disease prevention.

### **Question 4**

Unreferred medical services are one example in which the Australian government contributes most of the funding. Unreferred medical services would include visits to a general practitioner (GP). Because the Australian government funds much of this cost, people are more likely to access

medical assistance for conditions before they become serious, therefore improving health status by reducing morbidity and mortality from illness and disease, and improving life expectancy.

- referred medical services
- unreferring medical services
- benefit paid pharmaceuticals.

## 6.6 Access and equity and the role of Australia's health system

### ANSWERS

#### 6.6 Exercise

##### Test your knowledge

1. An accessible health system is one that can provide all people with timely access to quality health services based on their needs, not ability to pay, regardless of where they live in the country. (1 mark)
2. Three ways that access to the health system has been promoted for low socioeconomic status groups in Australia include:
  - fee-free treatment in public hospitals, and subsidised doctor and specialist consultations funded through Medicare
  - subsidised medication through the Pharmaceuticals Benefits Scheme, including further concessions for low-income earners
  - subsidised private health insurance through the private health insurance rebate
  - support provided through the National Disability Insurance Scheme. (3 marks)
3. Two ways that access to the health system has been promoted for those living outside of major cities in Australia include:
  - The Royal Flying Doctor Service is a non-government organisation that provides healthcare to thousands of Australians living outside of major cities.
  - The Rural Retention Program is a federal government strategy that aims to provide financial incentives for doctors who work in rural and remote areas. This increases access to healthcare for those living outside Australia's major cities. (2 marks)
4. Three interventions that have been implemented to promote equity in the health system in Australia include:
  - The funding of Medicare reflects equity as it is based on a percentage of an individual's income, meaning those who earn more, pay more.
  - Introduction of the NDIS helps those with severe disabilities to receive the care and support they need to lead an ordinary life.
  - People who require frequent services covered by Medicare, such as doctor's visits and tests, receive additional financial support through the Medicare Safety Net.
  - Individuals and families are further protected from large overall expenses for PBS-listed medicines through the PBS Safety Net.
  - The Victorian Government funds the Royal Dental Hospital of Melbourne and over 80 dental clinics in metropolitan and regional Victoria to provide dental treatment for vulnerable groups. (3 marks)

##### Apply your knowledge

5.

	Access	Equity
Medicare	Medicare provides funding for telephone and video consultations which can assist those living outside major cities in accessing health	Medicare Safety Net — people who require frequent services covered by Medicare, such as doctor's visits and tests, receive additional financial

	services. This can assist in diagnosing and treating conditions, reducing morbidity and mortality rates.	support. This means they have greater access to health care which can reduce the prevalence of diseases.
The PBS	The PBS promotes access to essential medicines for low income earners by including a concessional co-payment amount. This can reduce stress among lower income earners who require essential medicines.	Many Indigenous Australians can qualify for reduced PBS co-payment amounts under the Closing the Gap initiative. This improves health outcomes, such as morbidity and mortality rates by providing greater access to essential medicines.
The NDIS	The NDIS has been rolled out in every region of Australia, improving access for those living outside major cities. This improves health outcomes by allowing people to lead ordinary lives, such as working, which can promote self-esteem and a sense of belonging.	Those who require the NDIS do not have to pay more towards funding it than those who don't. This means they still get the support they need to promote all dimensions of health and wellbeing.
Private health insurance	The federal government's private health insurance rebate increases access to private health insurance for those on lower incomes. This provides more choice in relation to health care and can mean that people can be treated for a wider range of conditions, promoting physical health and wellbeing.	Those aged over 65 and over (who often have lower incomes) receive a greater rebate from the government if they have private health insurance. This gives people more treatment options which can reduce levels of stress if serious illness occurs.

(8 marks)

- 6.
- The rate of medical practitioners decreases as remoteness increases. There were about 440 medical practitioners per 100 000 people in major cities compared with 260 per 100 000 people in remote/very remote areas.
  - Examples*
    - People living outside of Australia's major cities may not be able to access the specialist services they require. When health issues arise, during pregnancy for example, they may not be treated effectively. This can contribute to the higher U5MR for those living outside of Australia's major cities.
    - People in major cities would be more likely to receive an early diagnosis of conditions such as cardiovascular disease and cancer, which enhances treatment options. This could contribute to lower mortality rates compared to those living outside of Australia's major cities. (2 marks)
- 7.
- Indigenous people could be trained and employed as health workers in Indigenous communities. This would ensure services are culturally appropriate.
  - Health workers could be provided with cultural awareness training which would increase their cultural appropriateness.
  - Governments could provide financial incentives to medical practices to provide culturally appropriate healthcare for Indigenous people. (2 marks)

## 6.6 Exam questions

### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.10; © VCAA

The PBS demonstrates sustainability as the government continues to verify the effectiveness of the medicines listed on the PBS to ensure those proven to be most effective in treatment are available through the PBS. This reduces the reliance on the health care system helping to ensure it is sustainable.

The PBS demonstrates equity as concession card holders pay a reduced co-payment to access essential medicines making it as fair as possible for all Australians to access these necessary resources despite their income levels or disability/ability levels.

Award 1 mark for showing an understanding of the PBS by referring to a specific aspect of the PBS.

Award 1 mark for explaining how the specific aspect of the PBS reflects the healthcare system focus area of sustainability.

Award 1 mark for showing an understanding of the PBS by referring to a specific aspect of the PBS (a different aspect to that identified in the first part of this answer).

Award 1 mark for explaining how the specific aspect of the PBS reflects the healthcare system focus area of equity.

#### **VCAA Examination Report note:**

This question required analysis of how the PBS demonstrates sustainability and equity. Students had to include specific aspects of the PBS in their response to ensure a deep level of understanding was shown. Some responses discussed the meaning of sustainability and equity without explaining how specific aspects of the PBS reflect each concept.

The following is an example of a high-scoring response.

The PBS demonstrates sustainability because not every medication is listed on the PBS which helps to keep costs under control and allows for new medications to be listed in the future without having to take old ones off.

The PBS also demonstrates equity because the PBS Safety Net ensures that once individuals and/or families reach a certain threshold of payments of medications in one calendar year, the government allows them to purchase medications as a reduced cost in order to protect them against large overall expenses, therefore helping those who need it the most.

### Question 2

- free treatment and accommodation in a public hospital
- low-cost medicines through the Pharmaceutical Benefits Scheme
- subsidised doctors and specialist consultations through Medicare
- means-tested rebate for private health insurance
- support provided through the National Disability Insurance Scheme means that many more disabled people can access medical support and assistance
- Indigenous Health Incentive, which provides financial incentives to medical practices to provide culturally appropriate health care for Indigenous people.

### Question 3

a.

- By the government funding the private health insurance rebate, more people are able to take out private health insurance, meaning more people are likely to use private hospitals. This means more people can be treated in the public system, which reduces morbidity and mortality.
- By funding treatment in public hospitals, Medicare ensures that people can receive treatment when required. This helps to prevent and treat disease.

b.

People who require frequent services covered by Medicare, such as doctor's visits and tests, receive additional financial support through the Medicare Safety Net. This means that people from all socioeconomic groups can continue to receive treatment, not just high-income earners.

- The Victorian Government funds the Royal Dental Hospital of Melbourne and over 80 dental clinics in metropolitan and regional Victoria to provide dental treatment for vulnerable groups. This can reduce the impact of dental health issues such as dental caries.

## 6.7 Topic 6 Key skills

### ANSWERS: PRACTISE THE KEY SKILL

1. Medicare
2. Private health insurance is an essential part of Australia's health system. It provides a lot of the funding for private hospitals, which treat a large portion of the Australian population. It also provides essential funding for the health system and assists in taking the pressure off public hospitals.
3. The NDIS provides assistance for those with disabilities. This can enhance quality of life by improving mobility and independence. More people will be able to work and lead a productive life. This can reduce the number of mental health disorders. It also assists in promoting independence, which can increase the ability of people to maintain health-promoting behaviours such as food preparation and thereby reduce the risk of diet-related diseases.
4. Example
  - Medicare can provide free treatment in public hospitals so the individual can have radiation therapy. This can reduce the size of the tumour and reduce the risk of the cancer spreading further, therefore promoting physical health and wellbeing.
  - The PBS can provide essential medicines for someone with cancer. This can decrease the risk of the cancer spreading and therefore reduce feelings of stress and promote mental health and wellbeing.
  - Private health insurance can mean that surgery to remove cancer is carried out without having to wait for an extended period of time. This can mean that symptoms are relieved sooner, which enhances physical health and wellbeing.
5. Table example

Component of the health system	Description	How it promotes health in relation to:			
		Funding	Sustainability	Access	Equity

Medicare	Medicare is Australia's universal healthcare system that provides free or subsidised treatment for all Australians.	Funding hospital treatment means people can be treated without excessive cost, which can reduce levels of stress.	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. This means more treatments can be carried out, enhancing life expectancy.	Medicare provides access to people of all socioeconomic backgrounds to services such as doctors' consultations and treatment in public hospitals, reducing morbidity and mortality rates.	Mental Health Treatment Plans — those with mental health disorders are eligible for ten individual and ten group therapy sessions per calendar year with the cost covered by Medicare, enhancing mental health and wellbeing.
PBS	The PBS is Australia's essential medicine subsidy scheme that allows Australians to have access to many medicines at a subsidised cost.	Essential medicines are subsidised through the PBS, providing treatment for many conditions, promoting health outcomes.	The Therapeutic Goods Administration verifies the effectiveness of all PBS medicines. This contributes to improved treatment and reduced symptoms (physical health and wellbeing).	The PBS promotes access to essential medicines for low income earners by including a concessional co-payment amount. This increases access to medicines such as antidepressants which enhances mental health and wellbeing.	PBS Safety Net further protects individuals and families from large overall expenses for PBS-listed medicines, reducing levels of stress and anxiety.
NDIS	The NDIS is a national insurance scheme that provides services and support for people with permanent, significant disabilities, their families and carers.	Funding assistive technology such as wheelchairs and bed rails can decrease the risk of injuries and promote physical	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	The NDIS improves access to health services for people with significant, life-long disabilities. This can reduce their morbidity and mortality rates.	<ul style="list-style-type: none"> <li>• The individualised plan developed as a part of the NDIS ensures that those with more significant needs, receive more assistance, enhancing their overall</li> </ul>

		health and wellbeing.	and experience improved health outcomes.		health and wellbeing.
Private health insurance	Private health insurance is health insurance that can be purchased in addition to Medicare. Clients pay a premium (or membership fee) in return for financial contributions towards health services not covered by Medicare.	The federal government funds the private health insurance rebate which means private health insurance is more affordable for more people. This gives people more treatment options which can reduce morbidity and mortality rates.	Lifetime health cover encourages more people to take out health cover which generates more funding. This means more people can be treated in the public system, reducing mortality rates.	Private health insurance can increase access to health services that may have otherwise been too expensive for patients to afford. This means more people can access services such as dental, which promotes dental health.	Those on lower incomes receive more financial assistance through the private health insurance rebate, giving more treatment options and reducing symptoms of disease.

## 6.8 Topic 6 Review

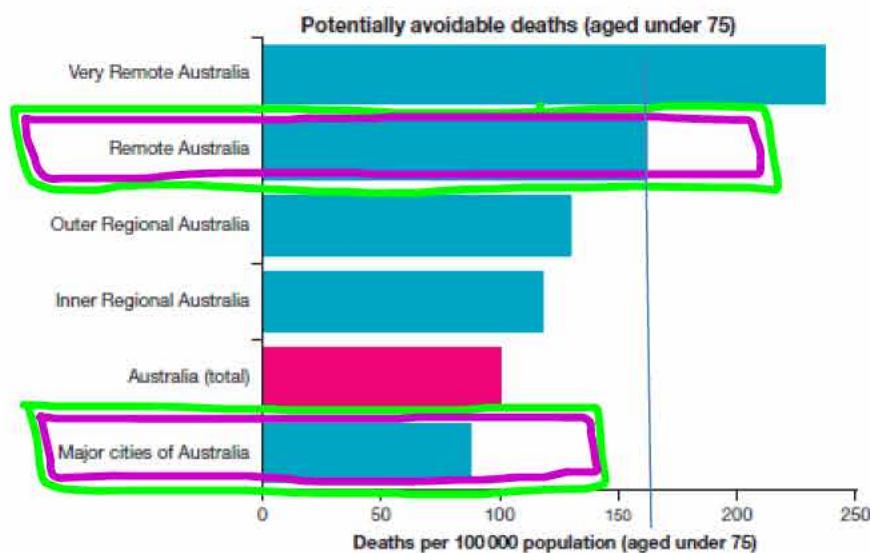
### ANSWERS: EXTENDED RESPONSE

#### 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.

According to source 2, those aged under 75 living in remote areas experience higher levels of premature death than those in major cities (around 165 deaths per 100 000 compared to around 85 per 100 000). The health system can play a significant role in addressing this difference. Those in remote areas are more likely to die from cardiovascular disease, cancers and injuries. Many of these deaths could be avoided with interventions such as early detection. Medicare provides funding for many of these screenings which can assist in early detection. Access is often an issue for people in remote areas. Funding could be provided for mobile testing facilities to travel to remote areas to conduct these tests. This could assist in reducing the difference in death rates between remote areas and those in major cities.

Jim (source 3) lives in a remote area and has sustained an injury. Although this injury will not be fatal, the health system has the potential to assist in addressing this condition. Funding is provided through Medicare and the PBS to assist in treating people like Jim. Private health insurance is a part of the health system that can assist in providing access to private hospitals and services like rehabilitation which can assist in improving health outcomes for Jim. According to source 1, those in remote areas have significantly lower levels of private health insurance membership compared to those in major cities (48.3% of those in remote areas have PHI compared to 59% of those in major cities). The Federal Government provides funding for the private health insurance rebate, which can make PHI more affordable for people who earn lower incomes, like Jim. This can increase access to these services and assist in reducing inequality between those in remote areas and those in major cities.

## ANSWERS: EXAM QUESTIONS

### Question 1

Source: VCE 2020, *Health and Human Development*, Q.2; © VCAA

- a. Medicare – 10 sessions with a psychologist as part of the Mental Health Management (treatment) Plan

Private health insurance – access to private hospital for mental health treatment

Award 1 mark for identifying a health service Stewart could access that is covered by Medicare.

Award 1 mark for identifying a health service Stewart could access through private health insurance.

#### VCAA Examination Report note:

This question was answered well, with most students able to list one service that is covered by Medicare and one service that could be covered by private health insurance. Possible answers included:

- Medicare
- general practitioner (GP) consultation
- specialist consultation
- specific items for allied health services as part of a Mental Health Management (Treatment) Plan
- pathology such as blood tests
- eye tests performed by optometrists
- treatment from a psychologist or psychiatrist (up to 10 sessions as part of a Mental Health Management Plan)
- consultations with an exercise physiologist.
- Private health insurance
- psychological and/or counselling services
- dental
- physiotherapy
- access to private mental health facility
- access to a dietitian.

- b. Advantages:

- shorter waiting lists for some treatments and surgeries
- individuals with private health insurance can access services as part of their insurance that are not covered by Medicare

Disadvantages:

- Policies can be confusing for consumers to understand due to their complex nature

- Depending on the policy selected the premiums can be costly for the individual

Award 1 mark for each advantage of private health insurance identified.

Award 1 mark for each disadvantage of private health insurance identified.

**VCAA Examination Report note:**

This question required students to identify two advantages and two disadvantages of private health insurance.

Students needed to ensure their answers were specific and avoid making statements such as 'quicker treatment' or 'choice of doctor', as Medicare provides quick treatment in emergencies and people can choose their own GP under Medicare, so these answers are not specific to private health insurance. Other incorrect responses included stating that private health insurance provides a better quality of care than Medicare services, private health insurance costs money, it doesn't cover everything and it is only available to Australian citizens.

Examples of correct answers include:

- Advantages
    - Enables access to private hospital care.
    - Choice of doctor while in a public hospital as a private patient / 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 (Medicare levy surcharge).
    - Government rebate for eligible policy holders.
    - 'Lifetime Health Cover' incentive.
    - Enables access to services not covered by Medicare.
  - Disadvantages
    - 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, can create confusion for many.
    - Decreases access and equity in the health system for those who cannot afford private health care.
- c. Due to being diagnosed with depression Stewart may not be able to think rationally and may only be able to focus on his circumstances and his condition. This may make it difficult for him to effectively identify emotions in others (emotional health and wellbeing).

Award 1 mark for demonstrating an understanding of emotional health and wellbeing.

Award 1 mark for linking an aspect of the case study to emotional health and wellbeing.

**VCAA Examination Report note:**

Students were required to meaningfully link the stimulus material to an aspect of emotional health and wellbeing for two marks.

Most students could identify an aspect of emotional health and wellbeing but many neglected to state how information in the stimulus material could contribute to it. For example, stating that

'Stewart's depression may decrease his ability to display resilience' does not establish a meaningful link and, therefore, this response was not able to receive full marks. Another common mistake was linking to mental health and wellbeing (e.g. negative thought patterns or increased levels of stress and anxiety) without including a specific link to emotional health and wellbeing.

The following is an example of a high-scoring response.

*Stewart's current situation involves him experiencing depression and having to take time off work. The negative thought patterns in his head as well as being away from peers and coworkers can cause him to bottle up his emotions and feelings and not be able to communicate them effectively, which can negatively impact his emotional H+W [health and wellbeing].*

d. As Stewart is experiencing depression he may find it difficult to manage and express his emotions positively (emotional h&w) which may cause him to have more arguments with those around him resulting in his inability to maintain positive friendships with others (social h&w).

When the recovery process proves effective for Stewart and he is able to demonstrate resilience as he has bounced back from the set back of having depression (emotional h&w), then he may be able to return to work and again have the sense of purpose he feels by having employment and being needed each day (spiritual h&w).

Award 2 marks for explaining the interrelationship between emotional health and wellbeing and social health and wellbeing, Aspects of each dimension need to be included to show a full understanding of the dimensions.

Award 2 marks for explaining the interrelationship between emotional health and wellbeing and spiritual health and wellbeing, Aspects of each dimension need to be included to show a full understanding of the dimensions.

**VCAA Examination Report note:**

This question was not answered well. While most students could identify aspects of social and spiritual health and wellbeing, many struggled to make meaningful links from emotional health and wellbeing to both dimensions. Marks could not be awarded for defining these dimensions or making links from social to spiritual health and wellbeing. Students needed to link from an aspect of emotional health and wellbeing and not just from depression, as this is a part of mental health and wellbeing.

Students should ensure that they use different aspects of emotional health and wellbeing for each link or, if they use the same example of emotional health and wellbeing for each response, that they include more detail to ensure they have enough information for four marks.

The following is an example of a possible response.

- A serious illness like depression may lead to unpredictable emotions, which Stewart might find difficult to control. This could be a cause of conflict with his loved ones, which could negatively affect his relationships with his family, impacting his social health and wellbeing. If Stewart can identify and process negative emotions, he is more likely to return to his normal activities, such as working, which can provide him with a sense of purpose in life (spiritual health and wellbeing).

**Question 2**

Source: VCE 2020, *Health and Human Development*, Q.7; © VCAA

- a. As socioeconomic status increases, the use of private hospitals increases and the use of public hospitals decreases.

Award 1 mark for outlining the relationship between socioeconomic status and private hospital use.

Award 1 mark for outlining the relationship between socioeconomic status and public hospital use.

**VCAA Examination Report note:**

This question asked for a relationship between socioeconomic status (SES) and hospital use. Responses had to refer to both public and private hospitals to be eligible for full marks.

A common response was to provide a comparison between the highest and lowest SES groups.

The following is an example of a high-scoring response.

*As the level of socio-economic status increases so does the number of people admitted into private hospitals, whilst the number in public hospitals decreases.*

- b. Sustainability: The Australian health care system can benefit from private hospital use as when people access private hospitals they relieve the financial strain and pressure on public hospitals. Relieving this financial pressure on public hospitals allows funding to continue for future generations.

Access: The Australian health care system can benefit from private hospital use as when people access private hospitals this allows more access to public hospitals for those who cannot afford to attend private hospitals. Increased access means people can access health care with less waiting time so they can be treated before their condition worsens and extends their hospital stay, thereby reducing the costs to the health system.

Award 1 mark for showing an understanding of sustainability within the health system.

Award 1 mark for explaining how the use of private hospitals can benefit the health system in relation to sustainability.

Award 1 mark for showing an understanding of access within the health system.

Award 1 mark for explaining how the use of private hospitals can benefit the health system in relation to access.

**VCAA Examination Report note:**

Many students could identify an aspect of sustainability and/or access in relation to the use of private hospitals. Few made links to benefits to the health system and instead linked to benefits for the individual accessing private hospitals. Another common issue was using the same example in relation to sustainability and access, such as freeing up space in the public system, which did not provide enough depth to be eligible for full marks.

The following is an example of a high-scoring response.

*Sustainability: By having a private hospital, it allows those who are able to pay for private health insurance to not be sent to public hospitals, therefore the amount of money being paid by the Government to hospitalise people is decreased, therefore allowing it to be sustainable as the Government can pay for more people as the years go on.*

*Access: Having the two different hospitals allows for more people to seek access to hospitals as there are more spaces in public hospitals as those with private health insurance are sent to private hospitals therefore allowing access to public hospitals to those who need it most.*

- c. Those in low SES groups have almost twice the prevalence of mental health and behavioural problems compared to those in high SES groups.

Those in low SES groups have higher mortality rates from injuries than those of high SES groups.

Award 1 mark for each difference in health status between high and low SES groups identified.

**VCAA Examination Report note:**

This question required students to refer to both high and low SES groups in their answer. There were many options students could choose, including:

- High SES groups are more likely to report their health status as excellent compared to low SES groups, who are more likely to report their health as poor.
- Low SES groups have a lower life expectancy than high SES groups.
- Low SES groups have higher infant mortality rates than high SES groups.
- High SES groups have lower mortality rates than low SES groups.
- High SES groups have lower incidence of coronary heart disease than low SES groups.
- Low SES groups have higher rates of infectious (or communicable) diseases than high SES groups.
- High SES have lower rates of (compared to low SES)
- stroke
- diabetes
- kidney disease
- lung cancer
- asthma
- arthritis
- oral health issues
- injury
- mental and behavioural problems

- d. Work environment - Those living in low SES groups tend to work in more laborious and dangerous work environments. If safety measures are not upheld in the work environment the workers are more likely to not only be injured by an accident at work but the accident is more likely to be serious enough to result in death. This can result in higher mortality rates from injuries for low SES groups compared to high SES groups.

Award 1 mark for identifying an environmental factor

Award 1 mark for explaining how the environmental factor might contribute to health status

Award 1 mark for linking this explanation to a difference in health status identified in part c.

**VCAA Examination Report note:**

Many students could identify an environmental factor, but few were able to use it to effectively explain a difference identified in part 7c. A common error was stating that, for example, 'low SES groups are more likely to live in rural and remote areas' as there are also high SES groups living in these areas who face the same challenges in relation to accessing resources that low SES groups do, yet still experience higher health status. Another common mistake was stating, for example, 'access

to health services' as the factor and then discussing sociocultural barriers to health care, such as health literacy, which did not correctly answer the question.

The following is an example of a possible response.

*Environmental factor: Proximity to fast food outlets*

*Explanation: Low SES suburbs often have a higher density of fast food outlets when compared to high SES suburbs. This makes energy-dense foods more accessible in low SES suburbs and contributes to this group consuming more of these foods. As a result, rates of obesity and related conditions such as type 2 diabetes are likely to be higher among this group, contributing to the higher mortality rates experienced.*

*Other appropriate environmental factors include:*

- *housing/shelter*
- *environmental tobacco smoke*
- *work environment / exposure to hazards.*

**Question 3**

Source: VCE 2013, *Health and Human Development, Section A, Q.8*; © VCAA

- Medicare is a compulsory health care scheme available to all Australians whereas private health insurance is optional—you choose to have it.
- Medicare is funded by the Federal Government through taxation. Private health insurance is paid for by individuals.
- Medicare covers essential health services such as GPs, specialists and public hospitals, while private health insurance can be purchased for health services not covered by Medicare; for example, dentists, physiotherapists and chiropractors.

**VCAA Assessment Report note:**

Some students were able to provide two examples of how Medicare differs from private health insurance, but many students were unable to demonstrate the differences.

**Question 4**

- a. Medicare is funded in three main ways — the Medicare levy, the Medicare levy surcharge and general taxation revenue. Most taxpayers pay an extra 2 per cent of their income in the form of the Medicare levy. Those who are considered to be high-income earners who do not have private health insurance pay an extra 1–1.5 per cent, called the Medicare levy surcharge. Medicare requires more funds than this to operate, however, so funds from general taxation are also used to fund Medicare.
- b. Medicare covers consultation fees for doctors (including specialists); tests and examinations by doctors that are needed to treat illnesses, including x-rays and pathology tests and eye tests performed by optometrists; most surgical and other therapeutic procedures performed by doctors; some surgical procedures performed by approved dentists; and treatment by doctors and specialists in public hospitals (if being treated as a public patient), including the initial treatment and aftercare.
- c. *Examples*
  - Medicare covers all Australian citizens and permanent residents whereas private health insurance is optional.
  - For hospital services, people cannot choose their own doctor under Medicare but can with private health insurance.
  - For elective surgery, waiting lists are generally shorter under private health insurance than under Medicare.

- Medicare doesn't generally cover services such as physiotherapy whereas private health insurance can.

**Question 5**

The NDIS can fund carers who can assist people with disabilities in accessing community resources such as social clubs. This can enhance relationships and promote social health and wellbeing. The NDIS can provide assistance in modifying the home to accommodate the needs of a person with a disability. This can increase the number of people who can live independently which can promote self-esteem and enhance mental health and wellbeing.

## Topic 7: Targets of health promotion in Australia

### 7.2 Smoking and the role of health promotion in improving population health

#### ANSWERS

##### Case study review: 30 years of Quit saves half a million Victorians

1. On aeroplanes, inside restaurants, at people's desks at work and even in hospitals
2. Tobacco advertising could be seen in newspapers, at the cinema and on billboards, featuring healthy young actors smiling with friends as they enjoyed a cigarette. Melbourne television viewers saw, on average, one advertisement for cigarettes every eight minutes.
3. Quit has been very effective. Smoking rates have decreased from 32 per cent in 1985 to around 13 per cent in 2012. More than 800 000 Victorians are now not smoking today which means more than half a million lives could have been saved.  
About 4500 Victorians died from smoking in 2013.
4. Examples of how Quit has influenced the health and wellbeing of Victorians include:
  - Decreased incidence of smoking-related diseases, such as lung cancer and chronic obstructive pulmonary disease, promoting physical health and wellbeing.
  - People are saving money from not buying tobacco, which leaves more money for activities such as socialising, promoting social health and wellbeing.
  - As people are less likely to die from smoking-related illness, levels of stress and anxiety may decrease, promoting mental health and wellbeing.
5. Examples of how examples in the case study relate to the Ottawa Charter include:
  - Reducing smoking advertising is an example of creating a supportive environment.
  - Stopping people smoking in public places creates a supportive physical environment by removing second-hand smoke from the environment.
  - The contribution of Quit Victoria, VicHealth, Cancer Council Victoria and federal and state governments reflects strengthening community action.
  - Banning advertising, smoking in public places and increased prices of cigarettes reflects building healthy public policy.
  - The 16 cancers campaign is working to develop personal skills by education about the cancers that tobacco can cause.

#### 7.2 Activities

##### Smoking health promotion worksheet

- a. The video works to show that although quitting can be difficult, it is worth the effort because quitting smoking can decrease the risk of premature death and save you money. It provides information on where to access assistance to quit and why it was useful.
- b. The advertisement *creates a supportive environment* by showing how an ordinary person struggled and succeeded in giving up smoking, and *develops personal skills* by showing where information can be found.

##### My QuitBuddy worksheet

###### Examples

- The app provides information about the benefits of quitting smoking for health, which is *developing personal skills*.
- The app can send updates to provide encouragement, which is *creating a supportive environment*.

#### 7.2 Exercise

##### Test your knowledge

1. Examples

- Smoking is the leading cause of preventable death in Australia.
  - Smoking kills an estimated 20 000 Australians each year.
  - Smoking costs Australia \$31.5 billion in social (including health) and economic costs each year.
  - Smoking affects vulnerable population groups disproportionately, with people living outside major cities and people from Indigenous and low socioeconomic backgrounds being more likely to smoke.
  - Half of all long-term smokers will die prematurely because they smoked.
  - Exposure to environmental tobacco smoke (ETS) also causes disease and premature death in adults and children who do not smoke. (3 marks)
- 2.
- a. People living outside major cities and people from Indigenous and low socioeconomic backgrounds are more likely to smoke. (1 mark)
  - b. Tobacco use is a risk factor for a number of diseases, and can contribute to:
    - Higher DALY due to cancer
    - More YLD due to asthma
    - More YLL and YLD due to chronic obstructive pulmonary disease
    - More DALY due to cardiovascular disease (3 marks)
3. All levels of government implement laws relating to smoking.
- Federal law bans smoking in all Australian Commonwealth Government buildings, public transport, airports and international and domestic flights. Further bans are in place but are governed by individual states.
  - All Australian states and territories have banned smoking in enclosed public places, particularly workplaces and restaurants.
  - Some local governments have also introduced laws that prohibit smoking in public outdoor places, including in parks and beach areas. (3 marks)
4. Examples of laws that have been created to address smoking include:
- Smoking is banned in all workplaces and restaurants.
  - Smoking is banned in areas commonly used by children and young people for recreational and sporting activities.
  - Smoking at all Victorian patrolled beaches is banned.
  - It is an offence to smoke in a vehicle where a person under the age of 18 is present.
  - A ban on smoking in government school grounds became effective in July 2009.
  - A restriction on smoking in enclosed public places has been in effect since July 2007.
  - In 2006, smoking was banned in covered areas of train station platforms, tram stops and bus stops.
  - Some local governments have also introduced laws that prohibit smoking in public outdoor places, including in parks and beach areas. (3 marks)
5. My QuitBuddy provides feedback to users enabling them to track how many cigarettes they haven't smoked, how many grams of tar they've not inhaled, how much money they've saved each day and how many days they've been smoke free. (2 marks)

## 7.2 Apply your knowledge

6. Examples of how the action areas of the Ottawa Charter are evident in health promotion initiatives to address smoking include:
- *Build healthy public policy* — Anti-smoking laws are examples of *healthy public policies* that work to make not smoking the easier and healthier choice. Quit provides advice to the state government to implement healthy public policies. Examples of policies include laws relating to smoking in public places, tobacco advertising, the display of cigarettes in retail outlets, tobacco packaging and tobacco taxes.

- *Create supportive environments* — National Tobacco Campaigns create *supportive environments* by providing information on how to access resources to assist in quitting. My QuitBuddy creates a *supportive environment* by allowing users to record personal goals and motivation using pictures, words and audio messages. There is a community board where users can gain motivation and support from thousands of other people quitting.
  - *Strengthen community action* — The Quitnow website *strengthens community action* by providing links to the Quit organisation in each state and territory. Users can then access resources available in their location. Quit Victoria is a joint venture between the Victorian Government, VicHealth, the Heart Foundation and the Cancer Council. It is an example of strengthening community action.
  - *Develop personal skills* — National Tobacco Campaigns work to *develop personal skills* by educating the population on the dangers and consequences of smoking. A recent campaign is the ‘Don’t make smokes your story’. Quit *develops personal skills* by providing information regarding tobacco smoking and the benefits associated with not smoking. This is achieved through a mass advertising campaign and via downloadable information on its website.
  - *Reorient health services* — Quit *reorients health services* by investing millions of dollars in smoking prevention research. This research then provides best practice techniques for preventing people from starting smoking and assisting smokers to quit. Quit provides a free online learning training program for health professionals which 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 relating to assisting smokers to quit. (5 marks)
7. Programs such as Quit provide people with tools to quit smoking. This can reduce smoking rates and associated health outcomes such as reduced fitness (physical health and wellbeing), mortality rates due to cancer and cardiovascular disease, mental health issues associated with disease (promoting mental health and wellbeing) and the incidence of infectious diseases. Reduced rates of smoking mean that people will be less likely to remove themselves from social situations (such as at restaurants) to smoke which can enhance social health and wellbeing. (3 marks)
8. Discuss responses, for example:
- I believe increasing the cost has had the greatest impact as people are more likely to stop smoking if they can’t afford. If they have less money for other things such as food and rent, they may be more likely to give up.
  - I believe advertising campaigns have had the greatest impact in reducing smoking as they educate the community on the dangers of smoking and the impact it can have on their family and friends. This targets a range of impacts which together, have a huge impact and encourage people to quit. (2 marks)
9. *Examples for parts (a) and (b)*
- People on welfare could have their payments paid onto a debit card that would not let them use the money for cigarettes. This reflects *building healthy public policy* and *creating a supportive environment*.
  - Quit specialists could travel to towns and communities outside of major cities to provide sessions to help smokers to quit. This reflects *creating a supportive environment*. (2 marks)

## 7.2 Exam questions

### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.16 (adapted); © VCAA

- a. Smoking costs Australia approximately \$31.5 billion dollars in social and economic costs each year. It also kills approximately 15,000 Australians each year, and as smoking is considered a preventable risk factor, these deaths are considered avoidable.

Award 1 mark for each reason given to explain why health promotion was used to target this area for a maximum of two marks.

**VCAA Examination Report note:**

This question was answered reasonably well with most responses providing at least one reason as to why health promotion was used to target their selected area.

b. Health promotion program: QUIT Victoria

The QUIT Victoria health promotion program provides support services such as the Quitline to help people stop smoking. This support service is staffed by trained specialists who provide information to people on how to quit smoking and what behavioural changes they can make. This support service is staffed by trained specialists who provide information to people on how to quit smoking and what behavioural changes they can make. Quit also helps educate the public about the effects of smoking and the benefits of quitting.

c. Health promotion program: QUIT Victoria

The QUIT Victoria health promotion program creates supportive environments through the provision of support services such as the Quitline. This support service is staffed by trained specialists who provide information to people on how to quit smoking and what behavioural changes they can make.

Quit Victoria also strengthens community action as it works with the community and population groups to create public education materials to help create awareness around the effects of smoking and the benefits of quitting.

Award 1 mark for describing an aspect of the implementation of the selected health promotion program.

Award 1 mark for explaining how the program reflects one action area of the Ottawa Charter.

Award 1 mark for describing another aspect of the implementation of the selected health promotion program.

Award 1 mark for explaining how the program reflects one other action area of the Ottawa Charter.

**VCAA Examination Report note:**

Most responses accurately identified action areas of the Ottawa Charter. Some students found it difficult to describe how their selected action areas were reflected in their selected health promotion. Responses had to go beyond stating that the action area was reflected, to include a description of how it was reflected.

**Question 2**

Suggested answers include:

Creating a supportive environment:

- the app is free of charge, making it easier for people to access and use it

- the app provides games and can connect you to the Quitline during danger craving times
- the app provides flexibility — the individual chooses their own goals, and when they are going to quit
- the community forum allows sharing of stories, celebrations of milestones
- the ‘check in’ every evening for the first three weeks.

Developing personal skills:

- the community forum provides distraction tips for quitting, which will build skills
- the app allows individuals to program danger times, which helps them recognise and build skills to overcome cravings.

### Question 3

Health promotion has been effective in reducing smoking rates over time. Daily smoking rates for both males and females have decreased from 22.3 per cent in 2001 to 16.3 per cent in 2011–12 for adults over the age of 18.

### Question 4

- in 2016, almost 15 000 people died as a result of smoking
- those in the lowest socioeconomic status groups are most vulnerable
- 41 per cent of Indigenous Australians are daily smokers
- those living in rural and remote areas account for larger smoking numbers than those in major cities.

### Question 5

Under the Ottawa Charter, this is an example of the ‘Strengthen community action’ action area. Cancer Council Victoria, the Department of Health, the National Heart Foundation and VicHealth are all groups working together to improve health and wellbeing outcomes.

## 7.3 Road safety and the role of health promotion in improving population health

### ANSWERS

#### Case study review: Victoria records lowest road toll ever, but is it really possible to get to zero?

1.
  - a. Interventions that have contributed to a reduction in road deaths according to the article are: targeting country roads, where people were at a higher risk — such as introducing flexible barriers more education for young motorists and stricter rules around practice hours was also effective.
  - b. They reflect creating a supportive environment (barriers) and building healthy public policy (stricter rules on practice hours) and developing personal skills (educating young motorists).
2. *Examples*
  - *Build healthy public policy* — stricter rules could be introduced on the use of mobile phones.
  - Create a supportive environment — technology may be able to be developed that automatically turns mobile phones off when the owner is driving.
  - *Strengthen community action* — schools, sports clubs, parents and community groups could promote the message of not using phones whilst driving among young people.
  - *Develop personal skills* — young people could be educated through a mass advertising campaign on the internet to promote safe driving messages.
  - *Reorient health services* — ambulance workers could run sessions at schools educating young people about the dangers of using mobile phones whilst driving.

## 7.3 Activity

### Road safety health promotion worksheet

Example: Strings

- a. This program aims to educate adults in relation to the influence they have on their own children, even years before they start driving themselves.
- b. This works to remind parents that they are setting an example for their children. This is *developing personal skills* by educating parents of their influence over their children.

### 7.3 Exercise

#### Test your knowledge

1. Reasons why road safety is targeted by health promotion programs include:
  - There have been over 190 000 deaths on Australia's roads since 1925.
  - Road-related deaths and injuries affect some population groups disproportionately, including males, Indigenous Australians, people living outside of Australia's major cities, those from low socioeconomic groups and young people.
  - Every day, an average of three people are killed and 90 are seriously injured as a result of using Australia's roads.
  - All road crashes are deemed to be preventable. (3 marks)
2. The population groups that are more likely be injured or killed on the roads when compared to the rest of the population are: males, Indigenous Australians, people living outside of Australia's major cities, those from low socioeconomic groups and young people. (1 mark)
3. 1105 people were killed on Australia roads in 2020. (1 mark)
4. In 1970, there were approximately 3800 deaths. This number has steadily decreased since then, reaching around 1100 in 2020. (1 mark)
5. The three interventions that account for almost all of the reduction in mortality rates since the 1960s due to road accidents are: wearing of seatbelts, random breath testing, and speed cameras. (1 mark)

#### Apply your knowledge

6. Examples of how the action areas of the Ottawa charter are evident in initiatives to promote road safety:
  - *Build healthy public policy* — Road laws such as seatbelts, speed limits and drink driving laws reflect healthy public policies. The Ten Point Plan saw the progressive implementation of a range of road-related laws which reflect building healthy public policies.
  - *Create supportive environments* — Random breath testing creates a supportive environment by reducing the number of drivers on the road affected by alcohol or drugs. Kids on the Move creates a supportive environment by providing a variety of teaching and learning activities organised into modules.
  - *Strengthen community action* — The Driver Reviver program strengthens community action by involving a range of organisations such as State Emergency Services volunteers, rural and volunteer fire services, Lions Club and Apex members, State Police forces and the TAC. Kids on the Move strengthens community action because all members of the school and general community are encouraged to share the responsibility for the safety of children when they are travelling.
  - *Develop personal skills* — TAC campaigns work to develop personal skills relating to young drivers, fatigue, drug driving, motorcycle safety, distractions, vehicle safety, speeding and drink-driving. The P.A.R.T.Y. program is a trauma prevention and health promotion initiative that seeks to develop the personal skills of young people by providing a real experience of a major trauma service.
  - *Reorient health services* — The TAC assists in providing seminars to community groups, schools and businesses, to educate individuals about the risks associated with road use. Ambulance officers participate in this program, which is an example of reorienting health services. The P.A.R.T.Y. program reorients health services by utilising the experiences of

presenters including emergency services, doctors, nurses, allied health professionals and researchers. (5 marks)

7. Improving road safety can mean that fewer people are involved in road accidents which can reduce the incidence of road injuries. Reduced rates of injuries mean that people are more able to work towards their purpose in life by working or caring for family members which can enhance spiritual health and wellbeing. Given that a lot of road fatalities involve young people, improving road safety can increase life expectancy. (3 marks)
8. Discuss responses, for example:
  - I believe road rules have been the most effective as people are more likely to drive safely if they are at risk of getting fine or losing their licence.
  - I believe that safety features (including seat belts) have been the most effective as humans will always make mistakes and safety features have helped many people survive accidents when they occur. (2 marks)
9. Examples for parts (a) and (b)
  - Financial rewards could be given to drivers who do not incur any fines in a 12-month period (as a reduction in registration). This is *creating a supportive environment and building healthy public policy*.
  - Drivers up the age of 25 could be required to have a zero blood alcohol concentration level. This reflects *building healthy public policy*. (2 marks)

### 7.3 Exam questions

#### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.16 (adapted); © VCAA

- a. Road crashes cost Australia approximately \$27 billion dollars in social and economic costs each year. Deaths and injuries from road trauma cause significant emotional impacts on family, friends and other community members, especially as injuries are unforeseeable and cause a significant degree of shock. Since record keeping commenced in 1925, there have been over 187 000 deaths on Australia's roads.

Award 1 mark for each reason given to explain why health promotion was used to target this area for a maximum of two marks.

#### VCAA Examination Report note:

This question was answered reasonably well with most responses providing at least one reason as to why health promotion was used to target their selected area.

- b. Health promotion program: Kids on the Move

Kids on the Move is a road safety program designed for Victorian primary school students.

- c. Kids on the move focuses on road-safety education programs for Victorian primary schools. It is effective because it involves the whole school community which *strengthens community action* because all members of the school and general community are encouraged to share the responsibility for the safety of children when they are travelling. Safe road-use behaviour develops over time and needs to be constantly practised and reinforced in a range of different scenarios as children develop and learn to be responsible for themselves.

Kids on the Move *creates a supportive environment* by providing a variety of teaching and learning activities organised into modules. The modules can be downloaded from the Kids on the Move

website and assist teachers at different levels to plan, develop and teach their own comprehensive road-safety education program.

Award 1 mark for explaining particular aspects of the program that make it effective.

Award 1 mark for showing an understanding of the criteria used to measure the effectiveness of a program. (See a list of possible criteria below in the *VCAA Examination Report* notes.)

Award 1 mark for explaining how this promotes health and wellbeing.

Students should also not ‘double-dip’ by using the action areas of the Ottawa Charter that they referred to in question 16b as a criterion for this answer.

***VCAA Examination Report* note:**

There are many criteria to which students could refer when evaluating a program, but they had to have an understanding of the features that make a program effective, such as:

- actual improvements
- potential improvements
- features of effective programs (such as results-focus, partnerships and collaboration, ownership, appropriateness)
- action areas of the Ottawa Charter evident
- principles of the social model of health reflected.

Many responses did not provide enough detail about why the particular aspect of the program assisted in making it effective. Although a specific link to a dimension of health and wellbeing was required for full marks, some neglected to evaluate the program and only included multiple links to various dimensions, which did not answer the question.

**Question 2**

Health promotion has been effective in reducing road deaths over time. Road deaths have decreased from approximately 1510 deaths in 2006 to approximately 1200 deaths in 2015.

**Question 3**

Suggested answers include:

- Build healthy public policy — the government could continue to enforce the compulsory wearing of seatbelts. Seatbelts reduce the risk of being thrown from a car in an accident and assist in reducing deaths from road trauma.
- Create a supportive environment — improved lighting and the erection of safety barriers on roads encourage road users to be safer. This should reduce road accidents and decrease deaths from road trauma.
- Strengthen community action — volunteer groups working together to provide hot drinks and biscuits at roadside stops over holiday seasons to encourage people to stop and have a break will reduce fatigue while driving. This should reduce road trauma deaths.

**Question 4**

Reasons could include:

- Although road trauma deaths have decreased over time, it is still a major cause of mortality in Australia.
- Males are 3.5 times more likely to die in a road accident than females.
- Indigenous road trauma deaths are double that of non-Indigenous Australians.
- People living in rural and remote Australia are 4 times more likely to die due to road trauma.
- Low socioeconomic groups are 2.2 times more likely to die due to road trauma than high socioeconomic groups.

**Question 5**

Under the Ottawa Charter, this is an example of the ‘Strengthen community action’ action area.

The State Emergency Services (SES) and Lions volunteers are examples of groups working together to improve health and wellbeing.

## 7.4 skin cancer and the role of health promotion in improving population health

### ANSWERS

#### Case study review: New SunSmart campaign urges men to give complacency the Slip, Slop, Slap

1. For these reasons:
  - Males usually spend more time in the sun than females.
  - Males have higher incidence and death rates than females from skin cancer.
  - Males often do not utilise sun protection measures.
2. Males are less likely to access health services than females. As a result, skin cancers are less likely to be diagnosed early which can limit treatment options. Cultural norms can mean that males believe they have to be stoic and that nothing can hurt them. This can contribute to fewer cancer screenings compared to females.
3. The program is working to *develop personal skills* by showing males that UV can damage a lot of things, including their skin. Clothing, hats and shade were under-utilised, and to a lesser extent, sunglasses.  
The program is *creating a supportive environment* as it has been made relatable to men.
4. The program:
  - May reduce the incidence of skin cancers among males.
  - It may increase life expectancy among males.
  - May work to decrease mortality rates among males due to skin cancer.
  - Males may experience lower levels of morbidity due to skin cancers.

### 7.4 Activities

#### SunSmart worksheet

*Example: Is windburn real or myth?*

- a. This advertisement is working to educate people in relation to skin cancer. It busts the myth that wind can cause sunburn and reinforces the fact that it is UV that is responsible for sunburn.
- b. This reflects the action area of *developing personal skills* as it is building knowledge.

#### SunSmart app worksheet

- a. The app allows you to enter your personal information and location, and it can send alerts reminding you to practice SunSmart measures. It displays the UV rating in your current location, and allows this information to be shared via social media. It tells you how much sunscreen to use and can send alerts reminding you to reapply sunscreen. This reduces your UV exposure and the risk of skin cancer.

- b. The app *develops personal skills* by educating people about sun protection behaviours. It also *creates a supportive environment* by providing reminders and other information about sunscreen.

#### 7.4 Exercise

##### Test your knowledge

1. Reasons why skin cancer is targeted by health promotion programs include:
  - Australia has the highest rate of skin cancer in the world.
  - Excluding non-melanoma skin cancer, melanoma is the third most common cancer in Australian women and the second most common cancer in men. It is also the most common cancer in Australians aged 15–44 years.
  - In 2015, melanoma skin cancers were responsible for 32 524 of years of life lost (YLL) or 1.4 per cent of the total fatal burden.
  - Non-melanoma skin cancers accounted for almost one-quarter of all cancer-related hospitalisations in 2016–17.
  - The cost to the health system in 2015–16 of these skin cancers alone is estimated at more than \$1 billion.
  - Lost productivity and premature mortality that contribute to other costs associated with skin cancers in Australia cost over \$100 million each year.
  - The emotional and mental impacts of skin cancer are considerable.
  - Surgery to remove skin cancer can alter a person’s appearance as large amounts of surrounding tissue are often removed, and this can contribute to depression and anxiety.
  - A person diagnosed with melanoma may experience high levels of stress as they undergo treatment.
  - Premature death of an individual causes immense distress among family and friends.
  - Health promotion activities have significant potential to reduce the impact of skin cancer in Australia by implementing activities that act to reduce overexposure to UV radiation.(3 marks)
2. Males and those working outdoors are more likely to develop skin cancer in Australia. (1 mark)
3. Between 95 per cent and 99 per cent of skin cancers are estimated to be caused by exposure to the sun. (1 mark)
4. Melanoma is cancer of the melanocytes, which are the cells in the skin that are responsible for making melanin, a pigment in the skin that gives the skin its colour and also protects it from harmful UV rays. Too much UV exposure can cause the melanocytes to grow abnormally and become malignant. If not diagnosed and treated in the early stages, the cancerous cells can grow deeper into the skin and eventually metastasise. (2 marks)
5. A solarium is a unit that uses UV radiation to create a tan. (1 mark)

### Apply your knowledge

6. Examples of how the action areas of the Ottawa Charter are evident in initiatives to address skin cancer include:
  - *Build healthy public policy* — In 2015, the Victorian Government developed a healthy public policy that made it illegal to operate commercial solarium units in Victoria. Many schools implement a ‘no hat, no play’ or ‘no hat, play in the shade’ policy to promote the wearing of hats during play times.
  - *Create supportive environments* — UV Daily notifies users of the UV index and conveys sun safety messages to tradespeople. SunSmart works to create supportive environments by improving environmental protection strategies, such as shade audits, options for built and natural shade, and promoting the SunSmart UV Alert.
  - *Strengthen community action* — SunSmart strengthens community action by assisting various groups to reduce UV exposure. Targeted groups include early childhood centres, schools, workplaces, local communities, sporting clubs and sporting venues. National Skin Cancer Action Week strengthens community action by encouraging people to get involved, including by putting posters up at work, home or at school to remind Australians of the importance of sun protection.
  - *Develop personal skills* — ‘When you cover things, they last longer. Same goes for you.’ — this campaign showed people that much like cars, deck and barbecues, skin requires protection from UV rays. During National Skin Cancer Action Week, the Cancer Council and the Australasian College of Dermatologists develop personal skills by reminding Australians of the importance of sun protection and early skin cancer detection.
  - *Reorient health services* — SunSmart assists in reorienting health services by providing support for community health workers, general practitioners and local governments in promoting awareness of UV exposure. National Skin Cancer Action Week is an example of reorienting health services as dermatologists work to raise awareness of and prevent skin cancer. (5 marks)
7. Addressing skin cancer can reduce the incidence of this disease, especially among vulnerable groups such as outdoor workers, fair-skinned and young people. Reducing rates of skin cancer can reduce levels of stress among these groups, promoting mental health and wellbeing. As Australia has the highest rates of skin cancer in the world, reducing the rate could increase life expectancy of the whole population. (2 marks)
8. Discuss responses, for example:
  - I think banning solariums has had the greatest impact as this prevents high-risk groups from using them. This can reduce the amount of UV exposure they receive which can reduce their risk of skin cancer.
  - I think the SunSmart strategy has been most effective as it teaches people about how to decrease their risk of skin cancer. If people have the knowledge they need to prevent it from happening, many people will. (2 marks)
9. *Examples for parts (a) and (b)*
  - Education campaigns could be run in sporting clubs where males play sport. They could be given free sunscreen and incentives for using it. This is *creating a supportive environment* and *developing personal skills*.
  - Those who work outdoors could be allowed to claim SunSmart measures as tax deductions, so it doesn’t cost them as much to implement them. This is *building a healthy public policy*. (2 marks)

### 7.4 Exam questions

#### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.16 (adapted); © VCAA

a. Australia has the highest rate of skin cancer in the world. Many cases of skin cancer are preventable by changing behaviour such as the use of sunscreen

Award 1 mark for each reason given to explain why health promotion was used to target this area for a maximum of two marks.

**VCAA Examination Report note:**

This question was answered reasonably well with most responses providing at least one reason as to why health promotion was used to target their selected area.

b. SunSmart is an initiative of Cancer Council Victoria and helps to prevent skins cancers. It was launched in 1988 and is funded by Cancer Council Victoria and the Victorian Health Promotion Foundation (VicHealth).

c. Target area: Skin cancer

Health promotion program: SunSmart

Create supportive environments – There is a UV alert system that provides information on the level of UV exposure which helps people become aware of the dangers of the sun at particular times during the day.

Developing personal skills – SunSmart develops personal skills through mass advertising campaigns on television, radio, print, digital, and public relations activities that are designed to educate people about the need for sun protection.

Award 1 mark for describing an aspect of the implementation of the selected health promotion program.

Award 1 mark for explaining how the program reflects one action area of the Ottawa Charter.

Award 1 mark for describing another aspect of the implementation of the selected health promotion program.

Award 1 mark for explaining how the program reflects one other action area of the Ottawa Charter.

**VCAA Examination Report note:**

Most responses accurately identified action areas of the Ottawa Charter. Some students found it difficult to describe how their selected action areas were reflected in their selected health promotion. Responses had to go beyond stating that the action area was reflected, to include a description of how it was reflected.

**Question 2**

Suggested answers could include:

- Build healthy public policy — the school has a ‘No hat, no play’ rule. This is an example of building healthy public policy as it is a rule children have to abide by, forcing them to change their behaviour to be sun smart.

- Create a supportive environment — the school has sufficient shelters and trees providing shade in outdoor areas. This is an example of creating a supportive environment as the school is making it easier and supports children to be sun smart by having shadier areas to play and gather.

### Question 3

- Australia has one of the highest rates of skin cancer in the world.
- Around two in three Australians are diagnosed with skin cancer before the age of 70.
- Melanoma is the third most common cancer in Australian women and the fourth most common cancer in Australian men.

### Question 4

The SunSmart program is jointly funded by the Victorian Cancer Council and VicHealth. It aims to minimise the human cost of skin cancer in all Victorians through programs such as SunSmart schools. SunSmart has an informative website that contains information about skin cancer and the associated risk factors. It also provides practical information about how to stay safe in the sun. SunSmart has also developed a SunSmart app, which provides resources to help individuals reduce their risk of skin cancer.

### Question 5

Under the Ottawa Charter, this is an example of the ‘Develop personal skills’ action area, as the SunSmart website is aiming to develop new skills and knowledge on how to be sun smart at the snow.

## 7.5 Initiatives to address Indigenous health and wellbeing

### ANSWERS

#### 7.5 Activities

##### Closing the gap worksheet

1. 16
2. Far greater Indigenous involvement in leading its implementation and measuring its progress.
3. Involving Aboriginal and Torres Strait people means that Indigenous people will have a greater sense of ownership in relation to the strategy which can increase engagement and therefore effectiveness.
4. Examples include:
  - Target 6: By 2031, increase the proportion of Aboriginal and Torres Strait Islander people aged 25-34 years who have **completed a tertiary qualification** (Certificate III and above) to 70 per cent

Having a tertiary qualification can increase employment opportunities which can increase average incomes. With greater income, Aboriginal and Torres Strait Islander people will be more able to afford resources that promote health and wellbeing such as private health insurance. This increases treatment options for common conditions and can return the individual to their pre-illness state, therefore promoting physical health and wellbeing. By increasing employment opportunities, it can also give people a greater sense of purpose in life (spiritual health and wellbeing) and increase self-esteem (mental health and wellbeing).

- Target 12: By 2031, reduce the rate of over-representation of Aboriginal and Torres Strait Islander **children in out-of-home care** by 45 per cent

If children are not in out-of-home care, they will be living with their families. This can provide a sense of belonging to their community which enhances spiritual health and wellbeing. They will also

be able to spend time with family and friends which can enhance the quality of relationships which promotes social; health and wellbeing.

- Target 16: By 2031, there is a sustained increase in number and strength of Aboriginal and Torres Strait Islander **languages being spoken**

This can promote spiritual health and wellbeing as people will feel more connected to their culture. People may also be more likely to experience positive thought patterns as their culture is being respected, improving mental health and wellbeing.

## 2 Spirits worksheet

- a. They were bullied and picked on, and some committed suicide.
- b. To share their culture and to share their message of hope and acceptance in memory of those in their group who took their own lives. To show that modern Indigenous culture has progressed.
- c. They may experience a greater sense of belonging to their community which can enhance their spiritual health and wellbeing. They are less likely to feel stressed at not being accepted and less likely to be bullied which can enhance mental health and wellbeing. They are less likely to self-harm which promotes physical health and wellbeing.

## Fitzroy Stars Football Club worksheet

- a. Help them find work, refer to Aboriginal Health Service, Youth Issues, justice issues, give them a sense of community and identity, makes them feel good about themselves, look after themselves.
- b. It gives people a social outlet. They bring their family along to training and games. It strengthens community action by having a whole of community approach and working with various parts of society to promote health and wellbeing. It develops personal skills by providing people with training and education. It also creates a supportive environment where people can go and be treated with respect and receive help if they are in need.

## 7.5 Exercise

### Test your knowledge

1. Indigenous Australians experience poorer health outcomes than any other population group in Australia and therefore have significant potential to experience improvements in health and wellbeing. This is why they have been a focus of numerous health initiatives. (1 mark)
2. Exploring interventions already put in place allows successful interventions to be identified and built upon in the future to bring greater gains in health and wellbeing to Indigenous Australians. (1 mark)
3. Closing the Gap is an agreement between Australian, state, territory and local government representatives, along with Indigenous groups, 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 2031. (2 marks)
4. Examples of health promotion interventions working to promote the health and wellbeing of Indigenous Australians include:
  - ‘Learn Earn Legend!’ is a program that encourages and supports young Indigenous Australians to stay at school to develop literacy and numeracy skills, so they can get a job and be a legend for themselves, their family and their community.
  - The ‘2 Spirits’ program embraces a ‘whole of community approach’ to improve the sexual health of Indigenous gay men and sistergirls through education, prevention, health promotion, and community development activities. (4 marks)
5. Examples include:
  - Actual improvements in health and wellbeing that have been made as a result of the initiative — effective initiatives conduct research to determine the level of success 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.
- Feedback provided by participants — those taking part in the program often provide information of their personal experiences which can indicate the level of success in promoting Indigenous health and wellbeing.
- Action areas of the Ottawa Charter that are evident in the initiative, including developing 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.
- Whether the initiative is culturally appropriate for Indigenous Australians, including the consultation, use and training of Indigenous personnel in planning and delivering the program.
- Whether the initiative has taken the specific needs of the target group into account, including the specific needs relating to the health and wellbeing of Indigenous people.
- 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.
- Whether the initiative addresses a significant health issue for Indigenous Australians and why it is important to address this issue. For example, food intake is a key contributor to negative health and wellbeing outcomes for many Indigenous Australians. Focusing on this factor can therefore contribute to significant improvements in health and wellbeing for Indigenous Australians. (3 marks)

### Apply your knowledge

6. Examples of targets of the Closing the Gap strategy include:
  - By 2031, close the gap in life expectancy within a generation - The Tackling Indigenous Smoking initiative uses local organisations to reduce tobacco use among Indigenous Australians. This can reduce the incidence of lung cancer which can improve life expectancy.
  - By 2031, increase the proportion of Aboriginal and Torres Strait Islander babies with a healthy birthweight to 91 per cent - The Deadly Choices program provides culturally appropriate healthcare using people from the local community. This can mean that more women access services when pregnancy which can reduce the rate of low birthweight babies.
  - By 2031, increase the proportion of Aboriginal and Torres Strait Islander youth (15–24 years) who are in employment, education or training to 67 per cent - Learn Earn Legend! works to encourage Indigenous students to stay in school which can increase the proportion of those in education.
  - By 2031, increase the proportion of Aboriginal and Torres Strait Islander people living in appropriately sized (not overcrowded) housing to 88 per cent - Learn Earn Legend! works to encourage Indigenous students to stay in school and increase their literacy and numeracy skills so they can gain meaningful employment, which assists in reducing unemployment rates. This may mean more money is available for adequate housing.
  - A significant and sustained reduction in violence and abuse against Aboriginal and Torres Strait Islander women and children towards zero The Fitzroy Stars Football Club works to promote self-esteem among community members. This may work to decrease rates of violence against women and children as participants feel better about themselves.
  - Significant and sustained reduction in suicide of Aboriginal and Torres Strait Islander people towards zero – the 2 Spirits Program works to address discrimination against gay men and sistergirls which may reduce the rates of suicide as people feel more included in their communities. (3 marks)
7. Examples of how the action areas of the Ottawa Charter are evident in Indigenous initiatives include:
  - *Build healthy public policy*

- ‘Closing the Gap’ is an agreement between all levels of government and Aboriginal and Torres Strait Islander representatives to close the gap in life expectancy within a generation. By focussing on the 16 targets, fewer Indigenous Australians will be subject to violence which can reduce levels of stress and anxiety.
  - Based at Plenty Valley Community Health, Feedin’ the Mob is funded by the federal government and supported by Whittlesea Council through its Healthy Communities initiative. This commitment to funding represents a healthy public policy.
  - *Create supportive environments*
    - The Deadly Choices program provides culturally appropriate healthcare using people from the local community. This means more people can be treated for common conditions which can promote physical health and wellbeing.
    - Aboriginal Quitline is a telephone counselling service that creates a supportive environment by providing confidential support for Indigenous Australians who want to quit smoking. Quitting smoking can improve fitness levels.
  - *Strengthen community action*
    - Learn Earn Legend! is strengthening community action as it is delivered by community leaders, sport stars and local community members whom young Indigenous Australians respect and aspire to emulate. This can promote self-esteem among participants.
    - Feedin’ the Mob strengthens community action by encouraging the community to be involved in activities that draw on local culture to educate by teaching the benefits of healthy eating and lifestyle. This can assist in providing adequate levels of energy.
  - *Develop personal skills*
    - The 2 Spirits 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. By reducing injecting drug use, fewer people may contract HIV which promotes physical health and wellbeing.
    - Learn earn Legend! supports young Indigenous Australians to stay at school to develop personal skills such as literacy and numeracy. This can mean people are more likely to gain meaningful employment which can create a sense of purpose in life.
  - *Reorient health services*
    - The 2 Spirits program reorients health services by working in consultation with community members to identify appropriate means of addressing sexual health issues in this population. This can reduce the risk of STIs, which promotes physical health and wellbeing.
    - Fitzroy Stars *reorients health services* by using health professionals to present weekly sessions relating to preventative healthcare such as quitting smoking and receiving regular health checks. Quitting smoking can improve immune system function and reduce the risk of infections, promoting physical health and wellbeing. (5 marks)
8. Examples include:
- a. The Deadly Choices initiative is culturally appropriate as it employs people from the local community who understand cultural sensibilities. This means that the target audience are more likely to engage and seek health care which can prevent diseases from occurring and promotes physical health and wellbeing. The program is providing education which assists in its effectiveness as the lessons learned can be passed on to family members, making the changes sustainable. Education in relation to cooking skills can also be retained when the program ends, providing long-term gains for participants. (3 marks)
  - b. The 2 Spirits program is effective as it is targeting a disadvantaged group within the Indigenous community. The community is involved in the planning and delivery of the program which means it is more likely to be culturally appropriate. The program also includes education which enhances its effectiveness as the lessons learned can be passed on

- to others. This includes health promotion which can decrease the risk of HIV which promotes physical health and wellbeing. (3 marks)
- c. The Road to Good Health program is effective as it is addressing type 2 diabetes, which is a significant concern in the Indigenous community. This can assist in promoting physical health and wellbeing by preventing the development of the disease. The program is free, which means people are more likely to participate in it. People are provided with education which increases the effectiveness of the program as the lessons learned can be passed on to other community members. (3 marks)
  - d. Feedin' the Mob is funded by the federal government and if this funding continues, it can increase the effectiveness of the program as it can continue to be implemented. It draws on local culture which can increase the effectiveness of the program as it is more likely to be culturally appropriate. The program provides education in relation to cooking classes which can assist in addressing significant issues within the Indigenous community as obesity rates are relatively high. Following this program can therefore assist in maintaining a healthy body weight. (3 marks)

## **7.5 Exam questions**

### **Question 1**

Under the Ottawa Charter, this is an example of the ‘Develop personal skills’ action area because the initiative is teaching new skills and knowledge to participants.

### **Question 2**

Responses could include:

- Closing the gap in relation to life expectancy differences
- Closing the gap in relation to child mortality
- Closing the gap in relation to educational achievement
- Closing the gap in relation to employment opportunities.

### **Question 3**

Under the Ottawa Charter, ‘Learn Earn Legend!’ is an example of the ‘Build healthy public policy’ action area because the government has provided funding to the initiative.

### **Question 4**

Suggested answers include:

Build healthy public policy

- The building was funded by the Office for Aboriginal and Torres Strait Islander Health, and the equipment and training was resourced through Closing the Gap funding.

Create a supportive environment

- An Aboriginal gym with no membership fees
- The community gym delivered programs by qualified members of the Aboriginal community.
- Programs were designed to be individually tailored.

Develop personal skills

- Programs were designed to be individually tailored and include physical exercise, health promotion and dietary advice.

### **Question 5**

Suggested answers could include:

- ‘Deliver Active and Healthy Lifestyle’ designs programs to be individually tailored and include physical exercise, health promotion and dietary advice. This could improve the physical

dimension of health and wellbeing, as tailored exercise classes and dietary advice should assist in maintaining a healthy weight and reduce the risk of diseases such as obesity and cardiovascular disease.

- ‘Deliver Active and Healthy Lifestyle’ provides programs run by qualified members of the Aboriginal community. This could improve the mental health and wellbeing of Indigenous people as they would feel more comfortable getting instruction from someone who is sensitive to the needs of their culture, reducing stress and anxiety levels.

## 7.6 The Australian Dietary Guidelines

### ANSWERS

#### Case study review: Anna’s food intake: applying the Australian Dietary Guidelines

1. and 2.

	Vegetables and legumes/beans	Fruit	Grain (cereal) foods per day, 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 per day, mostly reduced fat	Unsaturated spreads and oils	Discretionary foods
Anna	2.5	6	8	2.5	1.5	7	5
Recommended	5	2	6	2.5	2.5	2	Limit intake

#### 1. Optimal intake

- Lean meat, fish etc.;
- Meat is a good source of protein, which is required for numerous processes in the body. Meat can also be high in saturated fat, so avoiding excessive amounts of this group can assist with weight management and the control of cholesterol levels.

#### 2. Insufficient intake

- Vegetables, milk, yoghurt etc.
- Vegetables are high in fibre, so not eating enough could affect Anna’s digestive health. She may also not feel full for extended periods of time, which could result in overeating. Vegetables also contain vitamins and minerals that are required for optimal functioning of body systems.  
Dairy products are rich sources of calcium, which can mean that her bone health is not optimal and could increase her risk of osteoporosis later in life.

#### 3. Excessive intake

- Fruit; grain (cereal) foods; unsaturated spreads and oils; discretionary foods
- Fruit — although it contains vitamins, fruit also often contains a lot of sugar. This could increase Anna’s energy intake and contribute to obesity and related conditions such as some cancers and cardiovascular disease.  
Cereals — although required for energy, consuming too many cereals may mean that excess energy is consumed, which will be stored as fat. This can contribute to obesity and associated conditions.  
Unsaturated oils — although these can be beneficial for cardiovascular health and can help to reduce cholesterol, overconsumption can increase energy intake and contribute to obesity.

Discretionary foods — these are high in fat, salt and or sugar. This can add to the total energy intake for Anna and lead to obesity and its associated effects such as respiratory problems and arthritis. Increased salt intake could contribute to hypertension.

4. Anna should increase her water intake by substituting water for the flavoured drinks that she currently consumes. This will decrease her energy intake and may assist in controlling her weight.
5. Three days is better because one day might not represent the average intake of the individual.
6. Anna could replace her fruit juice and soft drink intake with water. She could add salad to the lean meat in her sandwiches. She could also snack on fresh vegetables instead of chocolate.

### 7.6 Activity

#### Servings and nutrients calculator worksheet

Individual response as each person will have different characteristics.

### 7.6 Exercise

#### Test your knowledge

1. The Australian Dietary Guidelines are a set of guidelines developed by the National Health and Medical Research Council (NHMRC). They are a set of five general guidelines that can be used to guide consumers and industry figures in developing healthy eating habits. (2 marks)
2. 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 designed to be addressed by the guidelines. (2 marks)
- 3.

Food group	Key nutrients present in the food group	How the food group can promote health and wellbeing and/or health status
Grain foods	Carbohydrates and fibre	Wholegrain and/or high cereal fibre 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.
Vegetables	Vitamins, minerals and fibre	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.
Fruit	Vitamins, minerals and fibre	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.
Milk and alternatives	Calcium	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.
Meat, fish, poultry and substitutes	Protein	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).

(5 marks)

4. *Discretionary foods*
  - a. Alcohol, salt, sugar and saturated fat. (1 mark)
  - b. Alcohol, sugar and fat are energy-dense substances that contribute to weight gain, obesity and related conditions such as cardiovascular disease and type 2 diabetes. Salt is a rich source of sodium, which increases blood pressure and the risk of heart attack and stroke. (2 marks)
5. 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. (2 marks)

#### Apply your knowledge

6. *Example*
  - *Guideline 4: Encourage, support and promote breastfeeding* — Breast milk provides the infant with essential nutrients. It is also free and doesn't require the preparation that formula does.
  - *Guideline 2: Enjoy a wide variety of nutritious foods from the five food groups every day* — Eating a balanced diet is the best way to ensure all nutrients are consumed. This allows the adequate development of hard tissue, soft tissue and blood, and the provision of energy.
  - *Guideline 3: Limit intake of foods containing saturated fat, added salt, added sugars and alcohol* — These nutrients/foods are risk factors for a range of conditions such as obesity, cardiovascular disease and type 2 diabetes. (3 marks)
7. Parents could refer to the guidelines when planning their children's food intake, to ensure they are providing their children with a balanced food intake. This means that fat, salt and sugar intake, which are risk factors for numerous diet-related diseases, would be reduced.  
The guidelines could be used by school canteens to plan menus, to encourage children to consume protective nutrients such as vitamins and minerals by encouraging the consumption of fruit and vegetables. This can reduce the risk of obesity and related conditions such as diabetes and cardiovascular disease. In turn, this can decrease morbidity and mortality rates and increase life expectancy. (2 marks)
8. *Australian Dietary Guidelines and the Australian Guide to Healthy Eating (AGHE)*

*Similarities*

- Both provide nutrition advice to promote healthy eating.
- Both refer to the five food groups.
- Both recommend the consumption of plenty of water.
- Both recommend limiting intake of discretionary foods.

*Differences*

- The AGHE provides only proportions of each food group that should be consumed daily; the guidelines provide information on serving numbers and sizes.
  - The AGHE does not provide information on foods that do not fit solely into one food group; the guidelines provide information on composite foods such as pizza or casseroles.
  - The AGHE provides one set of information that does not take into account differences among individuals; the guidelines provide advice on individual differences among the population that contribute to different needs and choices regarding food intake (e.g. adults or children; pregnant women; vegetarians).
  - The AGHE is a simple visual tool intended to be used by consumers; the guidelines comprise more detailed information intended for use by health professionals, educators, industry bodies and other parties.
  - The five guidelines provide comprehensive information that extends to physical activity, breastfeeding, and the preparation and storage of food; the AGHE is restricted to the dietary advice detailed in Guidelines 2 and 3. (6 marks)
9. The Australian Dietary Guidelines can reduce the risk of cardiovascular disease in a number of ways, including:
- Guidelines 1 suggests to 'be physically active'. This can reduce can reduce the risk of weight gain which reduces the risk of cardiovascular disease.
  - Guideline 2 suggests to consume a wide variety of nutritious foods form the five food groups. Three of these (wheat and grain foods, fruit and vegetables) are high in fibre. Fibre assists in reducing the levels of LDL cholesterol in the blood stream which can reduce the risk of heart attack and stroke.
  - Guideline 3 suggests to limit foods high in saturated fat, added salt, added sugar and alcohol. Fat, sugar and alcohol are all energy dense, so reducing their intake can assist with weight management and reduce the risk of cardiovascular disease. (4 marks)

**7.6 Exam questions**

**Question 1**

Source: VCE 2017, *Health and Human Development Exam*, Q.6.b; © VCAA

- to help Australians to develop healthy lifestyles that will promote health and wellbeing in the community
- to help Australians to understand what constitutes a healthy diet
- to reduce the risk of Australians developing a range of diet-related conditions such as hypertension and impaired glucose regulation, type 2 diabetes, cardiovascular disease and some cancers
- to encourage higher rates of breastfeeding, which improves children's immunity to diseases and promotes good health.

**VCAA Examination Report note:**

Most students were able to provide one reason why the *Australian Dietary Guidelines* were introduced, although fewer students were able to provide the required two reasons.

**Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.6.c; © VCAA

The Australian Guide to Healthy eating shows pictures of foods in the right-hand corner of the model that should be consumed ‘only sometimes and in small amounts’. These foods include soft drinks, chips, hamburgers and glasses of wine. These foods are high in sugar, saturated fat, salt and alcohol. By encouraging limited consumption this is reflecting dietary guideline 3 — ‘Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.’

**VCAA Examination Report note:**

Many students found this question difficult. Many were unable to identify any specific dietary guidelines, while others struggled to show an understanding of how the two frameworks are connected. Some students described the Healthy Eating Pyramid rather than the ‘Australian Guide to Healthy Eating’. Students are reminded that using the number of the guideline is not sufficient and they must show their understanding by naming the guideline.

VCAA high-scoring response:

*The guide reflects guideline 2, to enjoy a wide variety of nutritious foods from the five food groups and to drink plenty of water, by depicting the five food groups on a ‘plate’ with five wedges, each wedge indicating the proportion each food group should be consumed in. It also displays a tap and glass in the top right corner, and advises to ‘drink plenty of water. It also reflects Guideline 3.*

**Question 3**

Source: VCE 2015, *Health and Human Development Exam*, Q.6.b; © VCAA

Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.

**VCAA Assessment Report note:**

This question was not answered well, as students were unable to accurately state the relevant Australian Dietary Guideline that related to sodium consumption: limit intake of foods containing saturated fat, added salt, added sugars and alcohol.

**Question 4**

Source: VCE 2014, *Health and Human Development Exam*, Q.5.a; © VCAA

Possible responses:

- To help address the increasing prevalence of dietary diseases such as type 2 diabetes, cardiovascular diseases and some types of cancer by informing Australians about what they should and shouldn’t be eating.
- To help Australians adopt healthy lifestyles that will promote health and wellbeing through diet and physical activity advice.

**Question 5**

Source: VCE 2014, *Health and Human Development Exam*, Q.5.c (adapted); © VCAA

Limiting foods high in saturated fat such as sausages and butter will reduce the incidence of cardiovascular disease because each gram of saturated fat contributes 37 kilojoules of energy to the body. If this energy is not used it is stored as body fat. Being overweight or obese is a risk factor for cardiovascular disease.

Limiting foods high in added salt, added sugar and alcohol will also reduce the incidence of cardiovascular disease as they are all energy dense and contribute unnecessary kilojoules to the diet (16 and 27 kilojoules per gram respectively).

## **7.7 The work of Nutrition Australia**

### **ANSWERS**

#### **Case study review: Goulburn Valley Grammar School**

1. They had a free menu assessment and foods were classified as 'Everyday', 'Select Carefully' or 'Occasionally'. They provided advice as to how the canteen could make the menu healthier. More dishes have been made on site, incorporating more vegetables and other healthy ingredients.
2. People would have better food intake, which can provide adequate levels of energy (physical health and wellbeing). Students would be able to concentrate and achieve at school, which enhances self-esteem and promotes mental health and wellbeing. Students and teachers may feel that they have a greater purpose at school, which promote spiritual health and wellbeing. There would be a decreased risk of weight gain and obesity, reducing the incidence and prevalence of diet-related diseases such as cardiovascular disease and type 2 diabetes. This would also help to reduce morbidity and mortality rates from these conditions.

#### **Case study review: Healthy Lunchbox Week is a Nutrition Australia initiative that aims to inspire parents and carers across Australia to create healthy lunchboxes their children will enjoy**

1. The Healthy Lunchbox Week is aiming to assist parents and carers in preparing healthy lunches for their children that they will enjoy.
2. If children are consuming adequate combinations of nutrients, they may have adequate amounts of energy, which promotes physical health and wellbeing. This can reduce the risk of overweight and obesity, which can reduce levels of stress which promotes mental health and wellbeing. With adequate energy, they are more equipped to socialise which promotes social health and wellbeing.
3. The Healthy Lunchbox Week website provides a range of recipes which creates a supportive environment for those without much food preparation knowledge. It is developing personal skills by providing fact sheets, guides and videos relating to nutrition and food preparation.

## **7.7 Activities**

### **Nutrition Australia worksheet**

Individual response, for example:

### **Cooking demonstrations**

Nutrition Australia's experienced dietitians and nutritionists will create two delicious and nutritious meals before your very eyes — and provide free tastings.

They also provide running commentary and discussion to engage the audience with reliable and practical advice on:

- the health benefits of the ingredients and food groups
- healthy ingredient swaps
- shopping tips and reading food labels
- time-saving cooking tips
- how to keep food fresh
- and more!

### Healthy Lunchbox week worksheet

- a. Healthy Lunchbox Week is an initiative of Nutrition Australia that aims to inspire Australian families to create healthy and enjoyable lunchboxes. It occurs early in term 1 (early February).
- b. The website contains a range of nutritious recipes, it contains fact sheets and guides relating to various healthy eating topics, it has videos showing how to prepare various foods and webinar recordings and links to social media pages.
- c. Students should make reference to both dimensions of health and wellbeing and health status indicators. Consuming nutritious foods can mean that children have adequate levels of energy (physical). With energy, they are able to spend time socialising with friends which can help build relationships. They can also concentrate at school which can improve self-esteem as they do not fall behind. Having adequate nutrition (e.g. adequate fibre), children are less likely to overeat and become overweight. This can mean that in the future, the incidence of diet-related conditions such as type 2 diabetes, some cancers and cardiovascular disease is likely to decrease. As these conditions can all cause death, this can increase life expectancy over time.
- d. Examples include:
  - Parents may not be aware of it
  - They may lack the time to prepare the meals
  - Money can prevent the purchase of some foods
  - Cultural factors may mean that children prefer other foods

### 7.7 Exercise

#### Test your knowledge

1. The role of Nutrition Australia is to encourage food variety and physical activity. This is done by:
  - acting as a source of scientific information on key nutrition issues
  - producing and disseminating material on nutrition to policy makers, the media, educators, the food industry and consumers
  - acting as consultants to government departments, the food industry and consumer groups as required on issues related to food and nutrition
  - encouraging innovation in the dissemination of nutritional knowledge. (3 marks)
2. Ways in which Nutrition Australia promotes healthy eating include:
  - *Healthy Eating Advisory Service*. This service supports early childhood services, schools, hospitals and workplaces, and includes menu planning assistance and staff training.
  - *Coordination of the events in the annual National Nutrition Week campaign*. National Nutrition Week runs during the week of 16 October (World Food Day) each year.
  - *Education resources*. Nutrition Australia produces a wide range of publications and resources, including nutrition books, portion bowls and plates, booklets, posters, fact sheets, leaflets and webinars. These publications cover topics such as healthy living and weight loss.
  - *Nutrition seminars and workshops*. Nutrition Australia dietitians and nutritionists conduct a range of seminars to provide education to workplaces and members of the public wanting to improve their diet.
  - *Food industry consultancies*. This includes providing assistance to manufacturers to make their products more nutritious.
  - *Webinars developed for health professionals*. These provide training and education to help them promote healthy eating in the community.
  - *Publication of recipes*. Hundreds of healthy recipes are provided free of charge on the Nutrition Australia website, and cookbooks reviewed by Nutrition Australia are available for purchase.

- *Development of the Healthy Eating Pyramid.* The Healthy Eating Pyramid is a simple visual guide to the types and proportions of foods that individuals should eat every day for good health. (3 marks)
- 3.
- a. The Healthy Eating Pyramid is a food selection model that arranges foods into four layers:
    - two foundation layers containing plant-based foods (vegetables and legumes, fruit, grains) that are high in vitamins, minerals and carbohydrates (including fibre)
    - a middle layer that includes milk, yoghurt, cheese and alternatives, as well as the lean meat, poultry, fish, eggs, nuts, seeds and legumes food groups which are high in calcium and protein
    - a top layer that includes monounsaturated and polyunsaturated fats, which should be consumed in small amounts.The model also suggests that people enjoy herbs and spices, choose water as a drink and limit salt and added sugar. (3 marks)
  - b. The Healthy Eating Pyramid promotes healthy eating by encouraging food variety and a diet with minimum saturated fat, adequate fibre, limited salt and sufficient water. This can reduce a range of conditions including obesity, hypertension, cardiovascular disease, some cancers, osteoporosis and type 2 diabetes. (2 marks)
4. The food groups represented are:
- vegetables and legumes
  - fruit
  - grains
  - milk, yoghurt, cheese and alternatives
  - lean meat, poultry, fish, eggs, nuts, seeds and legumes
  - healthy fats. (2 marks)
5. Using herbs and spices to flavour food is preferable to other options (e.g. sugar, salt, fat) as they provide flavour but do not contribute energy, sugar or salt to the diet, and this reduces the risk of diet-related diseases. (2 marks)

### Apply your knowledge

6. a. *In children*
- Nutrition Australia promotes the Healthy Eating Pyramid, which educates children, parents and teachers about the proportions of food that should be eaten from each of the food groups at each level of the pyramid.
  - It works with schools to run healthy eating programs for children, parents and teachers.
  - It provides dietary advice for appropriate foods that could be sold in the school canteen.
  - It provides nutrition and dietary advice for children that can be included in a parent newsletter to promote healthy eating for children. (2 marks)
- b. *In adults*
- *The Healthy Eating Advisory Service* can assist in making workplace canteens healthier, which promotes healthy eating among adults by providing more nutritious food options.
  - Adults can use the recipes on the Nutrition Australia website to plan their food intake. These recipes are healthy so, if adults follow them it, will contribute to healthy eating among this group.
  - Adults can use the Healthy Eating Pyramid to plan their food intake, which will assist in consuming the correct proportions of foods from the food groups. (2 marks)
7. *Similarities for Venn diagram*
- The guidelines and pyramid both make reference to the five main food groups:
    - vegetables and legumes
    - fruit
    - grains

- milk, yoghurt, cheese and alternatives
- lean meat, poultry, fish, eggs, nuts, seeds and legumes.
- Both encourage limiting intake of salt and added sugar.
- The guidelines and the pyramid recommend consuming plenty of water.

*Differences for Venn diagram*

- The guidelines provide advice on serving size and numbers, whereas the pyramid only shows proportions.
- The guidelines recommend limiting alcohol and saturated fat intake, the pyramid doesn't.
- The pyramid suggests using herbs and spices, the guidelines don't. (4 marks)

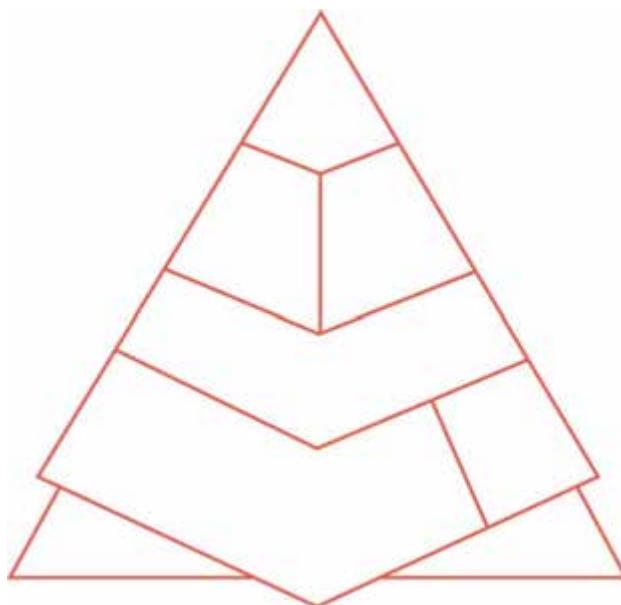
8. *Examples*

- The Healthy Eating Pyramid *develops personal skills* by showing people the proportions of food they should consume each day.
- The Healthy Eating Advisory Service *creates a supportive environment* by providing advice on how to make canteen menus healthier. (2 marks)

9. *Individual response, for example:*

a. *Individual response, using these headings:*

Healthy fats  
Milk, yoghurt, cheese and alternatives  
Lean meat, poultry, fish, eggs, nuts, seeds and legumes  
Grains  
Vegetables and legumes  
Fruit  
Enjoy herbs and spices  
Choose water



(3 marks)

- b. Yes, some foods (such as pizza and a salad roll) were hard to classify. Knowing how much constitutes a serve and how much I should consume for each group was also challenging. (1 mark)

c. It could include a range of how many serves people of different ages should consume and make it easier to classify composite foods. (1 mark)

**10. Advantages**

- Shows a range of foods that can be consumed for each group.
- Makes a provision for healthy fats.
- Is visual, so is relatively easy to understand.
- Users don't need to have nutritional knowledge to follow it as it shows foods, not nutrients.

**Disadvantages**

- Does not include composite foods such as a mixed salad or a pizza.
- Does not include serving sizes.
- Doesn't mention alcohol or other foods to limit. (4 marks)

**7.7 Exam questions**

**Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.4.b; © VCAA

Another way Nutrition Australia promotes healthy eating is through their Healthy Eating Advisory Service which aims to promote the consumption of healthy eating in hospitals, childcare services, schools and workplaces throughout Australia. They do this by training staff on how to develop nutritious menus and develop a healthy food policy, as well as through the provision of phone advice and support to assist in providing tasty and nutritious foods and help with menu planning. The training of staff, and provision of phone advice and support can ensure these services provide healthier foods thereby promoting healthy eating.

Award 1 mark for each key statement made outlining the work of one of Nutrition Australia's imitative/strategies to promote healthy eating for a maximum of two marks.

Other strategies and initiatives Nutrition Australia use to promote healthy eating that students could use include:

- The Healthy Eating Pyramid
- The publication of recipes
- National Nutrition Week
- Webinars, nutrition seminars and workshops
- Developing educational resources

**VCAA Examination Report note:**

This question required students to show an understanding of the work of Nutrition Australia. More emphasis was placed on the outline of the work as opposed to simply naming an example of the work. Note that the Australian Dietary Guidelines and the Australian Guide to Healthy Eating are not Nutrition Australia initiatives.

The following is an example of a high-scoring response.

Nutrition Australia also promotes healthy eating through the development of the Healthy Eating Pyramid. The pyramid has 4 layers, with each food group represented in the layer which size is proportionate to the amount of that food group to be consumed. For example, the foundation layer contains mostly vegetables, demonstrating that they should be consumed in large amounts. If people follow this guide, they will be eating correct amounts of each food group, promoting healthy eating.

**Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.6.d; © VCAA

Nutrition Australia provides educational resources such as advice on how to pack a school lunch box. This resource helps promote the consumption of fruits and vegetables as suitable foods for school lunch boxes.

**VCAA Examination Report note:**

Many students found this question difficult and were unable to explain how Nutrition Australia promotes the consumption of fruit and vegetables. Possible responses were:

- the Healthy Eating Advisory Service offers menu assessment, information and support on food and nutrition, including at workplaces across Australia. A healthy diet would include fruit and vegetables, and this service could help employed adults to increase their fruit and vegetable intake
- publication of healthy recipes on the Nutrition Australia website for free means that adults can access tasty recipes that contain fruit and vegetables, therefore making them more likely to consume food with more fruit and vegetables
- workplace health and wellbeing services provide workshops in workplaces, which can provide demonstrations of how to include more fruit and vegetables in the diet, for example, smoothies, salads and healthy recipes
- development of the Healthy Eating Pyramid, which can help adults to understand the proportion of fruit and vegetables that should be included in the diet. Fruit and vegetables are represented in the foundation level (at the bottom) of the pyramid to indicate that they should be eaten in large amounts
- publication of resources including booklets, posters and leaflets can help to educate adults on the importance of eating fruit and vegetables, and therefore motivate them to increase their intake

**Question 3**

Source: VCE 2016, *Health and Human Development Exam*, Q.4; © VCAA

Enjoy a wide variety of nutritious foods from the five food groups each day including vegetables legumes and fruit.

The Healthy Eating pyramid reflects this guideline as the foundation layer of the pyramid is made up of a variety of vegetables, legumes and fruit, encouraging individuals to eat mainly these foods.

Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.

The Healthy eating pyramid reflects this guideline by showing a picture of a salt shaker and a spoon of sugar with a cross through them outside the pyramid, indicating that these foods should be limited.

**VCAA Examination Report note:**

This question was not well answered by students, who had difficulty accurately naming two Australian Dietary Guidelines. In many cases, students who were able to name the Dietary Guidelines found it challenging to apply the guideline to how it is reflected in the Healthy Eating Pyramid. It is important for students to be aware that the Healthy Living Pyramid is no longer in use

and has been replaced with the Healthy Eating Pyramid. In many cases, this influenced students' ability to achieve full marks.

*The following is an example of a possible response.*

To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious foods and drinks to meet your energy needs.

- The proportions of foods that people should eat each day are represented visually, with foods that should be eaten most in the foundation layers and those that should be eaten less in the upper layers of the pyramid. This would assist in maintaining a healthy weight. The diagram advises people to eat more vegetables, fruit, legumes and grains, and fewer foods that contain fat. Healthy fats are located at the top of the pyramid. This will help people to maintain a healthy weight. There is a statement at the bottom of the pyramid, advising people to be active every day.

**Question 4**

Source: VCE 2014, *Health and Human Development Exam*, Q.7 (adapted); © VCAA

Examples of dietary advice provided by Nutrition Australia:

- the Healthy Eating Pyramid
- provision of a range of cookbooks, publications and information via the Nutrition Australia website
- Annual National Nutrition Week
- consultancy (menu assessments, advisory services, school programs, food industries)
- the provision of teacher resource packages.

Nutrition Australia has developed the Healthy Eating Pyramid. The pyramid is a pictorial food model that has four layers. The foundation layers are the largest and encourage people to eat mainly vegetables, fruit and grains. All these foods are high in fibre. Fibre provides a sense of fullness and prevents overeating which will help reduce the levels of obesity in Australia.

**VCAA Assessment Report note:**

This question drew on key knowledge from Area of Study 2 in Unit 3 and required students to describe how dietary advice provided by Nutrition Australia could help to reduce the levels of obesity in Australia. Many students were unable to make the connection between the type of dietary advice provided and the levels of obesity.

**Question 5**

Source: VCE 2013, *Health and Human Development, Section B*, Q.1.d; © VCAA

Nutrition Australia developed a food model: the Healthy Eating pyramid.

This food model helps promote healthy eating as it guides consumers on what proportions of food they need to eat to reduce the risk of diet-related diseases. We should eat mostly breads, cereals, fruits and vegetables, moderate amounts of meat and milk foods, and very little foods that contain salt and fat. The model also encourages exercise and drinking plenty of water.

**VCAA Assessment Report note:**

This question was not well answered.

## 7.8 The challenges in bringing about dietary change

### ANSWERS

#### Case study review: Why a fat tax is not enough to tackle the obesity problem

1.
  - a. The idea behind a fat 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.
  - b. Unhealthy foods are those that are high in fat and sugar and therefore contribute to weight gain and obesity among all people. Because they have less money to spend, low socioeconomic groups may be more responsive to an increase in price and therefore might end up spending less on unhealthy foods. Such a tax can therefore help to decrease rates of obesity among this group.
2. 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.
3. Reasons include: low SES neighbourhoods often have many fast-food outlets; greengrocers may have restricted/no parking or no drive-through service; households may have inadequate cooking and storage facilities; lack of time, knowledge and skills.
4. Efforts to combat obesity need to look beyond simple pricing strategies and examine the underlying knowledge and skills that influence food choices. Just as physical activity is now compulsory at school, basic cooking (not just biscuits and pizza) should be an integral part of the personal development and life skills curriculum for all children. New building codes could increase access to adequate cooking facilities.

#### Case study review: How we get sucked in by junk food specials in supermarkets

1.
  - a. Three in five Australian adults get 'sucked in' by promotions and specials on junk food and sugary drinks at the supermarket.
  - b. This could add energy to food intake, which can contribute to weight gain, obesity and related conditions such as cardiovascular disease and type 2 diabetes. This can contribute to increased rates of morbidity and mortality and decrease life expectancy.
2. Processed snack foods are available at the end-of-aisle and in-island bin displays, as well as at the checkout. Sometimes they are on special, or feature large promotional packages, multipacks or two-for-one offers, appealing to price-sensitive shoppers.
3. Examples of how supermarkets can promote health eating include:
  - Having confectionery-free checkouts
  - Offering free fresh fruit to children in store
  - Having healthy food and drinks feature more heavily in end-of-aisle promotions, catalogues and advertising
4. The measures that can have the biggest impact on promoting healthy eating are:
  - restricting the advertising and promotion of discretionary junk foods and drinks to children and young people
  - introducing a sugary drinks tax to increase the price of these products and reduce consumption
  - taking action to make the health star rating system mandatory and refining the system to ensure it reflects dietary guidelines
  - limiting the promotion and availability of unhealthy foods and drinks in settings such as hospitals and public places
  - supporting the reformulation of processed foods to reduce key nutrients of concern to health, with clear targets and timelines to achieve these
  - sustaining and increasing funding for evidence-based public education campaigns.

## 7.8 Activity

### Food insecurity worksheet

- a. More than 1000
- b. Expensive fresh produce (30 per cent more than in urban areas); small populations of these communities; geographically remote; affordability; unemployment; transport issues; time taken to access fresh foods
- c. Fruit and vegetables are underconsumed and soft drinks are overconsumed.
- d.
  - i. High rates of colorectal cancer, obesity and related conditions (type 2 diabetes, kidney disease, cardiovascular disease); high rates of dental caries
  - ii. On average, 20 per cent of inhabitants have type 2 diabetes and 30 per cent have chronic kidney disease
- e. Subsidising the freight on fruit, vegetables and dairy (fresh, tinned and frozen); selling water more cheaply than soft drink; working with children from an early age to establish healthy food behaviours; encouraging local food production. (3 marks)

## 7.8 Exercise

### Test your knowledge

1. Factors that present challenges in bringing about dietary change include:
  - food security
  - time constraints and convenience
  - personal preference
  - willpower
  - attitudes and beliefs
  - education, nutrition knowledge and cooking skills
  - influence of family, culture, society and religion
  - food marketing
  - health factors. (5 marks)
2. They are flavour enhancers and make food taste better. (1 mark)
3.
  - a. The United Nation's Food and Agricultural Organization (FAO) states that food security exists 'when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs for an active and healthy life'. (1 mark)
  - b. Food insecurity is a challenge in bringing about dietary change because some people do not have the money or means to access fresh, healthy foods. As a result, they are more likely to consume unhealthy, processed foods. (1 mark)
  - c. Two population groups more likely to experience food insecurity are: those from low SES groups, due to financial constraints; and those living outside of Australia's major cities, due to financial and access issues. (2 marks)
4. Children are often easily influenced by food marketing and may have trouble distinguishing between factual information and advertising. Children can also be a significant influence on items purchased while shopping. (1 mark)
5. Personal preferences present a challenge to dietary change because taste preferences are often established over a long period of time, and can therefore be difficult to change. (1 mark)

### Apply your knowledge

6. Simply telling people about healthier foods does not necessarily bring about dietary change because knowledge of healthy eating is only one factor that influences what people eat. For example, a person's philosophical beliefs may prevent them from consuming certain foods. People may not have the time to cook healthier foods. People may lack the willpower to change their diet. (3 marks)

7. People in low socioeconomic groups may find it particularly difficult to make dietary changes because:
  - They may lack nutritional knowledge.
  - They may lack the resources required for cooking healthier foods (e.g. having a vegetable steamer).
  - They may lack the financial resources required to purchase healthier foods. (2 marks)
8. Discuss responses, for example:

My family always sit down to eat together at dinner time. This means we only have to prepare one meal and we can spend more time on it. We all help with the preparation of the meal and this assists in all of us learning different recipes. We all get a say in what we eat which encourages us to choose healthier options. (2 marks)
9. Being time-poor may impact on the ability to meet the Australian Dietary Guidelines because people may lack the time to effectively plan and shop for ingredients for their meals. Instead, they may rely on foods that are available to them at meal times. This may lead them to consume inadequate amounts of foods from the five food groups and excessive amounts of discretionary foods. (2 marks)
10. Discuss responses, for example:
  - I have sport three nights a week which means I am not home for meals – I could plan ahead and take food with me that I can have after the training / game is finished.
  - I sometimes sleep in and don't have time to make lunch, therefore I have to buy food from the canteen – I could make my lunch the night before.
  - I prefer to eat certain foods over others – I could try more foods to try to find more options that I like. (3 marks)
11. Examples
  - a. Oliver's challenges are his father's vegetarian cooking, which would make it difficult for Oliver to include meat in his diet. Oliver is also only five years old, so won't have the ability to prepare his own meals. (2 marks)
  - b. Vi doesn't drive, so transport will be an issue. She has knowledge of Vietnamese cooking, but may lack the skills to cook other foods. She lives alone and this may influence what she cooks. Her own preferences will be particularly influential. (2 marks)
  - c. Michael lives in a remote area so will be influenced by what is available in his region. He is a truck driver so will consume a lot of meals away from home. (2 marks)

## 7.8 Exam questions

### Question 1

Responses could include:

- Nutrition knowledge and cooking skills — individuals may not be aware of the health benefits of consuming a range of vegetables and may believe that eating two serves of vegetables a day is sufficient. Some people may lack the cooking skills to prepare vegetables in a tasty and appealing manner. This may account for low vegetable intake in the Australian population.
- Personal preferences — some people may not like the taste of vegetables and therefore not consume them. This may account for low vegetable intake in the Australian population.
- Food security — vegetables can be expensive, especially for people on low incomes. This may contribute to low vegetable intake in the Australian population.

### Question 2

Food manufacturers use attractive and persuasive methods to sell their products, convincing consumers that the purchase of foods such as McDonald's and Domino's pizza is desirable. Often

these foods are high in fat and sugar, and this could explain why more than a third of our daily intake of energy comes from energy dense foods.

**Question 3**

Suggested responses could include:

- Nutrition knowledge and cooking skills — people may lack the knowledge to read food labels correctly or lack the skills to make healthy meals.
- Allergies and intolerances — an intolerance to milk may impact on adequate calcium levels for good health.
- Food marketing — foods high in fat, salt and sugar are aggressively marketed in the media.
- Personal preferences — people may like the taste of foods high in fat, salt and sugar.
- Time constraints and convenience — people who are time-poor may rely on readily prepared or fast foods that are often high in fat, salt and sugar.
- Food security — people on low incomes may not be able to afford nutritious foods such as fresh fruits and vegetables.

**Question 4**

Preferring to eat white bread rather than wholegrain bread is a personal preference.

**7.9 Topic 7 Key skills**

**ANSWERS: PRACTISE THE KEY SKILL**

1. The action areas of the Ottawa Charter reflected in the Good Sports program include:
  - *Strengthening community action* — VicHealth, the Australian Drug Foundation and local sports clubs are working together to reduce the harm caused by alcohol consumption.
  - *Develop personal skills* — training is provided to club staff relating to the responsible serving of alcohol.
  - *Build healthy public policy* — sports clubs at Level 3 have an alcohol management policy.
  - *Create a supportive environment* — the program promotes responsible attitudes towards alcohol and provides a safe, healthy and family-friendly environment for players, members and supporters.
2. The answer will depend on which action areas were used for question 1. For example:
  - *Reorient health services* — health professionals could come to the club to address players and supporters relating to the risks associated with excessive alcohol consumption and the benefits of moderating intake.
  - *Create a supportive environment* — healthier food and drink options (including non-alcohol drinks) could be made cheaper to encourage people to consume them instead of unhealthier options.
3. *Examples*
  - The program can be adapted to reflect the needs of the community, which means that it can be tailored to suit each individual community. This increases the chance of it succeeding in promoting the health and wellbeing of Indigenous children.
  - The program focuses on Indigenous children who experience poorer health outcomes than non-Indigenous children, and this helps to improve these children's health and wellbeing.
  - The program focuses on education, which works to develop the personal skills of the target group. These skills can then be used once the program concludes.
  - The program is delivered in a culturally appropriate manner, which increases participation and positive health and wellbeing outcomes.
4. The action areas of the Ottawa Charter reflected in the Specky Dreaming program include:

- The program *creates a supportive environment* by being culturally appropriate. This means more people are likely to participate in the program which can increase levels of physical activity which can enhance self-esteem and promote mental health and wellbeing.
  - The program *develops personal skills* by teaching children about healthy eating and living. This can provide knowledge that can be utilised for life and can assist in preventing issues like overweight and obesity, which promotes physical health and wellbeing.
5. Veronica works three nights a week, so she may eat what is available to her during those times. Her mother does all the cooking at home, so Veronica may have never learned to cook her own meals. Veronica's personal preferences would impact her ability to change her food intake.
6. *Examples*
- Individuals may not have the knowledge to prepare meals that include adequate amounts from the five food groups.
  - They may not know which foods are high in salt or saturated fat.
  - Health issues may reduce the ability of an individual to consume certain foods such as dairy foods.
  - Income may influence the ability of individuals to consume a range of nutrients from the five food groups.

### 7.10 Topic 7 review

#### Answers: Extended Response

Answers to this question are marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected and synthesised
- Understanding of the potential of the Ottawa Charter in addressing obesity among young people
- How addressing obesity may promote health and wellbeing.

The table on the following pages shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used. The first step is to determine if the response best fits the 'not shown', 'low', 'medium' or 'high' band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a 'medium' score if these components have been completed to a high standard.

Once a determination of 'high', 'medium', 'low' or 'not shown' is made, a decision can be made as to where the response fits within that category.

#### An example of a high scoring response is:

According to source 1, rates of obesity among young people in Australia have steadily increased between 1995 and 2018, from around 5% in 1995 to around 8% in 2018. This has contributed to a range of issues for young people. For example, in Source 2, Leon has experienced bullying which has impacted his mental and emotional health and wellbeing. The Ottawa Charter can assist in reducing the impacts of obesity by creating supportive environments. According to source 3, parks and green spaces as well as neighbourhood walkability contribute to rates of obesity. By ensuring that there

are physical spaces for young people to exercise and neighbourhoods are walkable, a supportive physical environment has been created which can increase levels of physical activity. This can assist in reducing rates of obesity which can enhance levels of self-esteem and promote mental health and wellbeing. For young people like Leon (source 2), factors beyond his control may be impacting his body weight. He is often cared for by his grandparents and what they feed him will impact his body weight which could reduce the effectiveness of the Ottawa Charter in promoting health and wellbeing. Family influences (source 3) could be addressed by developing education campaigns that work to develop the personal skills of people who care for younger family members. This could be through television or radio advertisements. This could increase the knowledge of Leon's grandparents so that they may feed him healthier meals. This could assist in reducing the rate of obesity below 8% (source 1) which could mean that fewer children feel self-conscious and are more likely to exercise when at the beach. This can increase opportunities for social interaction which can promote the quality of relationships and enhance social health and wellbeing.

	Mark range	Criteria				
How the response has been structured		How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected to the stimulus material and synthesised	Understanding of the potential of the Ottawa Charter in addressing obesity among young people	How addressing obesity may promote health and wellbeing.	
High	10	Ideas are organised clearly and coherently	The stimulus material has been well understood and synthesised throughout the discussion.	Concepts demonstrating the use of their own knowledge are thorough and display depth of understanding. Links between the stimulus and broader understanding are clear.	The potential of the Ottawa Charter in addressing obesity among young people is thoroughly discussed with at least one potential limitation of the Ottawa Charter.	A range of ways that addressing obesity may promote various dimensions of health and wellbeing are thoroughly discussed with a high level of understanding shown.
	9					
	7-8	Ideas are generally organised clearly and coherently	The stimulus material has been understood and synthesised in the discussion.	Concepts demonstrating the use of their own knowledge are thorough and display depth of understanding.	The potential of the Ottawa Charter in addressing obesity among young people is thoroughly discussed.	A range of ways that addressing obesity may promote various dimensions of health and wellbeing are discussed with a high level of understanding shown.
Medium	6-7	Ideas are organised but may not read as well as stronger answers	The stimulus material is generally understood and relevant examples have mostly been used to support the discussion.	Discussion of concepts demonstrating student's understanding and links between the stimulus material are made.	At least two ways that the Ottawa Charter could assist in addressing obesity among young people are adequately discussed.	Students make a number of links between addressing obesity and at least two different dimensions of health and wellbeing.
	5	Ideas are generally organised but there may be issues with how it is structured and may be a little difficult to follow	The stimulus material is generally understood and examples from <b>all three sources</b> have been used to support the discussion	Discussion of concepts demonstrating student's understanding are broad and general.	At least two ways that the Ottawa Charter could assist in addressing obesity among young people are discussed with some understanding evident.	Students make at least two meaningful links from reducing obesity to a dimension of health and wellbeing.

	4	Ideas are loosely organised and sequenced	The stimulus material has been understood and simplistic connections are made between the stimulus material and the question.	Broad or vague statements are made from student's understanding with one link to the question.	At least one way that the Ottawa Charter could assist in addressing obesity among young people is discussed with a good level of understanding evident.	Students make a meaningful link from reducing obesity to a dimension of health and wellbeing.
Low	3	Lacks coherent structure	Simplistic connections are made between at <b>least 2 sources</b> of the stimulus material and the question.	Broad statements are made from student's understanding, but a weak link to the question is made.	One way that the Ottawa Charter could assist in addressing obesity among young people is briefly discussed.	Students make a link from reducing obesity to a dimension of health and wellbeing with little understanding of the causal relationship.
	2	Lacks coherent structure	Aspects of the stimulus material are restated with tenuous connections made to the question.	Some use of information from their broader understanding is listed but very limited connections to the question are made.	One way that the Ottawa Charter could assist in addressing obesity among young people is stated with limited understanding demonstrated.	Students make a link from reducing obesity to a dimension of health and wellbeing with no understanding of the causal relationship.
	1	Poorly structured and difficult to follow	Information is copied from the stimulus material.	Limited use of information from their own understanding is listed with no connections to the question.	One way that the Ottawa Charter could assist in addressing obesity among young people is stated with no understanding demonstrated.	Students discuss how obesity can influence one or more dimensions is included (as opposed to how addressing obesity may promote dimensions).
	0	Student has written words but there is no reference to stimulus and there is nothing of relevance to the question.				
Not shown	Not attempted / answered	Student has written the word blank, or has left the question unanswered				

## ANSWERS: EXAM QUESTIONS

### Question 1

Source: VCE 2020, *Health and Human Development Exam*, Q.4; © VCAA

a. If Australian children aged 14 to 18 are getting 13% of their energy from saturated and trans fats, which exceeds the 10% recommended limit, this could impact their long-term health status by causing atherosclerosis due to an increase in LDL and resulting in increased prevalence of cardiovascular disease.

If Australian children are getting 41% of their energy from discretionary foods they are less likely to be consuming nutrient dense foods which are high in fibre. As fibre helps to keep the digestive tract clean, the underconsumption of fibre could lead to an increase in morbidity rates of colorectal cancer.

Award 1 mark for each explanation provided of how an example from the information above can impact long term health status.

#### VCAA Examination Report note:

This question required students to use the stimulus material to explain the long-term impacts on health status in Australia.

A common mistake was stating that discretionary foods or high intake of sugar / saturated fat / trans fat could contribute to cardiovascular disease without stating how this might occur.

The following is an example of a high-scoring response.

Increased prevalence of obesity may be an impact on the long-term health of Australians as they get 41% of their energy from discretionary foods that are full of trans fats and sugar which can lead to weight gain, therefore potentially increasing obesity rates.

Increased mortality rates due to the effects of cardiovascular disease such as heart attacks as Australian children are consuming above the adequate level of intake of sodium, which increases hypertension.

b. Food security means individuals have access to adequate amounts of safe and nutritious foods at all times. This includes being able to afford to purchase nutritious foods. For individuals who live in remote areas it can be more costly for them to purchase fresh fruits and vegetables due to transport costs which means they may not be able to afford to make dietary changes and access more nutritious foods.

Education levels can also impact a person's ability to make dietary changes as if individuals do not have the knowledge and skills to assess their food intake and to know what foods they should be consuming in order to make healthier choices.

Award 1 mark for each challenge explained.

Award 1 mark for linking each explanation to an individual's ability to make dietary change.

#### VCAA Examination Report note:

Most students were able to identify challenges to an individual's ability to make dietary change, but many did not explain their selected challenges in enough detail to receive four marks.

The following is an example of a high-scoring response.

1. *Personal preference means people are more likely to choose foods high in salt, sugar and fat as the body releases dopamine, which causes a vicious cycle of cravings, hence making it difficult to select healthier foods and make dietary changes.*

2. Time constraints and convenience means people are more likely to purchase ready made processed foods, often high in hidden salt, sugar and fat, as they do not have the time to cook adequate and nutritious meals, making it difficult to make dietary changes.

Other challenges include:

- willpower
- food marketing and media
- income/food security
- geographic location / food security
- family / early life experiences
- education, knowledge and skills
- stress
- attitudes and beliefs
- culture
- health factors / conditions (e.g. intolerance of certain foods/substances).

## Question 2

Source: VCE 2014, *Health and Human Development Exam*, Q.5.c (adapted); © VCAA

Limiting foods high in saturated fat such as sausages and butter will reduce the incidence of type 2 diabetes because each gram of saturated fat contributes 37 kilojoules of energy to the body. If this energy is not used it is stored as body fat. Being overweight or obese is a risk factor for type 2 diabetes because fat cells inhibit insulin from working effectively.

Limiting foods such as sugar and alcohol from the diet will also reduce the incidence of type 2 diabetes as both contribute unnecessary kilojoules to the diet (16 and 27 kilojoules per gram respectively). Kilojoules not used by the body can lead to weight gain, which is a risk factor for type 2 diabetes and gestational diabetes as fat cells inhibit insulin from working effectively.

### VCAA Examination Report note:

This question was not answered well. Students needed to show their understanding of the condition by recognizing that food intake could impact on the levels of type 2 or gestational diabetes rather than just referring to the umbrella term. Many students chose to explain the more complex link between salt and type 2 diabetes, but their explanations were not always clear.

## Question 3

Source: VCE 2007, *Health and Human Development Exam*, Q.3.c; © VCAA

Suitable programs that students could have drawn on include:

- Healthy Living Pyramid
- healthy-eating schools programs
- providing dietary advice for appropriate foods that could be sold in the school canteen
- providing nutrition and dietary advice for children that can be included in a parent newsletter to promote healthy eating for children
- conducting National Nutrition Week each year
- providing nutrition resources for teachers.

Nutrition Australia provides healthy and fun recipes for children to make, available on their website, that help make consuming nutritious foods fun and enjoyable, which can encourage school-aged children to consume these foods after following the recipe.

Nutrition Australia provides information to encourage good health. One example of the information provided is the Healthy Living Pyramid.

This is a visual food model which helps school-aged children identify foods that they should eat most, eat moderately and eat least to optimise their health.

### VCAA Assessment Report note:

Too many students knew little about Nutrition Australia, even though it is included in a point of key knowledge in the study design.

**Question 4**

- a. *Capacity to improve Indigenous health and wellbeing*
  - Tobacco use is a significant concern among Indigenous Australians, so targeting this issue can reduce the risk of a range of conditions and improve physical health and wellbeing.
  - The workshops are culturally appropriate to Indigenous culture, which can increase participation and improve health and wellbeing.
  - The program is led by participants, which can increase a sense of ownership over the program and contribute to increased participation. This promotes health and wellbeing.
- b. Action areas of the Ottawa Charter and explain how they are reflected in the Yarning It Up program include:
  - *Develop personal skills* — information sessions are provided relating to the cessation of smoking.
  - *Strengthen community action* — the program includes a focus on community groups, organisations and other working in the smoking cessation area, which strengthens community action.
  - *Create a supportive environment* — the program is presented in a culturally appropriate manner, which creates a supportive environment.

**Question 5**

Initiatives may include:

- Healthy Eating Advisory Service
- National Nutrition Week campaign
- Educational resources
- Nutrition seminars and workshops
- Webinars for health professionals
- Healthy Eating Pyramid

The Healthy Eating Pyramid is a simple visual guide to the types and proportion of foods that individuals should eat every day for good health and wellbeing. Based on the Australian Dietary Guidelines, it contains the five core food groups, plus healthy fats, according to how much they contribute to a balanced diet.

These are designed to assist Australians eat healthily as it encourages Australians to enjoy a variety of foods from every food group, every day, by showing four layers with different food groups in each, representing the proportion in which each should be consumed.

## Topic 8: Comparing health status and burden of disease across countries

### 8.2 Economic characteristics of high-, middle- and low-income countries

#### ANSWERS

#### 8.2 Exercise

##### Test your knowledge

1.
  - a. It is a classification system of countries based on Gross National Income per capita. High-income countries have the highest average income and low-income countries have the lowest average incomes and middle-income countries are between the two. There are thresholds (or cut off points) for each category. (1 mark)
  - b. Classifying a country as developed or developing is very subjective and there is no definite way of knowing which category a country fits into. The income grouping method is very definite. (1 mark)
2. *Characteristics*
  - Low- and middle-income countries have higher rates of poverty than high-income countries.
  - Low- and middle-income countries often don't trade on the global market as much as high-income countries.
  - High-income countries often have a greater range of industries than low- and middle-income countries.
  - Low- and middle-income countries often have high levels of international debt and may not be as able to pay these debts as high-income countries. (3 marks)
3. According to the World Bank, in 2020 around 3 per cent of the workforce in high-income countries worked in agriculture, compared to around a third in middle-income countries and up to 70 per cent and higher in many low-income countries. This reduces the ability of low- and middle-income countries to trade on the global market, as they may not be able to generate goods that other countries require. Many low- and middle-income countries often lack the infrastructure, knowledge and production capabilities to produce a range of goods and services to trade on a global scale. (2 marks)
4. Infrastructure in middle-income countries, such as roads and ports allows goods to be transported around the country and around the world, increasing trade. Infrastructure is generally improving in middle-income countries, providing greater trading opportunities. (1 mark)
5. Extreme poverty is measured as living on less than US\$1.90 per day. (1 mark)

##### Apply your knowledge

6. *Examples*
  - Having a diverse range of industries helps to bring income into the country and therefore reduces poverty. It also means if one industry fails, there are other industries to keep the economy going.
  - Having a range of industries increases the chances that the goods and services produced will be sought after by other countries.
  - Many industries experience highs and lows in relation to production. 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, and trade can be adversely affected if there are no other industries to take their place on the global market. So having a range of industries increases the likelihood that at least some of the industries will experience positive production trends at any one time. (2 marks)
7. *Examples*
  - By wiping debts owed by low-income countries

- By providing direct financial assistance
  - By working with low-income countries to help them trade on the global market (2 marks)
- 8.
- a. High-income countries have the highest quality of trade and transport-related infrastructure (with a ranking of around 3.4 out of 5), followed by upper middle-income countries (scoring around 2.4), lower middle-income countries (around 2.3) and low-income countries (with a score of 2). (1 mark)
  - b. The level of extreme poverty (measured by people living on less than US\$1.90 per day) is lowest in high-income countries (under 1 per cent of the population), followed by upper middle-income countries (around 2 per cent), then lower middle-income countries (around 16 per cent and then low-income countries (around 45 per cent of the population). (2 marks)

## **8.2 Exam questions**

### **Question 1**

Source: VCE 2014, *Health and Human Development Exam, Q.8 (adapted)*; © VCAA

Examples that could be selected:

*Social*

- Low level of gender equality
- High birth rates
- Low levels of primary education
- No health systems in place

*Economic*

- High levels of poverty
- Low gross national income
- Limited or no opportunities for global trade
- Very limited range of industries
- High level of international debt
- Limited or no social security systems

*Environmental*

- Poor infrastructure
- Limited access to safe water and sanitation
- Poor-quality housing with many people living in urban slums

### **Question 2**

The World Bank income classification system uses a country's Gross National Income (GNI) per capita to classify countries.

### **Question 3**

Suitable economic characteristics of a low- or middle-income country include:

- high to very high levels of poverty
- limited range of industries
- low level of opportunities for global trade
- low average incomes.

### **Question 4**

Suitable economic characteristics of a high-income country include:

- low levels of poverty
- wide range of industries
- high level of opportunities for global trade
- high average incomes.

**Question 5**

Two economic characteristics relevant to Country X are:

- increase in living standards, with very few families living on less than US\$1.90 per day
- growth of industries, particularly in the electronics and communication fields.

**8.3 Social and environmental characteristics of high-, middle- and low-income countries**

**ANSWERS**

**8.3 Exercise**

**Test your knowledge**

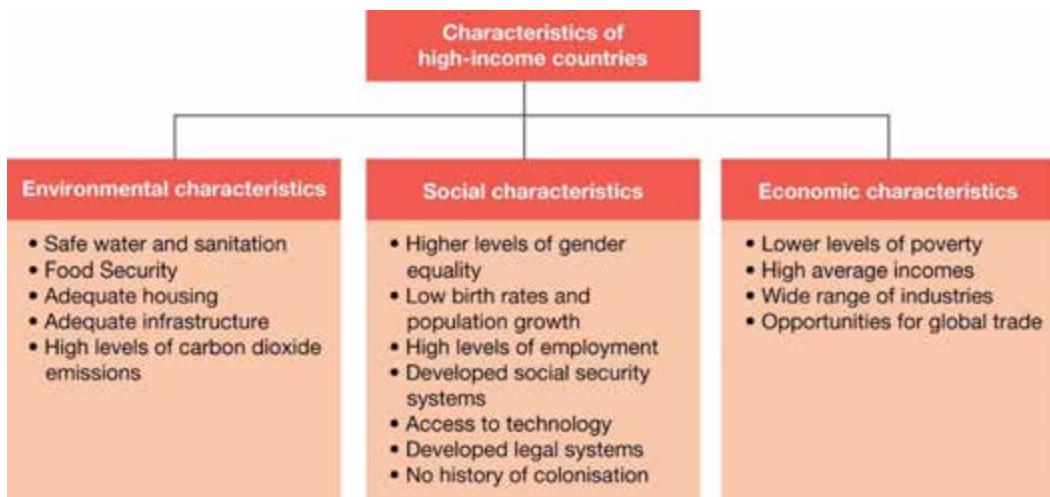
1. Social characteristics include:
  - Higher levels of gender equality — women have similar opportunities to men in high-income countries, whereas women in low- and middle-income countries often lack the opportunities available to males.
  - Low birth and population growth rates — high-income countries often have a lower rate of population growth than low- and middle-income countries.
  - High levels of employment — employment rates and choices in relation to employment are often greater in high-income countries than in low- and middle-income countries.
  - High levels of education — education systems are often more developed in high-income countries than in low- and middle-income countries. (3 marks)
2. Environmental characteristics include:
  - Safe water and sanitation — those in high-income countries often have greater access to clean water and adequate sanitation than those in low- and middle-income countries.
  - Access to food — those in high-income countries often have greater access to a reliable food supply than those in low- and middle-income countries.
  - Adequate housing — those in high-income countries often have higher quality housing than those in low- and middle-income countries.
  - Adequate infrastructure — infrastructure such as roads, electricity grids and telecommunications systems is often more developed in high-income countries than that in low- and middle-income countries. (3 marks)
3.
  - a. Gender equality exists when males and females have the same opportunities in society in relation to the goods and services available. (1 mark)
  - b.
    - If women can be educated and can work in productive employment, average incomes increase and governments have more money (through taxation) to provide goods and services to the people. This helps reduce poverty.
    - Gender equality means that women will have more say in family planning. This can reduce the number of children each woman has which means the parents can provide more for the children they do have, reducing poverty.
    - Gender quality means more girls will become educated. This increases average incomes as an educated population is more productive in the workforce. (2 marks)
- 4.

- Technology can be used to assist countries in developing their economies by facilitating trade. This means more money is bought into the country, which increases average incomes and can help low-income countries transform into a middle-income country.
  - Technology can assist in treating disease. This means more people are in good health and able to work productively, which can increase average incomes and move a country into the middle-income category.
  - Increased technology can improve educational outcomes. This means people can gain more meaningful jobs with higher incomes, growing the economy of the country and helping it become a middle-income country. (2 marks)
5. Access to contraception, choice in family planning, career choices, education and culture contribute to differences in birth rates. (2 marks)
  6. Many low-income countries do not have a developed education system. In addition, families in low-income countries usually have to pay for their children to attend school, unlike those in middle- and high-income countries where governments contribute significant funds to provide education opportunities. (2 marks)

**Apply your knowledge**

7.
  - a. The birth rate is lowest in high-income countries (around 1.6 births per woman), followed by middle-income countries (around 2.3 births per woman). It is highest in low-income countries (around 4.6 births per woman).
  - b. Low-income countries have the highest rate of population growth (around 2.6 per cent per year), followed by middle-income countries (around 1 per cent per year) and high-income countries (around 0.4 per cent per year).
  - c. High-income countries have the highest carbon dioxide emissions (just over 10 metric tons per person), followed by middle-income countries (just under 4 metric tons per person). Low-income countries have the lowest emissions (around 0.3 metric tons per person).
8. For example:
  - High levels of education (social), increases the ability of people to earn a high income (economic). Higher average incomes means the government has more revenue to spend on infrastructure (environmental).
  - Access to safe water and sanitation (environmental), means people are less likely to be sick and can therefore gain employment (social). With higher levels of employment, people are less likely to live in poverty (economic). (2 marks)

9. Concept map example



(3 marks)

**8.3 Exam questions**

**Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.6; © VCAA

Global trade is an economic characteristic that can be used to classify countries. A high-income country would have well established infrastructure to transport goods and services for exporting and importing, whereas a middle-income country may still be establishing and developing the necessary infrastructure.

A social characteristic used to classify countries is the establishment of a legal system. A high-income country would have a well-established legal system that promotes human rights and is enforced, whereas a middle-income country may still be developing their legal system or may have some structures and policy in place but may still be working on putting it all in to practice consistently.

Award 1 mark for each characteristic outlined that is used to classify countries as either high-income or middle-income.

Students should ensure their answer refers to both high-income and middle-income countries.

Students are encouraged to use characteristics from two different groups of characteristics (i.e. one economic characteristic and one social or environmental characteristic).

**VCAA Examination Report note:**

Students were required to outline how two characteristics could be used to classify a country as either high-income or middle-income. As the question states ‘other than HDI’, students should know not to refer to any indicator used to calculate the HDI, because this would not show the depth of knowledge required. The most common errors were not making any reference to high- and middle-income countries or referring to high- and low-income (instead of middle-income) countries.

**Question 2**

Environmental characteristics of a high-income country include:

- good access to high quality and adequate food supply
- good access to safe water and sanitation
- good access to adequate housing
- well-developed infrastructure — roads, electricity, communication systems.

**Question 3**

Two social characteristics relevant to Country X are:

- the introduction of social housing and a universal health scheme has been established
- birth rates have steadily decreased.

**Question 4**

Social characteristics of a high-income country include:

- high levels of education
- high levels of gender equality
- low birth rates
- strong political and legal systems
- well established social protection systems.

**Question 5**

Environmental characteristics of a low- or middle-income country include:

- poor access to nutritious and adequate food supply
- poor access to safe water and adequate sanitation
- lack of adequate housing — poor ventilation, lack of heating and cooling
- poorly developed infrastructure.

## **8.4 Similarities and differences in health status and burden of disease in low-, middle- and high-income countries**

### **ANSWERS**

#### **8.4 Activities**

##### **HIV/AIDS worksheet**

- a. It is a global problem with over 34 million cases reported worldwide in 2010
- b. It is a virus that kills off the cells that help fight infection and disease.
- c. No
- d. HIV causes AIDS. When the immune system fails, a patient can develop AIDS and get sick and die.
- e. Having unprotected sex with some who has HIV; sharing needles and drug equipment; babies born to women with HIV are at risk.
- f. No. Saliva does not spread HIV, so there would have to be a cut to spread the disease.
- g. No
- h. Yes. Medication can slow the disease and help sufferers live a longer, healthier life.
- i. Abstinence is the surest way to avoid HIV. Other options are to have only one sexual partner and make sure they do not have multiple partners; make sure your partner is HIV negative; don't share needles (including drug and tattoo needles).
- j. Reasons include: lack of education, lack of access to condoms, lack of access to healthcare for testing, higher rates of pregnancy leading to mother to baby transmission.

**Malaria worksheet**

- a. Two million
- b. Over 600 000 deaths are caused by malaria.
- c. Half the world's population is at risk.
- d. Those living in poverty (living in poor and unhygienic conditions); children; pregnant women; people with HIV; travellers from non-endemic areas
- e. Through treated mosquito nets and education
- f. The family spends 25 per cent of their income on malaria treatment. Children can't go to school, which further increases poverty.

**8.4 Exercise**

**Test your knowledge**

1. Life expectancy has generally increased since 1900, with significant gains achieved since 2000. Global life expectancy has gone from just over 50 in 1960 to just over 70 in 2019. (1 mark)
2. Similarities include:
  - Life expectancy increased for all income levels between 1960 and 2019.
  - Life expectancy in Australia and other high-income countries increased by roughly the same amount between 1960 and 2019.Differences include:
  - Low-income countries experienced a significantly greater increase in life expectancy between 2000 and 2016 compared to other income levels.
  - Upper middle-income countries experienced a significantly greater increase in life expectancy between 1960 and 1970 compared to Australia. (2 marks)
3. Australia's life expectancy and health-adjusted life expectancy are higher compared with middle- and low-income countries.
  - Life expectancy in Australia for males is around 80 and for females is around 85 compared to around 73 and 80 in upper-middle income countries, around 71 and 69 in lower-middle income countries and around 62 and 68 in low-income countries for males and females respectively.
  - Health-adjusted life expectancy is also higher in Australia at around 69 and 71 for males and females, compared to around 65 and 69 in upper-middle income countries, around 60 and 61 in lower-middle income countries and around 55 and 58 in low-income countries for males and females respectively. (4 marks)
4. As income group increases, the U5MR goes down. For example, in high-income countries it was around 5 per 1000 live births, compared to around 12 and 50 in upper and lower-middle-income countries and around 67 per 1000 live births in low-income countries. (2 marks)
5. Leading causes of mortality in low- and middle-income countries:
  - Communicable diseases — such as diarrhoeal diseases, malaria, human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS) and respiratory diseases including pneumonia — that cause few deaths in Australia have a huge impact on mortality figures in low- and middle-income countries.
  - Australian children are more likely to experience mortality and morbidity due to congenital malformations, premature births and accidental causes, such as injuries and poisoning.
  - For adults, infectious, non-communicable diseases and conditions resulting from pregnancy and childbirth are common causes of morbidity and mortality in middle- and low-income countries, whereas non-communicable conditions are the leading contributors in Australia. (4 marks)
6. Children who are undernourished have an underdeveloped immune system and struggle to fight off disease as effectively as those who are adequately nourished. (1 mark)
7. *Difference:* Non-communicable diseases contribute to a significantly higher rate of death in middle- and low-income countries compared to Australia.

*Similarity:* Non-communicable diseases are the leading causes of death in Australia and middle- and low-income countries. (2 marks)

**Apply your knowledge**

8. Reasons for the differences in U5MR experienced by low- and middle-income countries include:
  - lack of education
  - lack of access to maternal healthcare
  - lack of trained health professionals
  - lack of a public healthcare system
  - lack of adequate nutrition
  - lack of immunisation
  - lack of safe water and sanitation
  - conflict. (2 marks)
9. Reasons that non-communicable diseases don't receive a lot of attention in low-income countries include:
  - Even though they have higher rates of non-communicable diseases than Australia, low- and middle-income countries often have even higher rates of communicable diseases.
  - Communicable diseases often kill children and vulnerable groups, whereas non-communicable diseases may be more likely to affect older people.
  - Governments may prioritise the health of children as they have not yet lived a life. (2 marks)
10. Reasons that communicable diseases are more common and spread further in low- and middle-income countries include:
  - Low- and middle-income countries have lower levels of education.
  - There is more public health awareness in high-income countries such as Australia.
  - Governments in developed countries may take swift action by implementing measures such as quarantine.
  - Media, such as television, radio and internet, make it easier to broadcast health messages in developed countries. (2 marks)
11.
  - a. As income decreases, the rate of DALY per 100 000 increases. (1 mark)
  - b. Low-income countries are likely to have more premature deaths and experience greater levels of morbidity than higher-income countries like Australia. They would have less education about how to prevent diseases and less access to healthcare if conditions arise. (2 marks)
12. Australia experiences a similar rate of YLL due to neoplasms (cancer) as the other countries, but much lower rates due to other causes. HIV/AIDS and STIs have a greater rate of YLL in middle and low-income groups. The rate of YLL due to unintentional injuries is also significantly higher in lower income groups. (2 marks)
13. Similarities include:
  - Injuries contribute a similar proportion of deaths in Australia and low-income countries.
  - Non-communicable diseases have the highest proportion of YLL in both Australia and low-income countries.Differences include:
  - Communicable disease cause a much greater proportion of YLL in low-income countries compared to Australia.
  - Non-communicable diseases account for a greater proportion of YLL in Australia compared to low-income countries. (2 marks)
14. Reasons include:
  - This could be because life expectancy is higher in Australia compared to upper middle-income countries. Therefore, as people get older, they are more likely to get sick from a range of conditions.

- Healthcare may be more accessible in Australia than upper middle-income countries, which can mean that conditions are more likely to be diagnosed and data collected.
- Because of greater access to healthcare in Australia, people may be more likely to survive with a condition rather than dying from it, so YLD rates may be higher in Australia than upper middle-income countries. (2 marks)

#### **8.4 Exam questions**

##### **Question 1**

Source: VCE 2017, *Health and Human Development Exam*, Q.9.a (adapted); © VCAA

Lower middle-income countries had the highest percentage of high blood glucose deaths for males.

##### **Question 2**

Source: VCE 2015, *Health and Human Development Exam*, Q.9.a; © VCAA

- Australia has a higher life expectancy at birth, of 82.5 years, than Chad, which has a life expectancy of 51.2 years in 2013.
- Australia's under-five mortality rate, of 5 per 1000 live births, is lower than Chad by 145 per 1000 live births in 2013.

##### **VCAA Assessment Report note:**

Most students were able to read and interpret the data in the table to compare the health status of Australia to Chad. When answering this question, students needed to include the specific data provided in the table for both Chad and Australia. Students were not required to provide reasons for the differences.

##### **Question 3**

Responses could include:

- Zimbabwe, a low-income country, has a lower life expectancy than Australia, a high-income country. Zimbabwe's life expectancy is 58 years — much lower than Australia's at 83 years.
- Zimbabwe, a low-income country, has a higher adult mortality rate than Australia, a high-income country. Zimbabwe's adult mortality rate is 336 deaths per 1000 — much higher than Australia's adult mortality at 59 deaths per 1000.
- Zimbabwe, a low-income country, has a higher under-5 mortality rate than Australia, a high-income country. Zimbabwe's under-5 mortality rate is 89 deaths per 1000 — much higher than Australia's under-5 mortality at 4 deaths per 1000.

##### **Question 4**

Include two of the following:

- good access to birthing facilities in hospitals
- good health of mothers
- sanitary living conditions
- provision of maternal and child health nurses to give guidance to parents on feeding babies.

##### **Question 5**

- Injury mortality rates are lower than non-communicable disease mortality rates in low-, middle- and high-income countries.

- In low-, middle- and high-income countries, injury mortality rates are less than approximately 120 deaths per 100 000.
- In low-, middle- and high-income countries, non-communicable diseases contribute the highest mortality rates of the three disease groups listed.

### 8.5 Access to safe water and sanitation as factors affecting health status and burden of disease

#### ANSWERS

##### 8.5 Activities

###### Water worksheet

- Generally, women and children
- Up to three hours a day
- Children can't go to school or work if they have to collect water as it is time consuming.
- Women are often alone and have to walk long distances, which exposes them to violence and sexual assault.
- Diarrhoea, dehydration, death
- Every 19 seconds
- It restores hours a day to a person's life, creating time for education, work, starting a business or raising a family. It means less disease, less money spent on medicine and more money to spend on education.

###### Sanitation in India worksheet

- People have to go out in the open to relieve themselves; it increases the risk of disease.
- 31 per cent
- i. Less than 10 cents  
ii. There are not enough and they are not affordable for many.

##### 8.5 Exercise

###### Test your knowledge

1.
  - 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. (1 mark)
  - Examples include:
    - Water is a significant component of many body tissues and is essential for the optimal functioning of every cell in the body. Humans can't adequately store water, so it must be consumed daily.
    - Water is essential for producing food. Plants and animals that are used for human consumption require a reliable water source.
    - Water is required for washing and maintaining adequate hygiene to avoid infectious diseases.
    - Water is required for industry to assist in generating an income.
    - Water is essential for cooking. Vegetables and other foods must be washed to be suitable for human consumption and to prevent food-borne diseases. (3 marks)
2. Lack of clean water is generally not an issue in Australia because there is adequate infrastructure to provide clean water, and emergency provisions can generally be supplied when clean tap water is unavailable. (2 marks)
3. Children are particularly susceptible to the impacts of unsafe water as they are likely to experience repeated infection; this is why children account for a high proportion of total deaths from water-related causes. (1 mark)
4. Lack of access to safe water in these countries contributes to hundreds of millions of missed school days each year, which reduces levels of education and the potential to earn a decent income in the future. 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, reducing their ability to pursue education or paid employment, which also contributes to poverty. (3 marks)

5.
  - a. In this course, 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. (1 mark)
  - b. Many schools do not have female toilets, and this prevents many girls from gaining an education. 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. According to WaterAid, women and girls living without a toilet spend 266 million hours each day finding a place to relieve themselves. (2 marks)
6. Unregulated water courses such as swamps and dams can provide a breeding ground for disease-causing parasites such as malaria-carrying mosquitoes. This increases malaria infections. (1 mark)
7. Examples include:

<ul style="list-style-type: none"><li>• gastroenteritis</li><li>• diarrhoea</li><li>• dysentery</li><li>• cholera</li><li>• malaria</li></ul>	<ul style="list-style-type: none"><li>• malnutrition</li><li>• musculoskeletal conditions</li><li>• hookworm</li><li>• roundworm</li><li>• whipworm.</li></ul>
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(5 marks)

### **Apply your knowledge**

8. Examples include:
  - Lack of access to clean water increases the risk of infectious diseases such as gastroenteritis, which contributes to a large number of childhood deaths in middle- and low-income countries compared to high-income countries. This contributes to the differences in YLL experienced.
  - Lack of clean water contributes to a range of diseases and infections that can last a long period of time, contributing to higher rates of YLD in low- and middle-income countries compared to high-income countries. (2 marks)
9. Examples include:
  - Lack of sanitation often causes infectious diseases as human waste contaminates water courses. This can increase the incidence of diseases such as cholera which can contribute to an increased U5MR.
  - Due to lack of sanitation, many girls do not attend school when they are menstruating. This contributes to poverty which can force females into dangerous employment such as sex work. This can increase the prevalence of HIV which can increase mortality rates. (2 marks)
10. Sanitation contributes to around 4.5 per cent of deaths in low-income countries, around 2.5 per cent in lower middle-income countries, around 0.2 per cent in upper middle-income countries and no deaths in high-income countries. (1 mark)
11. Lack of sanitation contributes to disease. A sick population may not be able to work or go to school. Parents may also have to stay home to care for ill children, reducing income for the family. Money may be spent on medical treatments, which increases poverty. If children miss out on education as a result of illness or no toilets (especially girls), they may be forced into low-paid employment. (2 marks)
12. Access to clean water would greatly enhance the lives of those who currently lack it because clean water is essential for good health and wellbeing — for the optimal functioning of the body, for food preparation and cooking, for hygiene and the prevention of infection and water-borne diseases including gastroenteritis, diarrhoea, dysentery and cholera. Children are particularly susceptible to the impacts of unsafe water as they are likely to experience repeated infection;

clean water would reduce the U5MR and allow children to develop normally and attend school. Women and girls would no longer have to trek long distances to fetch water, so they would have more time and energy to pursue educational, paid work or self-employment opportunities, or to raise their children. Clean water reduces the burden of disease, freeing people to work and earn an income to support themselves and their families and thereby helping to end the cycle of poverty that is responsible for many of the differences in burden of disease between high-, middle- and low-income countries. (4 marks)

### **8.5 Exam questions**

#### **Question 1**

Source: *VCE 2019, Health and Human Development Exam, Q.12; © VCAA*

- a. Sanitation is the process of eliminating contact between human and hazardous wastes, including human and animal faeces and urine, solid wastes, domestic wastewater and industrial wastes.

Award 1 mark for describing sanitation.

**VCAA Examination Report note:**

Despite sanitation being a key concept in Health and Human Development, many students described hygiene when asked to describe sanitation. Although hygiene and sanitation are related concepts, they are not the same. Sanitation refers to the removal of hazardous (or human) waste from the environment whereas hygiene is related more to cleanliness. Sanitation also involves more than just ‘toilets’ or ‘removal of faeces’.

- b. The following is an example of a high-scoring response.

The use of sanitation is higher in non-fragile states than fragile states. For example, in 2015 the proportion of people using basic sanitation services in northern Africa and western Asia was measured at 93 percent and 68 percent for non-fragile and fragile states respectively.

Award 1 mark for stating what the proportion of the population using basic sanitation services in fragile states is and using data to support this.

Award 1 mark for stating how the proportion of the population using basic sanitation services in non-fragile states is different to that of fragile states and using data to support this.

**VCAA Examination Report note:**

This question required interpretation of data to compare the use of basic sanitation services in fragile and non-fragile states. Students had to read all the provided information carefully, because in this case an explanation of fragile (and therefore non-fragile) states was included in the stimulus. The most common error was discussing the percentage of fragile and non-fragile states using basic sanitation as opposed to the proportion of people in fragile and non-fragile states using basic sanitation.

- c. The provision of basic sanitation services for girls at school means that girls are more likely to attend school to gain an education. Through this education they can increase their knowledge and skills related to diet and nutrition to strengthen their immune system to fight infection leading to a reduced incidence of infectious diseases.

The provision of basic sanitation services such as a flushing toilet that safely removes sewerage means less people will openly defecate. Reducing the number of people who openly defecate, especially near waterways, can help to reduce contamination of the water ways that people use for drinking and cooking. This can reduce the DALY's associated with infectious diseases such as cholera and typhoid that can result from contaminated water.

Award 1 mark for outlining a specific example of sanitation.

Award 1 mark for explaining how this specific example of sanitation contributes to differences in health status, ensuring the student incorporates a health indicator (other than burden of disease) in their answer.

Award 1 mark for outlining another specific example of sanitation.

Award 1 mark for explaining how this specific example of sanitation contributes to differences in burden of disease ensuring the student incorporates DALYs, YLL or YLD in their answer.

***VCAA Examination Report note:***

This question required links between differences in the use of basic sanitation and health status and burden of disease. High-scoring responses made references to specific conditions and relevant indicators of health status and burden of disease.

The following is an example of a high-scoring response.

If there is adequate sanitation this might mean there is sewerage disposal and human waste isn't flowing into the streets. This reduces the risk of contracting an infectious disease such as diarrhoea from contaminated sewerage water, contributing to lower morbidity rates. If there is adequate sanitation facilities, this might mean that menstruating girls don't have to walk a long, unsafe distance to find an adequate toilet. This reduces the risk of them getting kidnapped and murdered by violent gangs, contributing to a lower YLL rate.

**Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.15.a; © VCAA

Safe water refers to water that is not contaminated with disease and is fit for humans to consume.

Sanitation refers to the provision of facilities and services for the safe disposal of human urine and faeces, including hygienic practice.

***VCAA Examination Report note:***

This question assessed students' understanding of the concepts of safe water and sanitation. Most students struggled to provide the level of detail required in their response.

**Question 3**

Source: VCE 2010, *Health and Human Development Exam, Section B*, Q.4.a (adapted); © VCAA  
Collecting water can take considerable time — especially if the water supply is a long distance from the family home. Girls and women who spend the majority of their day collecting water have little spare time to attend school which can mean that they don't get as much time to socialise with

friends, impacting the quality of their relationships. This can also impact on their health and wellbeing as they may not be able to work towards their purpose in life. The water is often heavy and carried on the head which can contribute to musculoskeletal conditions in the neck and back.

#### **Question 4**

Access to adequate sanitation is much higher in high-income countries than low-income countries — by 71%. Having access to adequate sanitation means that wastes are safely removed and the risk of contamination of water supplies is reduced. Adequate sanitation therefore can reduce the risk of diseases such as diarrhoea, a major cause of death of children under 5. This may explain why under-5 mortality is much lower in high-income countries than low-income countries — by 70 deaths per 1000 live births.

#### **Question 5**

Reasons could include:

- Children may be forced to drink unsafe water if that is all that is available. Unsafe water increases the risk of diarrhoeal disease, which may prevent children from attending school as they are too ill to do so.
- Children may have to spend much of their day collecting water from safe water sources. This may leave little or no time to attend school.

### **8.6 Poverty as a factor affecting health status and burden of disease**

## **Answers**

### **8.6 Activity**

#### **Poverty worksheet**

- a. Increased risk of premature mortality; reduced agricultural yield; impacts on education; people have to choose between essential resources; every choice is a trade-off; potential disaster.
- b. Choosing water or transport; medicine or an evening meal; new shoes or school fees
- c. It is the denial of basic freedoms and basic human dignity.

### **8.6 Exercise**

#### **Test your knowledge**

1.
  - a. Poverty refers to deprivation of resources, usually as a result of having limited financial resources. (1 mark)
  - b. Poverty can be measured as:
    - Those living on less than a certain amount per day (often US\$1.90 a day; see figure 8.37 in the student text). This is referred to as absolute poverty or extreme poverty.
    - Those living on less than 50 per cent of their country's average income. This is referred to as relative poverty. (2 marks)
2. Examples include:
  - 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 World Health Organization 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. This is a much more significant issue in low-income countries compared to Australia, where most houses have adequate ventilation.
  - If there is a lack of insulation and/or heating and cooling, there is an increased risk of death from pre-existing health problems (such as heart conditions) as the body attempts to

maintain body temperature. This increases YLL in low-income countries compared to Australia. (2 marks)

3. Examples include:
  - Adequate housing can decrease the risk of respiratory diseases and contribute to lower morbidity and mortality rates.
  - Adequate ventilation decreases the risk of infectious diseases such as pneumonia, which decreases morbidity and mortality rates.
  - Adequate housing promotes education by providing children a place to complete homework. This can contribute to higher average incomes in the future which increases access to health services which can increase life expectancy as a result of conditions being able to be treated. (2 marks)
4. Low income contributes to poor living conditions and poor health and wellbeing. This reduces opportunities for education and employment, which contributes to further poverty. (2 marks)
5. Examples include:
  - Education results in higher levels of health literacy, which is a protective factor for ill-health and premature mortality from conditions associated with poverty such as HIV/AIDS.
  - High levels of education contributes to higher incomes, which means money can be spent on resources such as healthcare, reducing morbidity and mortality rates. (2 marks)

### **Apply your knowledge**

6.
  - a. Around 0.5 per cent of the population live in extreme poverty in high-income countries compared to around 2 per cent of those in upper middle-income countries, 17 per cent in lower middle-income countries and around 45 per cent in low-income countries. (1 mark)
  - b. Examples include:
    - There is less money for healthcare in low-income countries, so conditions can go untreated. This increases the number of premature deaths and YLL compared to high-income countries.
    - There is less money for nutritious food, increasing the risk of infectious diseases, especially among children. This increases the rate of DALY for this group in low-income countries compared to high-income countries.
    - Extreme poverty reduces the ability of people to afford clean water and adequate sanitation, increasing the risk of diseases such as cholera and dysentery. This increases DALY in low-income countries compared to high-income countries. (3 marks)
7.
  - a. Answers include Indigenous Australians; people from low SES backgrounds; and those living outside of Australia's major cities. (2 marks)
  - b. Both populations have:
    - higher rates of morbidity and mortality
    - reduced access to healthcare
    - higher rates of malnutrition
    - higher U5MR
    - higher rates of many preventable diseases. (2 marks)
8. Examples include:
  - Poverty contributes to lower rates of education, so those living in poverty may not have the knowledge to reduce their risk of conditions such as HIV.
  - Poverty can mean reduced access to clean water, increasing the risk of diarrhoeal disease.
  - Those living in poverty may be forced into dangerous jobs such as the sex trade which increases their risk of HIV.
  - Poverty means that people may not be able to afford resources that reduce the risk of malaria such as mosquito nets. (2 marks)
9. Examples include:

- Reducing poverty means that more people will have access to resources such as food. This can reduce levels of stress and anxiety.
- Reducing poverty can mean that people have money to spend on things like socialising with friends. This can enhance relationships.
- Not living in poverty means that people can access adequate amounts of food which can provide optimal levels of energy. (2marks)

### 8.6 Exam questions

#### Question 1

Source: VCE 2020, Health and Human Development Exam, Q.10.c (adapted); © VCAA

Poverty can result in people not being able to afford to access healthcare when needed. This means they can experience longer periods of illness where their body is not able to function efficiently (physical health and wellbeing). If healthcare cannot be accessed when needed, due to not being able to afford it, then the illness can become worse and may lead to increased mortality rates.

Award 1 mark for providing a specific example of an outcome of poverty

Award 1 mark for describing how the outcome of poverty can impact health status.

Award 1 mark for describing how the outcome of poverty can impact a dimension of health and wellbeing.

#### VCAA Examination Report note:

To achieve full marks, students had to provide a specific example of an outcome of poverty and link it to health and wellbeing and health status.

Common errors included providing vague examples relating to poverty and linking to a dimension or health status indicator instead of linking to both.

The following is an example of a high-scoring response.

*Poverty: individuals in poverty are unable to afford essential resources such as food. This causes them to become malnourished which weakens immune system, causing them to be more susceptible to disease, negatively impacting their physical health and wellbeing. By being susceptible to diseases such as cholera, individuals are more likely to contract this, contributing to increased mortality rates.*

#### Question 2

Source: VCE 2011, Health and Human Development Exam, Section A, Q.5; © VCAA

High-income countries, compared to low-income countries, have governments that, through taxes collected, can ensure infrastructures such as safe water and sanitation systems are built and maintained.

Access to safe water and sanitation reduces the risk of death due to diseases such as diarrhoea — a major killer in low-income countries.

#### Question 3

Source: VCE 2005, Health and Human Development Exam, Q.3.ii (adapted); © VCAA

Many families in Zimbabwe live on less than US\$1.90 per day. If families are poor then insufficient money is available for food; this means that children are often malnourished and underweight. Being underweight increases the risk of contracting other diseases.

This may explain why infectious diseases are more common in Zimbabwe than Australia where food supply is plentiful and agencies are set up to assist those who cannot afford adequate food.

**Question 4**

The minimum age of marriage for women has been raised to 18 years. This will improve the physical health of Mozambiquan women, as fewer young girls will be forced into early marriage and suffer conditions such as fistula from protracted births because of their underdeveloped reproductive systems.

**Question 5**

Countries with higher income tend to have higher life expectancy. For example, Australia's GNP is int\$45 320 per head and its life expectancy is 83 years; Zimbabwe's GNP is int\$1710 per head and its life expectancy is 58 years.

## **8.7 Inequality and discrimination as factors affecting health status and burden of disease**

### **ANSWERS**

#### **Case study review: Violence against women in PNG an 'emergency', says Human Rights Watch**

1. Women stay with abusive partners in PNG because they often have no other options, due to poverty, traditions that ties them to their husband's family and lack of safe houses.
2. Having women in government means that women have a voice in the policies and laws created. This can increase the rights that women have in the country; for example, the right to vote or own land. This increases the opportunities that women have and gives them a say in the society in which they live. Having more women in government can mean that women's issues and concerns are more likely to be raised and acted on. Issues such as assault may be treated with more urgency if women are involved in planning solutions.
3. Examples include:
  - Too many women are not given opportunities for education and therefore end up working in unskilled jobs that do not pay very well. This contributes to lower average incomes and higher levels of poverty.
  - Women often do not have a say in family planning which means they have large families. This can make it difficult to provide for all of the children a woman has, increasing levels of poverty.
  - Being forced into marriage can mean that girls have babies at a young age which can reduce their ability to pursue a career, contributing to lower average incomes.

### **8.7 Activity**

#### **Girl effect worksheet**

##### **Scenario 1**

- A girl turns 12 and lives in poverty, so her future is out of her hands. She is seen as a woman by many. She may be married at 14 and pregnant by 15. She might have to sell her body to support her family, increasing her risk of HIV.

##### **Scenario 2**

- A girl turns 12, visits a doctor regularly and stays in school where she's safe. She uses her education to get a good job. She can avoid HIV and make her own decisions about marriage and having children. She and her children are healthy.

### **8.7 Exercise**

#### **Test your knowledge**

1. Discrimination relates to when a person or group of people are treated differently than other people, often a result of factors such as race, religion, sex, sexual orientation and gender identity, whereas inequalities in health status relate to the outcomes that often occur when a group is disadvantaged such as higher rates of mortality and morbidity. (2 marks)
2.
  - a. Human rights are the freedoms and conditions that every person is entitled to. (1 mark)
  - b. Indigenous people; ethnic minorities; women, disabled people (1 mark)
3.
  - a. 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. (1 mark)
  - b. Racial discrimination means that people experience a shorter life expectancy, which relates to a higher rate of YLL. 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 wellbeing, causing depression, anxiety and other psychological and psychiatric disorders. Racism also contributes to low birth weight of newborns, as well as premature birth. All of these outcomes contribute to higher rates of DALY among people who experience racial discrimination than among those who do not. (2 marks)
4. Displacement relates to having to move away from home. Some people are forced to flee and live in foreign countries as refugees, or become displaced in their own country. (1 mark)
5. 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
  - cigarette smoking
  - alcohol abuse
  - drug use. (3 marks)
6. Sexual orientation relates to the sex that an individual is sexually and romantically attracted to; whereas gender identity relates to how individuals perceive themselves as male, female, a blend of both, or neither. (2 marks)
7. Gender equality and burden of disease:
  - Gender equality (or lack thereof) leads to many women in low- and middle-income countries working in jobs that are often badly paid, dangerous and laborious, directly putting their health at risk. Prostitution is an example of this, as it raises the levels of HIV/AIDS infections and increases the associated burden of disease.
  - Gender equality impacts education, contributing to higher incomes and reduced burden of disease. This is more common in Australia compared to low-income countries.
  - Women in low-income countries may not be able to make their own decisions, increasing their risk of violence, forced marriage and female genital mutilation. This increases the associated burden of diseases compared to Australia.
  - Women in low- and middle-income countries often lack access to adequate healthcare and other resources during pregnancy, which increases the burden associated with maternal mortality compared to Australia. (2 marks)

8.

- a. 11 in every 100 (1 mark)
- b. The number of same-sex couples more than tripled between 1996 and 2011. (1 mark)
- c. Thirty-four per cent had hidden their sexuality or gender identity when accessing services. They could experience higher levels of stress, which impacts mental health and wellbeing. They may not feel that they belong in the society in which they live, which impacts spiritual health and wellbeing. (1 mark)
- d. Three times more likely (1 mark)
- e. Verbal abuse — 6 in 10  
Physical abuse — 2 in 10  
Other types of homophobia — 1 in 10 (1 mark)

### Apply your knowledge

9. Examples include:

- a. *Health and wellbeing*
  - The new living environment may lack food and water which can contribute to infectious diseases, impacting physical health and wellbeing.
  - Lack of safe housing can contribute to stress (mental health and wellbeing).
  - People may feel they are not working towards their purpose in life, impacting spiritual health and wellbeing. (2 marks)
- b. *Health status*
  - Lack of healthcare can contribute to higher rates of mortality and morbidity from conditions that could otherwise be effectively treated.
  - If people experience higher levels of stress, there may be higher prevalence of mental disorders.
  - If people are subject to violence in a refugee camp, there may be a higher incidence of injuries. (2 marks)
- c. *Burden of disease*
  - If women are having babies in their new location, there may not be adequate health care, contributing to YLL from maternal deaths.
  - There may be an increase in YLD and YLL from infectious diseases if there is not a stable food supply.
  - There could be an increase in the rate of DALY due to people not having access to clean water and sanitation. (2 marks)
  - This increases the rate of YLD and YLL (burden of disease).

10. *Example*

No. Women are still under-represented in government and in the private sector. Women also earn less than men on average and are more likely to be the victims of domestic violence. (2 marks)

11. Variations include higher rates of treatable diseases as a result of being refused healthcare; sexual and physical assaults resulting in increased rates of injuries and mental health disorders; increased rates of self-harm including suicide. (2 marks)

### 8.7 Exam questions

#### Question 1

Source: VCE 2018, *Health and Human Development Exam*, Q.9; © VCAA

a. Discrimination is the unjust and negative treatment of individuals or groups of people due to their gender, race, religious beliefs and/or sexual orientation.

b. Racial discrimination often results in social exclusion and feelings of worthlessness. This could impact on health status and burden of disease, as this may lead to increased morbidity from depression and increase years of life lost due to disability.

**VCAA Examination Report note:**

Many students explained how discrimination could contribute to differences in health status and burden of disease, although a common error was not linking their example to the impact on health status or burden of disease.

**Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.8.b; © VCAA

*Please note that in the current study design developing countries would be considered low and/or middle-income countries*

- In some low- and middle-income countries, women are often not given the same opportunity for education as men and therefore have more difficulty finding full-time work due to illiteracy.
- In some low- and middle-income countries, women are often responsible for the care of children and household chores, leaving them little time for full time work.
- In some low- and middle-income countries, women are often seen as less important than men and may be given less food, which could impact on their ability to work full time due to lack of energy.
- In some low- and middle-income countries, women often have less say in decisions that affect them. This may hinder their ability to work full time if they don't have permission from their husband.
- In some low- and middle-income countries, laws may exist that discriminate against women preventing them from engaging in full-time work.

**Question 3**

Source: VCE 2007, *Health and Human Development Exam*, Q.7.d (adapted); © VCAA

Gender inequality in developing countries such as Sudan may result in women being seen as less privileged and less important than males

therefore they may be fed after men or are not given as much food as males in the family, hence reducing the availability of food for women.

**VCAA Assessment Report note:**

Possible answers that students could have presented included:

- females often have low status and are viewed in terms of their ability to care for the family and perform household tasks. Females usually eat last which means they may get little food
- women are likely to suffer ill health as a result of violence as it is acceptable in some countries for men to beat their wives and control their access to food
- it is often the responsibility of the woman to collect water and firewood, which decreases the time they have available for farming and food production
- women are often unable to own their own land or have control over financial matters, which means money may be spent on things other than food.

**Question 4**

Inequality and discrimination can contribute to a range of negative health outcomes including:

- higher rates of depression and anxiety
- lower life expectancy
- being more likely to be the victim of intentional violence.

**Question 5**

In many low- and middle-income countries, girls experience inequality and discrimination. Often girls (particularly from rural areas) are forced into early marriage. Early marriage usually means early pregnancy and the associated complications that arise from having a baby when the mother's body is not fully developed for delivery.

This affects health status as, if labour is protracted, the risk of the mother and the baby dying is greater or the risk of injury from fistula is higher.

**8.8 Global distribution and marketing of tobacco, alcohol and processed foods as factors affecting health status and burden of disease**

**ANSWERS**

**8.8 Activity**

**Tobacco marketing worksheet**

- a. 1 million each year
- b. Four key messages:
  - The risk is greater than previously thought.
  - Smoking kills early: 70 per cent of deaths are in those aged 30 to 69 years.
  - There is no safe level of smoking.
  - Stopping smoking is highly effective.
- c. 2 per cent of adults report to be ex-smokers.
- d. Translation into local languages allows people all over India to understand the risks associated with smoking.
- e. The most important way is for the Indian government to adopt prominent warning labels on tobacco packets using images and text.
- f. People can buy tobacco anywhere; people can buy individual cigarettes, which makes them more affordable to those on low incomes.
- g. The Indian government can increase the tax on tobacco products.
- h. Incomes have increased in India, making tobacco products cheaper compared to what they were in the past. Taxes on tobacco are also lower than in other countries.
- i. The health system in India is already flooded with people suffering from cardiovascular disease, tuberculosis and cancer. The tobacco-related health risks will add to this strain because people are getting sick at a younger age.

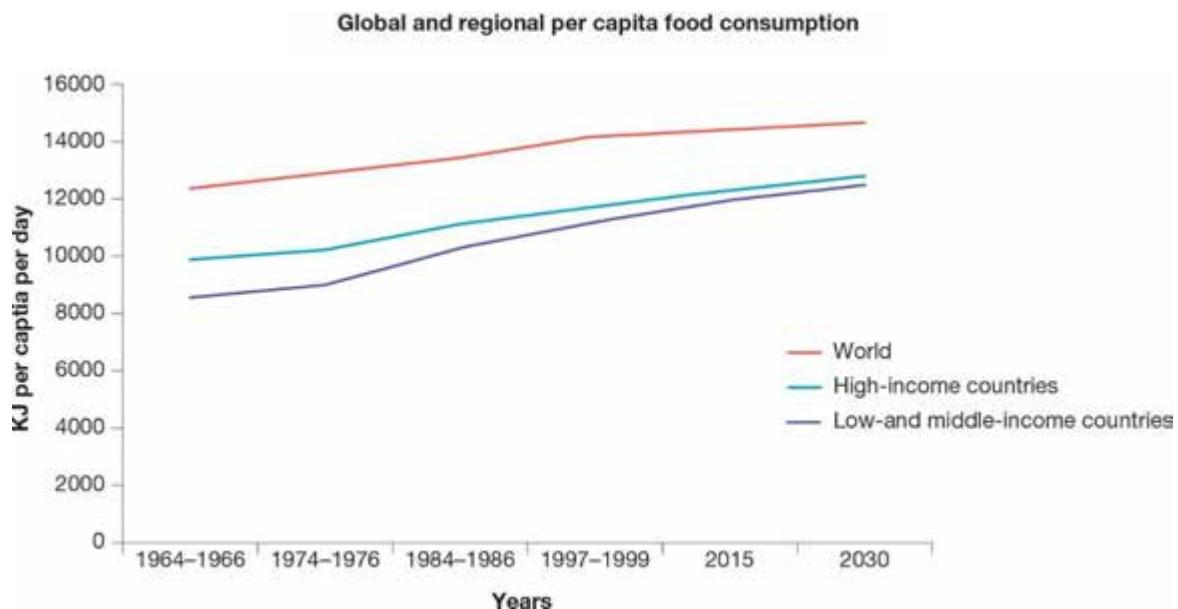
**8.8 Exercise**

**Test your knowledge**

1.
  - a. Globalisation is the process whereby boundaries between countries are reduced or eliminated, allowing individuals, groups and companies to act on a global scale. It can be described as transforming the different societies of the world into one global society. A reduction in barriers to trade, communication and transport contributes to this process. (1 mark)
  - b. Examples of ways in which globalisation can improve health status include:
    - Aid in times of emergencies (such as natural disasters) can reach people faster.
    - Knowledge can be shared more easily through media such as the internet.

- Resources and skills can be shared among countries; low- and middle-income countries can benefit from increased tourism.
  - Low- and middle-income countries may be able to export goods to other countries. (2 marks)
2. Global marketing refers to the advertising and supply of products on a global scale; for example, the global marketing of alcohol, tobacco and processed foods. (1 mark)
3. Examples include:
- increasing incomes
  - more females smoking
  - greater amount of advertising. (3 marks)
4. Tobacco companies have been targeting low- and middle-income countries in an attempt to make up lost revenue in developed countries. The laws, taxes, regulations and public awareness campaigns that operate in many high-income countries often don't exist in low- and middle-income countries. As smoking rates have decreased in many high-income countries as a result of these interventions, marketing has increased in low- and middle-income countries in an attempt to increase global sales. (3 marks)
5. Excessive alcohol consumption in Australia contributes to a range of conditions such as obesity, type 2 diabetes, cardiovascular disease, cancers, mental health disorders and liver disease. These conditions contribute to premature death and illness, increasing the rate of YLL and YLD. (2 marks)
- 6.
- a. Low-income countries experience the highest mortality rate due to alcohol consumption.
  - b. People in low income countries who develop health conditions as a result of excessive alcohol consumption may not get the treatment they need to manage their condition. This could lead to an earlier death and a greater mortality rate compared to those in higher income countries where treatment is usually available. They may also have not as much education about the risks of alcohol as those in high-income countries, contributing to higher mortality rates. (2 marks)
- 7.
- a. Processed foods relate to any food items that have been deliberately changed before being made available to eat. (1 mark)
  - b. No, some processed foods are healthy. Many processed foods are healthy and safe to consume on a regular basis, such as canned fruit and frozen vegetables. (1 mark)

8. a.



(3 marks)

- High-income countries have higher intake than low- and middle-income countries. Both categories of countries (and therefore the global average) have increased over time and are predicted to continue to increase. (2 marks)
- High-income countries have more income to spend on food. Also, there is increased marketing in low- and middle-income countries and more availability of processed foods over time. Increasing incomes in many low- and middle-income countries also contributed to this trend. (2 marks)
- Increasing energy intake may promote health status and decrease burden of disease in low- and middle-income countries. Many low- and middle-income countries have experienced food shortages over time, and an increase in energy intake may mean that they are more likely to live long lives. However, it may also mean that obesity rates are going to increase across the globe, which can lead to higher rates of cardiovascular disease and type 2 diabetes in both high-income and low- and middle-income countries. (2 marks)

#### Apply your knowledge

9.

- Tobacco use for males and females in Australia are around 16 per cent and 12 per cent respectively. In middle-income countries the rates are around 40 per cent and 7 per cent (students can also provide data for both upper and lower middle-income countries). (1 mark)
- Examples include:
  - Tobacco companies have been marketing their products to those in low- and middle-income countries.
  - Growing economies and higher incomes mean that more people in low- and middle-income countries can afford tobacco.
  - In Australia, advertising and packaging laws, increased taxation on cigarettes, and laws relating to smoking in public places have led to a decrease in smoking rates.
  - Education relating to the dangers of tobacco use is readily available in Australia, contributing to lower smoking rates than in low- and middle-income countries.
  - Smoking has traditionally been seen as a male activity in many countries, contributing to lower rates of female smokers in middle-income countries. (2 marks)

10. Spending money on tobacco may leave less money available for food, shelter, clothing, healthcare and education. If some get sick from a smoking-related disease, they may not be able to work and provide for their family. (2 marks)
11.
  - a. Rates of DALY per 100 000 people in Australia due to high BMI decreased from around 1600 in 1990 to around 1300 in 2019. In low-income countries, the rate increased from around 1250 in 1990 to around 1750 per 100 000 in 2019. (2 marks)
  - b. Reasons include:
    - better healthcare in Australia resulting in fewer premature deaths from associated conditions compared to low-income countries
    - growing incomes in low-income countries leading to people consuming more food. (2 marks)

### 8.8 Exam questions

#### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.9.b (adapted); © VCAA

*Please note that in the current study design, global marketing is now known as global distribution and marketing of tobacco, alcohol and processed foods, and access to health care is no longer a focus.*

The global marketing and distribution of processed foods has seen an increase in consumption of high energy foods in low income countries. Traditional diets in these countries are often replaced with processed foods, which are high in kilojoules and increase the risk of high blood glucose levels. This along with limited opportunities to treat conditions arising from high blood glucose levels, due to inability of many to pay, may explain why deaths from high blood glucose levels are higher in both males and females in low-income countries than high-income countries.

#### VCAA Examination Report note:

Many students found this question challenging, particularly where they had to apply global marketing and access to healthcare to differences in the percentage of deaths attributed to high blood glucose across the country groups. Many students discussed the impact of global marketing but were unable to link their discussion to high blood glucose deaths. Many students focused their discussion on males at an individual level or socio-economic status at an individual level rather than on the differences between countries, and therefore did not answer the question being asked.

#### Question 2

Source: VCE 2016, *Health and Human Development Exam*, Q.14.a; © VCAA

Global marketing of processed foods has meant that more people in low and middle income countries have access to foods that are high in fat, sugar and salt. This coupled with people in these countries moving from the country to the cities to find work means they have greater reliance on processed foods because they lack the space and time to grow more traditional foods. Fat and sugar found in processed foods are high in kilojoules. Excess kilojoules not used by the body are stored as body fat and overtime lead to overweight and obesity.

#### VCAA Assessment Report note:

Many students were able to explain how global marketing has contributed to the increase in the number of people who are overweight or obese. Most students focused their answer on the

influence of the promotion of processed foods or alcohol. Students are reminded that smoking does not contribute to obesity and discussion on this aspect was not relevant.

**Question 3**

Source: *VCE 2012, Health and Human Development Exam, Section B, Q.3.b (adapted); © VCAA i and ii.*

- alcohol use
- tobacco use
- overweight/obesity.

Tobacco use:

The global marketing and distribution of tobacco has had a negative impact on high-, middle- and low-income countries, although the impact is greatest on low- and middle-income countries.

This could be due to a shift in markets away from high income countries due to successful strategies to address tobacco-related harm. As companies wish to continue increasing profits from the sale of tobacco, markets have opened up in both middle- and low-income countries, many of which do not have restrictions on the sale of cigarettes.

This may explain why global DALYs are higher in middle- and low-income countries.

**Question 4**

Source: *VCE 2010, Health and Human Development Exam, Section A, Q.9; © VCAA*

a. Leading causes of death predicted to rise due to global marketing may include:

- diabetes mellitus
- hypertensive heart disease
- liver cancer
- colon and rectal cancer
- oesophagus cancer
- stomach cancer
- tracheal, bronchus and lung cancer
- chronic obstructive pulmonary disease.

**VCAA Assessment Report note:**

Road traffic injury is an example of a cause of death that is expected to rise in ranking, but it is more likely to be attributed to factors such as speed and the use of seatbelts or helmets rather than global marketing.

b. Description may refer to:

- The global marketing of processed food has seen a replacement of local and traditional foods with those that have higher levels of sugar, fat and salt. This has contributed to the increased incidence of diseases such as diabetes mellitus, colon and rectal cancer, and hypertensive heart disease.
- The global marketing of tobacco has meant that markets have opened up in countries where there is little regulation on the sale of cigarettes and consumption of cigarettes has

increased. This has then increased the incidence of lung cancer, other cancers such as oesophagus cancer, and chronic obstructive pulmonary disease.

- The global marketing of alcohol has seen high levels of alcohol being consumed globally. This has increased the incidence of diabetes mellitus, road traffic injuries, colon and rectal cancer, liver cancer and stomach cancer.

**VCAA Assessment report note:**

Many students were unable to apply the concept of global marketing to the rise in the ranking of the illness they had chosen in 9a. Global marketing is one of the concepts in Unit 4, Outcome 1. The global marketing of cars was not acceptable as the cars are not a direct cause of the injuries; the direct cause of the injury is the driver and their behaviour.

**Question 5**

Source: VCE 2004, *Health and Human Development Exam*, Q.1; © VCAA

Smoking is in decline in high-income countries, so tobacco manufacturers are targeting low- and middle-income countries to promote and sell their cigarettes.

Low- and middle-income countries are often poor and without the income to allocate to health promotion; therefore; people in developing countries may be unaware of the dangers of smoking, which could explain why rates are increasing.

## 8.9 Topic 8 Key skills

### ANSWERS: PRACTISE THE KEY SKILLS

1. Economic characteristics common among high-income countries:
  - There are generally low rates of poverty in high-income countries.
  - High-income countries have high average incomes.
  - High-income countries generally have a range of industries.
  - High-income countries generally trade on the global market.Environmental characteristics common among high-income countries:
  - Those in high-income countries often have access to clean water and adequate sanitation.
  - Those in high-income countries often have access to a reliable food supply.
  - Those in high-income countries often have high quality housing.
  - Infrastructure such as roads, electricity grids and telecommunications systems are often more sufficiently developed in high-income countries.
2. *Similarity:* Maternal mortality rates have decreased in both Australia and Fiji between 1990 and 2017, from around 8 to 6 per 100 000 live births in Australia, and from around 62 to 35 per 100 000 live births in Fiji.  
*Difference:* Rates were significantly higher in Fiji compared to Australia in 2017 (around 35 and 6 per 100 000 live births respectively).
3. 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.
4. Sanitation contributes to many infectious diseases, especially in low- and middle-income countries, increasing the incidence of these conditions and increasing the U5MR compared to Australia. Lack of sanitation can also mean that those (especially girls) in low-income countries cannot access an education (due to lack of toilet facilities). Lower levels of education can force females into sex work which can increase their risk of HIV, contributing significant DALY in low-income countries compared to Australia.

5. The provision of sanitation allows girls in all countries to go to school, which increases their sense of purpose and meaning in life, therefore enhancing spiritual health and wellbeing globally. It means that girls are less likely to get sick, which promotes physical health and wellbeing around the world. They will not have to walk out in the community looking for somewhere to relieve themselves, which can reduce levels of stress and thereby promote mental health and wellbeing for girls around the world. They are more likely to attend school, which can provide opportunities for socialisation and thus promotes social health and wellbeing for all girls everywhere.
6.
  - a. Low-income countries experience mortality rates from communicable diseases at around 425 per 100 000 people, compared to around 25 per 100 000 people in high-income countries.
  - b. Factors include:
    - Lack of clean water in low-income countries compared to high-income countries, which increases the risk of infectious diseases such as cholera.
    - Women in low-income countries often lack access to education due to poverty, resulting in some women being forced into sex work. This contributes to higher rates of death from HIV/AIDS compared to those in high-income countries.
    - Poverty in low- and middle-income countries contributes to higher levels of malnourishment than in high-income countries, which increases the risk of infectious diseases due to decreased immune function.
7. Reasons include:
  - Transgender people are often discriminated against, which increases the risk of mental health disorders such as depression compared to those who are cisgender.
  - Transgender people may not feel accepted in their community, which contributes to low levels of self-worth and an increased risk of depression compared to those who are cisgender.
  - Transgender people may be denied employment opportunities, which can contribute to higher rates of depression compared to cisgender people.
  - Transgender people are more likely to be abused by others compared to cisgender people, which contributes to higher rates of depression.

### **8.10 Topic 8 review**

#### **ANSWERS Extended Response**

Answers to extended response questions are marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected to the stimulus material and synthesised
- Knowledge and application of factors contributing to decreased rates of TB in Australia over time
- Discussion of factors that account for the differences between Australia and low-income countries in relation to TB infections

The table on the following pages shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used. The first step is to determine if the response best fits the ‘not shown’, ‘low’, ‘medium’ or ‘high’ band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most

of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a ‘medium’ score if these components have been completed to a high standard.

Once a determination of ‘high’, ‘medium’, ‘low’ or ‘not shown’ is made, a decision can be made as to where the response fits within that category.

An example of a high scoring response is:

As a high-income country, Australia has been fortunate to be able to spend significant amounts of money on medical developments. This has assisted in increasing our knowledge of infectious diseases such as TB and meant that biomedical interventions such as medication and the development of vaccines have been promoted and made available to those in need. It has also meant that the manner in which TB spreads has been understood for some time, allowing education through old public health to be shared among the public to reduce infection rates. Knowing that it is spread through coughs (source 1) means that people may have been told to cough into a tissue to assist in preventing the spread. Interventions related to old public health such as the funding of mass vaccination campaigns may have also been introduced to assist in reducing the spread. Australia has a strong, subsidised health system means that people who do contract the disease may have been able to access affordable medicines that may reduce the risk of death, assisting in virtually eliminating death from TB by the 1980s (source 3). Low-income countries are still experiencing conditions that were common in Australia in the 1900s. Access to medical care and understanding the causes of TB may be limited, meaning it has a greater ability to spread, contributing to death rates around 40 per 100 000 (source 2). Low-income countries also have significantly higher rates of conditions such as HIV which can increase the risk of TB infection and death as people’ immune systems are compromised. Interventions associated with the social model of health mean that many Australians avoided HIV infection which has also contributed to fewer TB infections as people generally have healthier immune system function, compared to those in low-income countries. Factors such as food security also play a role in that it promotes adequate immune system function which can fight off an infection. Food safety standards developed in the period of old public health also assisted in providing a safe food supply in Australia. Those in low-income countries often lack access to sufficient food, increasing their risk on infectious diseases such as TB.

Band	Mark range	Criteria				
		How the response has been structured	How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected to the stimulus material and synthesised	Knowledge and application of factors contributing to decreased rates of TB in Australia over time	Discussion of factors that account for the differences between Australia and low-income countries in relation to TB infections
High	9-10	Ideas are organised clearly and coherently	The stimulus material has been well understood and synthesised throughout the discussion.	Concepts demonstrating the use of their own knowledge are thorough and display depth of understanding. Links between the stimulus and broader understanding are clear.	A range of developments in relation to the biomedical model and old and new public health are used to discuss the decrease in TB infections in Australia over time.	A range of factors that may account for the differences in health status in relation to TB between Australia and low-income countries are thoroughly and accurately discussed.
	7-8	Ideas are generally organised clearly and coherently	The stimulus material has been understood and synthesised in the discussion.	Concepts demonstrating the use of their own knowledge are thorough and display depth of understanding.	A range of factors in relation to the biomedical model, old and /or new public health are used to discuss the decrease in TB infections in Australia over time.	A range of factors that may account for the differences in health status in relation to TB between Australia and low-income countries are discussed.
Medium	6-7	Ideas are organised but may not read as well as stronger answers	The stimulus material is generally understood and relevant examples have mostly been used to support the discussion.	Discussion of concepts demonstrating student's understanding and links between the stimulus material are made.	At least two developments in relation to the biomedical model, old and / or new public health are used to discuss the decrease in TB infections in Australia over time.	Two factors that may account for the differences in health status in relation to TB between Australia and low-income countries are accurately discussed.
	5	Ideas are generally organised but there may be issues with how it is structured and	The stimulus material is generally understood and examples from <b>all three sources</b> have been used to support the discussion	Discussion of concepts demonstrating student's understanding are broad and general.	At least one development in relation to the biomedical model, old and / or new public health are accurately used to discuss	One or two factors that may account for the differences in health status in relation to TB between Australia and low-

*Topic 8: Comparing health status and burden of disease across countries*

		may be a little difficult to follow			the decrease in TB infections in Australia over time.	income countries are discussed.
	4	Ideas are loosely organised and sequenced	The stimulus material has been understood and simplistic connections are made between the stimulus material and the question.	Broad or vague statements are made from student's understanding with one link to the question.	One development in relation to the biomedical model, old and / or new public health is used to discuss the decrease in TB infections in Australia over time.	One or two factors that may account for the differences in health status in relation to TB between Australia and low-income countries are discussed but the discussion is general.
Low	3	Lacks coherent structure	Simplistic connections are made between at <b>least 2 sources</b> of the stimulus material and the question.	Broad statements are made from student's understanding, but a weak link to the question is made.	One development in relation to the biomedical model, old and / or new public health is used but the link/s to the decrease in TB infections in Australia over time is weak.	One or two factors that may account for the differences in health status in relation to TB between Australia and low-income countries are discussed but links are tenuous.
	2	Lacks coherent structure	Aspects of the stimulus material are restated with tenuous connections made to the question.	Some use of information from their broader understanding is listed but very limited connections to the question are made.	One development in relation to the biomedical model, old and / or new public health is used and a link to a decrease in TB infections in Australia is identified, but no link exists between the two.	One factor that may account for the differences in health status in relation to TB between Australia and low-income countries is briefly discussed.
	1	Poorly structured and difficult to follow	Information is copied from the stimulus material.	Limited use of information from their own understanding is listed with no connections to the question.	One development in relation to the biomedical model, old and / or new public health is identified.	One factor that may account for the differences in health status in relation to TB between Australia and low-income countries is identified.
	0	Student has written words but there is no reference to stimulus and there is nothing of relevance to the question.				

*Topic 8: Comparing health status and burden of disease across countries*

Not shown	NA	Student has written the word blank, or has left the question unanswered
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## ANSWERS EXAM QUESTIONS

### Question 1

Source: *VCE 2020, Health and Human Development Exam, Q.9; © VCAA*

a. Sample response:

Low-income countries have higher rates of poverty.

Low-income countries have higher levels of gender inequality.

Award 1 mark for each characteristic of a low-income country.

#### ***VCAA Examination Report note:***

This question was answered well, with most students able to provide two characteristics of low-income countries. Students should be careful not to make statements that are not true, such as ‘no access to safe water and sanitation’ as although access is generally lower than in middle- and high-income countries – a proportion of people in low-income countries do have access. ‘Low levels of access to safe water and sanitation’ is a more accurate response.

Examples of other correct answers include:

- high levels of poverty or low average income / low gross domestic product (or gross national income) per capita
- few opportunities for global trade
- high population growth
- low rate of gender equality
- high under-five mortality rate
- low levels of education/literacy
- poor food security / high levels of food insecurity
- poor quality housing
- lower levels of carbon dioxide emissions.

**b.** The global distribution and marketing of tobacco tends to have a greater impact on those living in low-income countries due to these countries having fewer or no laws and restrictions on the contents, selling, and marketing of tobacco. As a result of tobacco cigarettes not being regulated it can lead to an increase in the percentage of death rates due to ischaemic heart disease, as tobacco smoking can increase the amount of plaque in the arteries which is a risk factor for ischaemic heart disease.

Award 1 mark for explaining how the global distribution and marketing of tobacco impacts the health status of those in low-income countries.

Award 1 mark for linking the explanation to a diseases listed in the diagram above.

**VCAA Examination Report note:**

This question was challenging for many students.

A common error was stating that health promotion activities have contributed to a decrease in smoking rates in low-income countries (which is more relevant to high-income countries), instead of focusing on the impact of global distribution and marketing of tobacco. Another common mistake was using the decreased ranking of lower respiratory infections, which is more likely to occur if smoking rates decrease.

The following is an example of a high-scoring response.

*There has been more global distribution and marketing of tobacco in low-income countries due to the lack of education on the dangers of tobacco use in low-income countries. This may have caused the increase in the number of deaths due to strokes in low-income countries caused by the clotting of blood from smoking tobacco.*

c. The biomedical model of health is responsible for the research and development of vaccines for tuberculosis. As more people are vaccinated, less people will develop tuberculosis and therefore the percentage of total deaths related to tuberculosis will decrease.

The social model of health has also contributed to the reduction in the percentage of total deaths related to tuberculosis. The social model of health incorporates health promotion initiatives which involves educating people about good hygiene practices such as wearing masks when sick and coughing into the crook of your elbow to help reduce the spread of tuberculosis and therefore decreasing the percentage of total deaths related to tuberculosis.

Award 1 mark for explaining how the biomedical model of health may have led to a reduction in the percentage of total deaths related to the selected disease.

Award 1 mark for explaining how the social model of health may have led to a reduction in the percentage of total deaths related to the selected disease.

**VCAA Examination Report note:**

Students needed to demonstrate a specific understanding of both the biomedical and social models in relation to reducing the percentage of deaths from either tuberculosis or malaria.

Stating that the social model of health provides ‘information’ relating to the disease was too general and not a sufficient response. Answers needed to link to a reduction in deaths in each response to be eligible for full marks.

The following is an example of a high-scoring response.

*Biomedical: model helped reduce deaths of malaria as they have been able to create medications and treatments that have been able to cure malaria, and to reduce its impacts making it much easier to survive.*

*Social: model helped by promoting and educating people in ways to prevent contracting malaria through, mosquito nets, and education of where you’re most at risk (near water etc) which helped decrease deaths as less people were contracting it.*

**Question 2**

Source: VCE 2020, Health and Human Development Exam, Q.10; © VCAA

a. Sample response:

Fiji is considered a middle-income country as it has a GNI per capita (\$US) of \$5,860 which is within the range used to classify a country as middle-income, compared to Australia which is a high-income country with a GNI per capita (\$US) of \$53250.

Award 1 mark for identifying a middle-income country

Award 1 mark for using data from the table to justify your answer.

**VCAA Examination Report note:**

This question was answered well, with most students able to identify either Mexico or Fiji as a middle-income country and justify their choice using data from the table. Besides gross national income per capita (as this is the measure used to classify countries), some comparison should be made between the chosen country and either a high- or low-income country in the justification.

The following are examples of high-scoring responses:

- *Country: Fiji*  
*Justification: This is shown as the life expectancy is 67 years and the access to water services is 94%, both values being larger than Afghanistan but lower than Australia.*
- *Country: Mexico*  
*Justification: Mexico's GNI per capita at \$9180 puts them in the middle-income country bracket.*

**b.** Australia has 100% access to basic drinking water which would mean the water is more likely to be free from bacteria and other contaminants. This would result in a lower prevalence of illnesses attributable to water-borne disease, such as diarrhoea, compared to Afghanistan which only has 67% access to basic drinking water.

Afghanistan has only 43% of their population that have access to basic sanitation services, compared to Italy that has 99%. As a lack of sanitation is a leading cause of the contamination of waterways used for drinking water, cooking water and bathing. This can increase the YLLs associated with infectious diseases such as cholera and typhoid.

Award 1 mark for discussing how basic drinking water could impact health status.

Award 1 mark for discussing how basic sanitation services could impact health status.

Award 1 mark for using data from the table above.

**VCAA Examination Report note:**

This question required students to use data from the table to discuss how access to basic drinking water and basic sanitation services could affect health status. For three marks, students needed to include three points of discussion.

Stating that lack of access to basic drinking water and sanitation can contribute to premature death and lower life expectancy, although true, does not provide the amount detail required for this question.

The following is an example of a high-scoring response.

*Not having access to basic drinking water and basic sanitation would increase the risk of contracting infectious diseases such as cholera and typhoid which can lead to premature death. Afghanistan who only has 67% of people able to access basic drinking water and only 43% have access to basic sanitation services would therefore have a lower life expectancy and higher premature death rate than a country such as Australia where the 100% access to both sanitation and basic drinking water services.*

c. Poverty can result in people not being able to afford to access healthcare when needed. This means they can experience longer periods of illness where their body is not able to function efficiently (physical health and wellbeing). If healthcare cannot be accessed when needed, due to not being able to afford it, then the illness can become worse and may lead to increased mortality rates.

Inequality and discrimination based on sex can result in women not having the same opportunities to gain employment and equal pay compared to men. If women are not able to gain employment or not receive fair pay for their work then their anxiety levels (mental health and wellbeing) as they may not be able to provide for their family. If this continues for an extended period of time it can then lead to an increase in the prevalence of mental health disorders.

Award 1 mark for providing a specific example of an outcome of poverty

Award 1 mark for describing how the outcome of poverty can impact health status.

Award 1 mark for describing how the outcome of poverty can impact a dimension of health and wellbeing.

Award 1 mark for providing a specific example of an outcome of inequality and discrimination based on sex.

Award 1 mark for describing how an outcome of inequality and discrimination based on sex can impact health status.

Award 1 mark for describing how an outcome of inequality and discrimination based on sex can impact a dimension of health and wellbeing.

**VCAA Examination Report note:**

To achieve full marks, students had to provide a specific example of an outcome of poverty and inequality and discrimination based on sex, and link each to health and wellbeing and health status.

Common errors included providing vague examples relating to poverty and/or inequality and discrimination based on sex, and linking to a dimension or health status indicator instead of linking to both. For example, ‘reducing access to education’ could relate to inequality and discrimination based on a range of factors and not necessarily sex, whereas ‘reducing access to education among girls’ relates specifically to the focus of the question.

The following is an example of a high-scoring response.

*Poverty: individuals in poverty are unable to afford essential resources such as food. This causes them to become malnourished which weakens immune system, causing them to be more susceptible to disease, negatively impacting their physical health and wellbeing. By being susceptible to diseases such as cholera, individuals are more likely to contract this, contributing to increased mortality rates.*

*Inequality and discrimination based on sex: discrimination and inequality based upon sex may cause women to be excluded or isolated from society. This makes it difficult to maintain relationships with others and have positive communication, therefore negatively impacting social health and wellbeing. The lack of relationships reduces and individuals support they are receiving which can contribute to the development of mental health conditions such as depression therefore increasing morbidity rates from this.*

### **Question 3**

Answers include:

*Economic*

- lower levels of poverty
- wide range of industries
- opportunities for global trade

*Social*

- higher levels of gender equality
- low birth and population growth rates
- high levels of employment
- high levels of education
- social security systems
- developed health systems
- access to technology
- developed legal systems

*Environmental*

- safe water and sanitation
- access to food
- adequate housing
- adequate infrastructure
- high levels of carbon dioxide emissions.

### **Question 4**

Those who are discriminated against can be denied access to resources such as healthcare. This can mean that conditions go untreated, which can increase rates of morbidity and mortality. They may be the victim of violence which can mean that they experience a higher incidence of injuries. They may also experience a higher prevalence of mental disorders due to bullying and discrimination.

### **Question 5**

- a. The U5MR have decreased in both high- and low-income countries between 1964 and 2017, from around 290 to 70 per 1000 live births in low-income countries and from around 35 to 5 per 1000 live births in high-income countries.
- b. Examples include:
  - Poverty rates have decreased over time in most countries. This means that there may be more resources available to prevent under-five deaths, such as immunisation and healthcare.
  - The proportion of people with access to clean water and sanitation has improved over time in most countries, reducing the risk of children under five dying from infectious diseases.
- c. The U5MR has consistently been higher in low-income countries compared to high-income countries (e.g. around 70 and 5 per 1000 live births in 2017 respectively).

d. Examples include:

- Housing is poorer in low-income countries than in high-income countries, which can contribute to higher rates of respiratory disease deaths in those aged under five due to poor ventilation.
- Levels of poverty are higher in low-income countries compared to high-income countries, so there is less money available for adequate food and healthcare. This contributes to more under-five deaths.

## Topic 9: Sustainability and human development

### 9.2 The economic dimensions of sustainability

#### ANSWERS

#### 9.2 Exercise

#### Test your knowledge

1.
  - a. Sustainability is defined as ‘meeting the needs of the present without compromising the ability of future generations to meet their own needs’. Sustainability means meeting today’s needs and planning the country’s growth without creating problems or depleting resources for future generations. (1 mark)
  - b. Sustainability is an important consideration because human development cannot continue into the future if resources are not well managed. (1 mark)
2. Social, economic, environmental (1 mark)
3. 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 wellbeing of its citizens. (2 marks)
4. Many low- and middle-income countries rely on agriculture as their sole industry. This sector 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 will not cause economic catastrophe within a country. (2 marks)
5. Many of the established industries in high-income countries are undergoing significant change due to technological advancements including robotics and automation. So new and innovative industries must be developed to ensure employment opportunities exist for the next generation and economies can continue to grow into the future. (2 marks)

#### Apply your knowledge

6. and 7.
  - *Innovation and diversity of industries* — relates to developing new industries and having a range of different industries so if one fails, the others can promote economic sustainability. This means that the economy is more secure, so money can continue to be provided for resources such as healthcare that promote physical health and wellbeing.
  - *Job creation* — relates to communities being able to create more jobs as populations grow, so all people can earn an income. If all people of working age have jobs, then the average income will be higher. This can reduce levels of stress as individuals can access resources to survive, which promotes mental health and wellbeing.
  - *Economic growth* — refers to ensuring that average incomes can continue to increase into the future. Economic growth ensures that money is available for resources such as food and water, which reduces the risk of infectious diseases (physical health and wellbeing).
  - *Trade* — relates to selling goods to other countries to promote the economy. Increasing trade increases incomes, which means more money can be spent on education. This can promote feelings of purpose, which promotes spiritual health and wellbeing. (8 marks)
8. This question can be answered in a number of ways. For example:
  - Economic sustainability means that governments are able to generate adequate taxation revenue. This money can be invested in reproductive health services. This means that more women can access a professional health worker when giving birth which means that complications can often be treated, reducing maternal mortality ratios.

- Economic sustainability relates to average incomes being high and increasing in line with inflation. This means that more families will be able to access nutritious foods. This can provide strength to the mother during pregnancy and childbirth which can reduce the risk of complications that may have otherwise contributed to maternal deaths, assisting in reducing the maternal mortality rate. (2 marks)

## 9.2 Exam questions

### Question 1

Source: VCE 2013, *Health and Human Development, Section A, Q.9*; © VCAA

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

#### VCAA Assessment Report note:

Many students were able to provide the United Nations (UN) definition of sustainability.

### Question 2

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.

### Question 3

Employment — if governments can raise employment levels and decrease the level of unemployment, more people will have an income to enable a decent standard of living. This would help promote mental health and wellbeing, as being employed and able to support your family improves self-esteem and decreases anxiety levels.

### Question 4

Through planting trees, the current needs of people are being met as the trees provide a food source from nuts and fruits as well as improve soil quality for growing other crops for income.

The needs of future generations are also being met as, by planting trees, soil erosion is decreased enabling future generations access to viable farming land and a continued food supply.

### Question 5

An example of economic sustainability in the Seeds of Hope project would be that the fruit from trees can be harvested and sold and the bark can be made into rope and other building materials. Being able to make building materials from a renewable resource means that it can be income-producing in both the short and long term, allowing villages in Malawi to increase trade and employment.

## 9.3 The social dimension of sustainability

### ANSWERS

#### 9.3 Exercise

##### Test your knowledge

1. Social sustainability can be defined as creating an equitable society that meets the needs of all citizens and can be maintained indefinitely. To be socially sustainable, progress must lead to improvements in the health and wellbeing of all people over time, especially those who currently experience inequality. (1 mark)
2. 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, participate in the decisions that affect

- their lives, and experience equal access to resources such as food, shelter, education, healthcare, employment, clean water, sanitation, clothing, recreation and leisure. (2 marks)
3. Because not all people share equally in economic growth and by focussing on social sustainability in addition to economic sustainability, people will have their human rights upheld. (1 mark)
  4. Social protection systems ensure that those who can't work can still receive financial assistance. This means that they can afford resources that promote health and wellbeing such as food and shelter. This can reduce stress as they are having their basic needs met, which promotes mental health and wellbeing. They may feel more connected to their community as a result of the assistance, which can promote spiritual health and wellbeing. (2 marks)
  5. As women make up half the population and they must have their needs met to ensure sustainability. Including women promotes economic growth, which is essential for sustainability. (1 mark)

### Apply your knowledge

6. and 7
  - *Elimination of poverty and the provision of social protection systems* — this means ensuring that no one lives in poverty, including those who can't earn an income. This promotes mental health and wellbeing as people are less likely to experience stress related to accessing resources such as food.
  - *Gender equality* — relates to females having the same opportunities as males. This promotes social health and wellbeing as females are more empowered to make their own decisions about their lives, such as who they marry.
  - *Access to safe and decent working conditions* — means that all people can access meaningful employment, including women, young people and those with disabilities. It also means that no one would be forced into dangerous work. This promotes spiritual health and wellbeing as people are more likely to feel connected to the world in which they live and have a sense of purpose.
  - *Promotion of political and legal rights* — means that all people have equal rights relating to issues such as voting and protection under the law. This can reduce levels of stress, which promotes mental health and wellbeing.
  - *Peace and security* — means that there is no conflict and people feel safe in their daily lives. This can promote emotions such as happiness, which enhances emotional health and wellbeing. (10 marks)
8. For example:
  - Poverty can be eliminated by ensuring that all children can access a decent education. This is an important part of social sustainability that can produce a productive workforce in the future who are able to earn decent incomes.
  - Ensuring females can be engaged in paid employment is a strategy that works in relation to eliminating poverty. Many women are not given the opportunity to gain meaningful employment which means that the economy is not as strong as is needed to eliminate poverty.
  - Eliminating poverty must be something that can occur for all people. If some people can escape poverty but others can't, then equity will not be achieved and many people will still suffer. (2 marks)

### 9.3 Exam questions

#### Question 1

Source: VCE 2019, Health and Human Development Exam, Q.15; © VCAA

Social sustainability refers to creating an equitable society that meets the needs of all its people and can be maintained indefinitely. This includes ensuring people's human rights are upheld, that they can participate in the decisions that affect their lives, and that they have peace and security.

Award 1 mark for identifying either social or economic sustainability.

Award 1 mark for describing their selected dimension of sustainability.

**VCAA Examination Report note:**

Students received one mark for identifying another dimension of sustainability and one mark for describing it. Most were able to identify a relevant dimension but fewer could accurately describe it.

The following is an example of a high-scoring response.

Economic sustainability refers to maintaining a decent standard of living and ensuring that salaries continue to rise with inflation and living costs in the future.

**Question 2**

Social protection measures include:

- provision of pensions for people who are too ill to work
- subsidised health care and housing
- pensions and allowances for people who are unemployed.

**Question 3**

Social sustainability refers to the wellbeing of people by creating an equitable society in which the needs of all citizens are met.

**Question 4**

Characteristics of social sustainability include:

- gender equality
- promotion of political and legal rights
- peace and security
- provision of social protection policies.

**Question 5**

Access to safe and decent work conditions — Access to safe and decent work conditions should see a reduction in child labour, which means that children should have the time to go to school and play. This promotes social health and wellbeing, as children can, through play and school, develop their communication and interaction skills.

## **9.4 The environmental dimension of sustainability**

### **ANSWERS**

#### **9.4 Exercise**

##### **Test your knowledge**

1. Environmental sustainability relates to ensuring the natural environment is used in a way that will preserve resources into the future. (1 mark)
2. Biodiversity relates to the variety of all forms of life: the different plants, animals and micro-organisms, the genes they contain and the ecosystems of which they form a part. This is important for health and wellbeing as humans rely on the natural environment to produce the resources required to survive and promote health and wellbeing. (2 marks)
3. Renewable resources refer to those that are replenished naturally and over a relatively short period of time and include crops, water, oxygen, forests and fish stocks. Non-renewable

resources refer to those that are not replenished in a short period of time such as fossil fuels including gas and coal. (2 marks)

4. The differences between economic, social and environmental sustainability:
  - Economic sustainability focuses on financial factors such as incomes and trade.
  - Social sustainability focuses on the health and wellbeing of people and aspects of society such as human rights.
  - Environmental sustainability relates to ensuring that natural resources such as plants, water and building materials (e.g. timber) are available for use into the future. (3 marks)
5. A sustainable ecosystem is important for the health and wellbeing of future generations because the world's ecosystems provide many of the processes and resources required for human health and wellbeing, 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. (3 marks)

### Apply your knowledge

6. a. and b.
  - *Biodiversity* — relates to the variety of life forms and the ecosystems in which they live. Achieving balance in biodiversity means that resources required for health and wellbeing will be available such as food, water and clean air.
  - *Use of natural resources* — means that resources such as fish and timber will be available for future use. This promotes health and wellbeing as people will be able to access food and building materials for shelter, which reduces the risk of infectious diseases.
  - *Waste removal and pollution* — relates to removing human waste and ensuring clean ecosystems. This will assist in providing resources such as clean water that are essential for human life.
  - *Climate change* — this relates to rising temperatures that influence weather patterns and sea levels. Reducing the effects of climate change will mean greater food availability and fewer natural disasters. This reduces the risk of illness and injury, and promotes physical health and wellbeing. (8 marks)
7. *For example:*
  - Electricity allows children to complete homework under artificial light, which increases their ability to escape poverty and positively affect all dimensions of health and wellbeing.
  - Hospitals can function effectively with a reliable electricity supply, which means people can receive treatment for many conditions, which promotes physical health and wellbeing.
  - With electricity, people can access transport systems, which can assist in maintaining social connections and promote social health and wellbeing. (3 marks)
8.
  - a. Being interrelated means that they all impact each other. (1 mark)
  - b. *Examples*
    - A sustainable environment provides clean water and food. This can ensure that all people have their human rights for these resources met (social sustainability). Adequate food and water means that people are less likely to be sick, so they can work and earn an income (economic sustainability).

- Social sustainability includes poverty reduction, which means children can receive an education instead of having to work at an early age. This means that they are able to get a higher paid job in the future, which increases average incomes (economic sustainability). This provides revenue for the government, which can invest money in preserving natural resources instead of exploiting them for financial gain (environmental sustainability). (3 marks)

#### 9.4 Exam questions

##### Question 1

Solar electricity allows people to meet their current needs and maintain their standard of living as it still enables people to function as they have without compromise.

As solar electricity is a clean power source with low impact on the environment, it is less likely to compromise the needs of future generations and their ability to maintain an acceptable standard of living.

##### Question 2

Use of natural resources — ensuring crops planted are drought resistant will mean that crop yields will be less vulnerable to climate change and, if crops used are easily renewable, a continued food supply should occur. This can promote physical health and wellbeing as adequate food will ensure less hunger, improving immune system function.

##### Question 3

An example of environmental sustainability in the Seeds of Hope project would be the use of a natural resource (trees) which produce oxygen and water condensation needed for rain production. Also the tree roots can help prevent soil erosion and degradation. Preventing soil erosion and degradation and promoting rain will assist in improving biodiversity both now and in the future.

##### Question 4

Environmental sustainability refers to ensuring that the natural environment (forests, waterways, land) is utilised in a way that will preserve resources for the future. This allows these resources to replenish for future generations.

##### Question 5

Characteristics of environmental sustainability include:

- use of natural resources
- pollution and waste removal
- climate change.

#### 9.5 The concept of human development

##### 9.5 Activities

###### Human development worksheet

- a. The goal of human development freedom: enlarging people's choices and enabling them to live long, healthy and creative lives.
- b. The goal of the first *Human Development Report* was to make people rather than markets central to the development process.
- c. Income is rarely distributed evenly and economic resources can be spent in different ways; it can be spent on essential medicines and road construction, or on defence and narcotics.

###### Wealth and health worksheet

- a. Examples

- Poverty creates ill-health because it forces people to live in environments that make them sick, without decent shelter, clean water or adequate sanitation.
  - Poverty creates hunger, which in turn leaves people vulnerable to disease.
  - Poverty denies people access to reliable health services and affordable medicines, and causes children to miss out on routine vaccinations.
  - Poverty creates illiteracy, leaving people poorly informed about health risks and forced into dangerous jobs that harm their health. Poor people everywhere say how much they value good health.
- b. Illness can reduce household savings, lower learning ability, reduce productivity and lead to a diminished quality of life, thereby creating or perpetuating poverty.

## **ANSWERS**

### **9.5 Exercise**

#### **Test your knowledge**

1.
  - a. Human development refers to the level of wellbeing of people and an environment where people can lead long, healthy and fulfilling lives in accordance with their needs and interests. (1 mark)
  - b. Economic resources are often not evenly spread; in other words, while there may be a satisfactory level of GPI, many people may still live in poverty. Also, GNI gives no indication of how governments are using funds (e.g. for spending on healthcare or on weaponry). (2 marks)
2. Choices can be made in relation to:
  - what level of education a person pursues
  - where a person lives
  - what a person eats
  - what a person does for fun or leisure
  - who a person socialises with
  - what sort of job a person does. (3 marks)
3. Capabilities relate 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. (2 marks)
4. Differences in human development
  - Adam has a high level of human development. He has access to the resources required for a decent standard of living such as healthcare and education, and can participate in the decisions that affect his life such as what job he pursues and if and when he gets married.
  - Veronica is experiencing a low level of human development. She has not been able to access the resources required for a decent standard of living, such as education, and has not been able to participate in the decisions affecting her life such as if and when she got married and what she does for a job. (4 marks)

#### **Apply your knowledge**

5.
  - Those in high-income countries have lower mortality rates, so children are more likely to complete their schooling and get paid jobs. This can enhance their ability to lead lives that they value and to access the resources required for a decent standard of living. This promotes human development.
  - Those in low-income countries have higher mortality rates, so children may be orphaned and do not have the opportunity to go to school and access knowledge. The governments of these countries may not be able to afford the resources required to enable their citizens to achieve a decent standard of living. Human development is reduced as a result. (2 marks)

6. Example: Some aspects of Australia's development are sustainable, such as tourism and farming. Other aspects such as mining are not sustainable, as these resources will run out at some point. (1 mark)
7. Economic growth is a means of achieving human development because economic growth/development allows countries the opportunity to develop healthcare systems and provide education. Without economic development, many of the other aspects of development are not achievable. However, human development is not necessarily the priority of economic development. (2 marks)
8. 'People are the real wealth of nations, not money.' People can build wealth and provide opportunities for health and wellbeing. If the people are happy and healthy, other issues are not as significant. (2 marks)
9. Economic – average incomes must reach a level that will allow all people to access resources for a decent standard of living such as adequate housing and nutritious foods.  
Social – all people can only expand their choices when everyone can access resources such as education. This can expand their choices in relation to employment.  
Environmental – People must be able to access clean water and air in order to be able to lead long, healthy lives that they value. (3 marks)

### **9.5 Exam questions**

#### **Question 1**

Human development is creating an environment in which people can develop to their full potential and lead productive and creative lives in accordance with their needs and interest.

Human development is about expanding people's choices and capabilities, having access to knowledge, health and a decent standard of living and where people can participate in the life of their community and decisions affecting their lives

#### **Question 2**

- Human development is about expanding people's choices.
- It allows people to develop to their full potential and lead productive, creative lives in accordance with their needs and interests.
- It recognises the need for access to knowledge, health and a decent standard of living.
- It enables people to participate in their communities and have a say in decisions that affect their lives.

#### **Question 3**

Access to healthcare in the form of immunisations allows people to be free from illness and diseases that can be life threatening.

Freedom from illness and disease allows greater opportunities to gain an education and employment, which increases people's choices to be creative and productive.

#### **Question 4**

A strategy that focuses on education, particularly for women, would help achieve human development. If women are educated on how to prevent disease and illness, their families are more likely to be well, enabling them to participate more fully in their communities.

Through the provision of education, employment prospects improve, which will enable people to expand their choices and have say in the decisions that affect their lives.

## 9.6 The advantages and limitations of the Human Development Index

### ANSWERS

#### Case study review: COVID-19: Human development on course to decline this year for the first time since 1990

1. Gross National Income per capita — the global average has fallen by around 4%.  
Life expectancy at birth — The death toll has exceed 300 000 which will impact life expectancy at birth in many countries.  
Expected years of schooling — school closures around the world may decrease expected years of schooling.
2. Examples include:
  - Not having access to the internet.
  - The negative impacts on women and girls (economic — earning and saving less and greater job insecurity — reproductive, health, unpaid care work and gender-based violence).
3. Low income countries lack the resources to invest in things like stimulus packages. They do not have the infrastructure that high-income countries have to invest in things like the internet that allow children to learn at home and adults to work from home. The lack of industries mean that economies are hit harder in low-income countries when people have to stay at home.
4. a. 86% of children in low human development countries are effectively out of school compared to 20% in countries with very high human development.  
b. This can mean that education levels will be lower in low human development countries which represents lower access to knowledge compared to very high human development countries. It may mean that the future workforce are not as productive which can decrease average incomes and can mean that people cannot access the resources required for a decent standard of living such as health care and safe water. Lower levels of education may mean that people do not have as many choices in relation to their future employment.

## 9.6 Exercise

### Test your knowledge

1. The UN uses the Human Development Index. (1 mark)
2.
  - a. The dimensions are a long and healthy life, knowledge, and decent standard of living. (1 mark)
  - b. The Human Development Index takes into account four indicators:
    - Life expectancy at birth — the number of years, on average, a person born at the current time can expect to live if death rates do not change.
    - Mean years of schooling — the average number of years of formal education those who are aged 25 and over have received.
    - Expected years of schooling — the average number of years of schooling that someone entering the education system can expect to achieve.
    - Gross national income per capita — the average income per person, once debt to other countries has been paid. (8 marks)
  - c. Other factors that could be included in calculating the HDI include:
    - number of females completing high school
    - happiness
    - level of peace
    - access to healthcare
    - fertility rates (number of births per female). (3 marks)
  - d. Other factors can be hard to measure. It would also be expensive to measure these factors in all countries in the world. (1 mark)
- 3.

Strengths of the HDI	Limitations of the HDI
<ul style="list-style-type: none"> <li>The HDI takes more than just average incomes into account.</li> </ul>	<ul style="list-style-type: none"> <li>The HDI only reflects selected aspects of human development and therefore does not capture the richness and depth of human development.</li> </ul>
<ul style="list-style-type: none"> <li>It provides an indication of opportunities for education, which reflects access to knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>The HDI, although moving beyond economic indicators, is still based on averages. Therefore it does not provide an indication of the inequalities that exist within countries.</li> </ul>
<ul style="list-style-type: none"> <li>Average income reflects the ability to access the resources required for a decent standard of living.</li> </ul>	<ul style="list-style-type: none"> <li>No survey data are collected in the HDI, so people's feelings about their lives and issues facing communities are not reflected</li> </ul>
<ul style="list-style-type: none"> <li>It makes comparison easier, as numerous statistics do not have to be sorted through and compared.</li> </ul>	<ul style="list-style-type: none"> <li>Collecting data is complex and the reliability of data for measuring human development remains a challenge.</li> </ul>
<ul style="list-style-type: none"> <li>The HDI has captured the attention of media, policy makers, communities and individuals. As a result, it has raised awareness of the importance of human development.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>

(10 marks)

**Apply your knowledge**

4. Factors could include:
  - Australia has a higher life expectancy at birth than China.
  - China has lower mean years of schooling than Australia.
  - Australia experiences higher expected years of schooling than China.
  - China could have a lower gross national income per capita than Australia. (2 marks)
5. Qatar may have a higher GNI per capita, but may not have as high a level of life expectancy at birth, or mean or expected years of schooling as Australia. This difference could contribute to Qatar's lower HDI. (2 marks)
6. Example: Australia has a higher HDI than Niger. This may mean that:
  - life expectancy is significantly higher in Australia, so people here have a greater opportunity to develop to their full potential
  - mean years of schooling are significantly higher in Australia, so people here may have greater opportunities in relation to their employment
  - GNI per capita is significantly higher in Australia, so people here may have a greater opportunity to access the resources they require for a decent standard of living such as food, water, shelter and healthcare. (2 marks)
7. For example:
  - Although the HDI goes beyond economic indicators and therefore provides a greater indication of the level of human development experienced, there are many aspects of human development that are not reflected in the HDI. These include things like whether people are able to participate in the life of the community and the decisions affecting their lives. It doesn't take inequalities into account for groups like females and Indigenous peoples. (3 marks)

**9.6 Exam questions****Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.6; © VCAA

Mean years of schooling – Australia has a HDI of 0.939 which means it would have a higher mean (average) years of schooling than Papua New Guinea which has a HDI of 0.544.

Expected years of schooling – Australia has a higher expected years of schooling than Papua New Guinea which would contribute to Australia having a higher HDI than Papua New Guinea.

Award 1 mark for identifying one indicator of the HDI and explaining how it would be different in the two countries.

Award 1 mark for identifying another indicator of the HDI and explaining how it would be different in the two countries.

Ensure the full indicator name is used i.e. life expectancy at birth, not just life expectancy.

**VCAA Examination Report note:**

For two marks, students were required to identify two indicators of the HDI and use them to explain the difference in HDI between Australia and Papua New Guinea. The most common error was simply identifying the indicators with no reference to the two countries. The four indicators are:

- life expectancy at birth
- mean years of schooling
- expected years of schooling
- Gross National Income (GNI) per capita.

The following is an example of a high-scoring response.

GNI per capita – Australia, a high-income country, has a much higher GNI per capita compared to Papua New Guinea, that is, Australia has a higher average income. Thereby, Australia has a higher HDI than Papua New Guinea.

Life expectancy at birth – Australia has a higher life expectancy than Papua New Guinea.

**Question 2**

Source: VCE 2015, *Health and Human Development Exam*, Q.9.c; © VCAA

- mean years of schooling
- expected years of schooling
- gross national income.

**Question 3**

Source: VCE 2014, *Health & Human Development Exam*, Q.15.a (adapted); © VCAA

The Human Development Index is a tool developed by the United Nations to rank countries' levels of social and economic development. It provides a single statistic based on three dimensions — health, education and living standards — and has four indicators: life expectancy at birth, mean years of schooling, expected years of schooling and gross national income per capita.

**VCAA Assessment Report note:**

This question required students to describe the Human Development Index (HDI). While most students were able to provide some detail, a relevant and detailed description of this measurement of health status was needed to gain full marks.

**Question 4**

Limitations of the Human Development Index (HDI) include:

- HDI does not address all aspects of human development such as gender equality.
- HDI is based on averages and as a result does not indicate inequalities that may exist within a country.

#### Question 5

An advantage of using the HDI is that it enables an accurate comparison of human development over time. For example by using a single statistic to calculate the HDI, changes in the human development of a country such as China are quickly identified; in this case, it can be seen that China's human development measured by the HDI has improved from .500 in 1990 to .738 in 2016.

A limitation of using the HDI is that, although the index has increased for China since 1990, some aspects of human development not measured by the HDI may not have improved. For example, the Human Development Index does not measure gender inequalities, therefore it cannot be assumed that because the HDI has increased, gender discrimination has also become less apparent in China.

### 9.7 Topic 9 Key Skills

#### ANSWERS: PRACTISE THE KEY SKILL

1. 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. Financial resources must be available in the future so future generations can also benefit from them. Economic sustainability is important as money is required to purchase goods and services that promote health and wellbeing around the world such as food, water, shelter and healthcare.
2. Environmental sustainability means ensuring the natural environment is used in a way that will preserve resources into the future. Humans rely on many aspects of the environment such as air, food, water, shelter and employment. If the resources are not available to access these requirements, health and wellbeing will decrease globally.
3. The Human Development Index is 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.
4. The HDI takes more than just average incomes into account, so it provides a more comprehensive representation of the level of human development experienced, but there are many other aspect of human development that are not reflected by the HDI including freedom, choices and capabilities.
5. Answers include:
  - The USA may have a higher GNI per capita than New Zealand.
  - The USA may have higher mean years of schooling than New Zealand.
  - The USA may have higher expected years of schooling than New Zealand.
6. Average income does not indicate how evenly wealth is spread. Quite often, there is a small proportion of a population who control the majority of the wealth, so the majority do not experience the benefits that can accompany high average incomes.

### 9.8 Topic 9 review

#### Extended Response

Answers to extended response questions are marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected to the stimulus material and synthesised
- Explaining why sustainability is important in promoting human development into the future.
- Explaining why sustainability is important in achieving improvements in HDI.

The table on the following pages shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used. The first step is to determine if the response best fits the ‘not shown’, ‘low’, ‘medium’ or ‘high’ band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a ‘medium’ score if these components have been completed to a high standard.

Once a determination of ‘high’, ‘medium’, ‘low’ or ‘not shown’ is made, a decision can be made as to where the response fits within that category.

Band	Mark range	Criteria				
		How the response has been structured	How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected to the stimulus material and synthesised	Explaining why sustainability is important in promoting human development into the future.	Explaining why sustainability is important in achieving improvements in HDI.
High	9-10	Ideas are organised clearly and coherently	The stimulus material has been well understood and synthesised throughout the discussion.	Concepts demonstrating the use of their own knowledge are thorough and display depth of understanding. Links between the stimulus and broader understanding are clear.	A range of reasons why sustainability is important in promoting human development into the future are thoroughly and accurately discussed.	A range of reasons why sustainability is important in achieving improvements in the human development index are thoroughly and accurately discussed.
	7-8	Ideas are generally organised clearly and coherently	The stimulus material has been understood and synthesised in the discussion.	Concepts demonstrating the use of their own knowledge are thorough and display depth of understanding.	A range of reasons why sustainability is important in promoting human development into the future are discussed.	A range of reasons why sustainability is important in achieving improvements in the human development index discussed.
Medium	6-7	Ideas are organised but may not read as well as stronger answers	The stimulus material is generally understood and relevant examples have mostly been used to support the discussion.	Discussion of concepts demonstrating student's understanding and links between the stimulus material are made.	Two reasons why sustainability is important in promoting human development into the future are thoroughly and accurately discussed.	Two reasons why sustainability is important in achieving improvements in the human development index are thoroughly and accurately discussed.
	5	Ideas are generally organised but there may be issues with how it is structured and may be a little difficult to follow	The stimulus material is generally understood and examples from <b>all three sources</b> have been used to support the discussion	Discussion of concepts demonstrating student's understanding are broad and general.	Two reasons why sustainability is important in promoting human development into the future are discussed.	Two reasons why sustainability is important in achieving improvements in the human development index are discussed.

	4	Ideas are loosely organised and sequenced	The stimulus material has been understood and simplistic connections are made between the stimulus material and the question.	Broad or vague statements are made from student's understanding with one link to the question.	One reason why sustainability is important in promoting human development into the future is accurately discussed.	One reason why sustainability is important in achieving improvements in the human development index is accurately discussed.	
Low	3	Lacks coherent structure	Simplistic connections are made between at <b>least 2 sources</b> of the stimulus material and the question.	Broad statements are made from student's understanding, but a weak link to the question is made.	One reason why sustainability is important in promoting human development into the future is discussed but the link is general.	One reason why sustainability is important in achieving improvements in the human development index is discussed but the link is general.	
	2	Lacks coherent structure	Aspects of the stimulus material are restated with tenuous connections made to the question.	Some use of information from their broader understanding is listed but very limited connections to the question are made.	One reason why sustainability is important in promoting human development into the future is stated but there is no link to between the two concepts.	One reason why sustainability is important in achieving improvements in the human development index is stated but there is no link to between the two concepts.	
	1	Poorly structured and difficult to follow	Information is copied from the stimulus material.	Limited use of information from their own understanding is listed with no connections to the question.	One aspect of sustainability is identified.		
	0	Student has written words but there is no reference to stimulus and there is nothing of relevance to the question.					
Not shown	NA	Student has written the word blank, or has left the question unanswered					

### An example of a high scoring response is:

Sustainability is important in promoting human development as if improvements cannot continue over time, future generations will lack the same opportunities available to those today. Source 2 shows that females are currently under-represented in governments with females accounting for 25% of seats in national parliaments and 36% in local governments. Social sustainability ensures that females have the same opportunities as males, including in parliaments. This means that issues relating to females are more likely to be addressed, including education levels. This can assist in increasing literacy rates in low-income countries which are lower for females (source 1). It will also act to increase mean and expected years of schooling (source 3) which will contribute to higher HDIs, which are currently lower in low-income countries. Economic sustainability works to increase average incomes to a point where a decent standard of living is achievable. GNI per capita in low-income countries is significantly lower in low-income countries compared to other income groups. This impacts people like Zala in improving their human development as money is lacking to invest in health systems which may have been able to save her father's life. This would have increased the ability of poor people like her in attending school. This acts to increase access to knowledge and can create a cycle that contributes to economic sustainability as future generations will be more productive in the workforce. This can also increase life expectancy at birth (source 3) as people will be able to afford basic health care, contributing to a higher HDI. Environmental sustainability is important as it ensures that natural resources are available for future generations. The use of renewable electricity is a concern globally. Low-income countries are more likely to use renewable electricity sources than higher income groups (source 1). This means that higher income countries are more likely to generate carbon dioxide which can contribute to global warming. If this is not addressed, issues like sea level rises and extreme weather events are more likely to occur. Preventing the impacts of climate change can increase the ability of people to access safe water and nutritious food. This may mean that people like Zala can access water more readily and therefore attend school. This can increase expected years of school and therefore the HDI. It also means that capabilities and choices are expanded in relation to future employment.

### ANSWERS: EXAM QUESTIONS

#### Question 1

Source: VCE 2016, *Health and Human Development Exam*, Q.15.a; © VCAA

Gross national income (GNI) is only one indicator of the Human development Index. As Chile has a higher HDI than Equatorial Guinea it can be assumed that Chile has higher life expectancy and higher mean years and expected years of schooling.

#### VCAA Assessment Report note:

Responses to this question demonstrated that some students understood the components that make up the Human Development Index and were able to explain that GNI per capita is only one component of the human development index.

#### Question 2

Source: VCE 2014, *Health & Human Development Exam*, Q.15.b (adapted); © VCAA

Measles vaccination rates increase with the increase in HDI rankings. Australia has the highest HDI (.938) and the highest measles vaccination rate (94% of one-year-olds), whereas Central African Republic has the lowest HDI (.352) of countries listed and the lowest vaccination rate (62% of one-year-olds).

**Question 3**

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

Responses could include:

- Life expectancy at birth — Australia has a high HDI, which would suggest that Australia's life expectancy is higher than that of people living in a low-income country and this would contribute to a lower HDI.
- Gross national income per capita (average income) — Australia has a high income per capita, meaning it has more money available to spend on healthcare services, leading to a high HDI compared with a low-income country with a low gross national income, contributing to a low HDI.
- Mean years of schooling — Australia has a high number of students completing more years of schooling compared with a low-income country. Education gives opportunity for employment and improved health, leading to a higher HDI for Australia.
- Expected years of schooling — Australia has compulsory attendance at school until the age of 16 years. A low-income country may have children completing primary schooling, but not compulsory attendance at school, and fewer children go on to complete their secondary education.

**VCAA Assessment Report note:**

Students should note that only the current indicators were relevant to this question, and they needed to show the relationship between the indicators selected and variations to the HDI, which many students failed to do.

**Question 4**

Source: VCE 2011, *Health and Human Development Exam*, Section A, Q.1.a (adapted); © VCAA  
Human Development Index is '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'.

**Question 5**

- a. The Human Development Index is 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.
- b. Central African Republic would have the lowest HDI because it has the lowest GNI per capita and the lowest life expectancy of the four countries shown. These are the only indicators shown that are used to calculate the HDI, and Central African Republic has the lowest levels of both these indicators.
- c. One advantage of the HDI is that it takes more than just average incomes into account. There are many aspects of human development and the HDI reflects a number of these. One disadvantage is that, although it is moving beyond economic indicators, HDI is still based on averages and therefore does not provide an indication of the inequalities that exist within countries.

## Topic 10: Global trends and health and wellbeing

### 10.2 The implications for health and wellbeing of climate change

#### ANSWERS

##### 10.2 Activity

###### Climate change worksheet

###### *Climate change — sea levels rising*

- a. NASA has been measuring the sea level rise from space for 23 years.
- b. It is important that we measure the rising sea levels to help us understand what is going on and how far we have pushed the climate.
- c. According to NASA, sea levels have risen seven centimetres in the last 23 years and are predicted to rise three feet by 2100.
- d. When the sea rises by one centimetre it results in three feet of beach loss, which contributes to increased erosion and flooding.

###### *Climate change — the mental impact*

- e. James Rubin states 'One of the major health effects of flooding seems to be the mental health aspects' because the effects of climate change contribute to conditions such as depression, worry and anxiety, substance abuse, aggression, and suicide for those who cannot cope.
- f. The results of a survey of people who have been affected by flooding support the suggestion that mental health aspects are a major concern associated with climate change. The results found that among direct flood victims, 20 per cent had been diagnosed with depression, 28.3 per cent with anxiety and 36 per cent with post-traumatic stress disorder. Among those disrupted (meaning their area was flooded but not their home), the team found almost 10 per cent with depression and 15 per cent with PTSD. Those unaffected showed just 6 per cent depression and 8 per cent PTSD.
- g. Effects of climate change on mental health and wellbeing:

Category of climate change	Effect on mental health
Natural disasters such as floods and storms	Depression, anxiety, PTSD, economic loss and farmer suicide
Slower changes such as increasing global temperatures	Aggression and violent behaviour
Loss of social networks or social capital	Isolation and depression, forced migration

- h. Poor mental health and wellbeing impacts on society because when people become depressed, they cannot work effectively. People are also more likely to adopt risky behaviours such as overeating and substance abuse.

#### 10.2 Exercise

##### Test your knowledge

1. The term global trends refers to patterns of social, environmental and economic activity that affects many countries and requires action to be taken at a global level. (1 mark)
2. The increase in the production of carbon dioxide and other greenhouse gases over the last 50 years is due to the burning of fossil fuels largely for industry and transport. (1 mark)
3. Increasing levels of greenhouse gases contribute to global warming because these gases trap the heat that is radiated from the sun and do not allow that heat to dissipate into the atmosphere. (1 mark)

4. The temperature of the planet is predicted to increase 3.5 degrees Celsius in the long term. The consequences of this are that glaciers and ice sheets that cover West Antarctica and Greenland are melting. This is bringing about rising sea levels, changing weather patterns and more intense and frequent extreme weather events such as floods, cyclones and heat waves. (3 marks)
5. The two major causes of rising sea levels are:
  - the expansion of the water that occurs as it warms
  - the increase in the volume of water that results from the melting of ice in the Earth's polar regions and glaciers. (2 marks)
6. Three ways that rising sea levels can impact health and wellbeing include:
  - *Relocation of villages and farms* — rising sea levels mean people living in coastal areas will lose their villages and farms due to flooding and will be forced to relocate. This brings about stress and poor mental health and wellbeing. It also places strain on infrastructure such as safe water and sanitation services, housing and healthcare services which contributes to mortality and morbidity from communicable diseases. Relocating can interfere with social networks within the community and reduce levels of social health and wellbeing.
  - *Reducing the availability of fresh water* — as sea levels increase, salt water gradually seeps into fresh water sources underground. This destroys fresh water sources that will result in widespread water scarcity and increased morbidity and mortality from diarrhoea and other water-borne diseases. Water scarcity can also lead to greater poverty as people must pay large amounts of money to purchase clean water for drinking.
  - *Reduction in agriculture and food supplies* — salt water is unsuitable for many trees, plants and crops and will reduce the foods that can be grown. Oceans can also become more acidified. This reduces marine life such as clams, oysters and sea corals, which in turn lead to less fish and seafood, and this reduces food sources available. Rising sea levels could bring about reductions in food supply and further widespread hunger and undernutrition, which reduce the overall level of health and wellbeing. Physical health and wellbeing is affected by hunger and malnutrition which lead to micronutrient deficiencies, lack of energy and stunting in children, and reduced immune levels. (6 marks)
7. Examples of extreme weather events are cyclones, floods, droughts, fires and storms. (3 marks)
8. Ways that changing weather patterns will affect health and wellbeing include:
  - *Increasing the incidence of infectious diseases* — many infectious diseases are spread by mosquitoes that breed in surface water that becomes stagnant, and thrive in humid conditions. This could result in an increase in diseases such as malaria, dengue and yellow fever, and their spread into countries that were previously unaffected. Floods and droughts will increase the risk of diarrhoeal diseases as well as cholera, giardia, typhoid and hepatitis A.
  - *Bringing about extremes in temperature* — there will be more heatwaves and cold spells which can kill people, particularly those who suffer from cardiovascular and respiratory diseases, the elderly and young children. Pollen levels increase during periods of high heat and can trigger asthma, which already accounts for a high burden of disease.
  - *Changing the types of crops that can be grown* — this may lead to some countries not having enough food and experiencing high levels of hunger and undernutrition.
  - *Reducing access to fresh water* — clean water may become unavailable for drinking, increasing the incidence of water-borne diseases such as diarrhoea, typhoid and giardia. Flooding is also responsible for drownings and physical injuries. (6 marks)

### Apply your knowledge

9. Rising sea levels can contaminate the sources of fresh water and lead to a global scarcity. This water scarcity could result in conflict as countries seek to gain access to the limited fresh water that is available. (2 marks)
10. There is evidence that suggests global warming is contributing to changing weather patterns.

- Oceans play an important role in determining the climate system. The temperature of the oceans has been steadily increasing, which has brought about changing weather patterns.
  - In Australia, rainfall from May to July has reduced by around 19 per cent since 1970 in the southwest areas of Australia but has increased across parts of northern Australia. Monthly maximum temperatures of greater than 2 degrees Celsius are occurring 11 per cent of the time, and the frequency of cool night-time temperatures has decreased. The number of weather-related natural disasters has more than tripled since the 1960s. (4 marks)
- 11.** Climate change has a significant impact on health and wellbeing. Regardless of where people live, climate change threatens health and wellbeing. With an increase in droughts, floods, heatwaves and rising humidity, vector borne diseases such as malaria and dengue fever will increase. These diseases have a significant impact on physical health and wellbeing and in turn on all other dimensions of health and wellbeing. Drought will reduce the availability of food which will result in higher levels of hunger and malnutrition, which will have a direct impact on physical health and wellbeing. Hunger and malnutrition reduces immunity to diseases and has a greater effect on the health and wellbeing of children. Air pollution and increased pollens in the air will also be increased with higher temperature and more heat waves. This will result in an increased incidence of respiratory diseases such as asthma and high temperature levels will result in more people being at risk of heat stress. Older adults and children are particularly vulnerable. Diseases such as diarrhoea could also increase with more flooding. Flooding pollutes water supplies and increases morbidity and mortality from dehydration due to diarrhoea. Children and the elderly are particularly at risk. Overall climate change is expected to cause 250 000 more deaths and account for higher levels of morbidity. (6 marks)

## 10.2 Exam questions

### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.11; © VCAA

Climate change can result in sea levels rising due to the increase in greenhouse gas emissions contributing to global warming. Rising sea levels can lead to salt water gradually seeping into our fresh underground water supplies making it more difficult for crops to grow. If people are not able to grow crops to feed their family they may become stressed and anxious (mental health and wellbeing). Those people living in small island developing states often depend on being able to grow their own crops so they are greatly effected.

Climate change can also result in more extreme weather events such as heavy rainfall and floods in some areas. The heavy rainfall, along with more humid conditions can provide an ideal breeding ground for mosquitoes which can spread diseases such as malaria and dengue fever. Countries with weak health care systems are less likely to be able to manage an outbreak of infectious diseases and treat people leading to more people becoming infected (physical health and wellbeing).

Climate change can result in extreme weather events and increasing the number of weather-related natural disasters. These natural disasters could destroy people's homes leaving them homeless and displaced. Particularly for those living in poverty, the ability to rebuild is not often available to them, leaving them disconnected from their communities (social health and wellbeing).

Award 1 mark for showing an understanding of the effects of climate change and linking this to an aspect of the stimulus material.

Award 1 mark for explaining how the effects of climate change can impact on a dimension of health and wellbeing.

Students should provide three examples in order to achieve 6 marks.

**VCAA Examination Report note:**

Most responses were able to make some links between the stimulus material and dimensions of health and wellbeing. To achieve higher marks, a response had to make specific links between the impacts of climate change, the stimulus material and dimensions of health and wellbeing.

The following is an example of a high-scoring response.

*Climate change might cause irregular weather events such as a heatwave to occur. This might mean that people who work outside are forced to stop, and as a result lose income, contributing to high levels of financial stress and anxiety (mental). Climate change might mean extreme weather events, such as hurricanes are more likely to occur. This might mean that houses are destroyed and more people injured as a result. If their country has a weak healthcare system this might mean that when they go to hospital they are denied treatment, meaning they are living with injury (physical). Climate change might mean that sea levels rise. This might mean people living in poverty and residing in slums are forced to leave their homes due to flooding. This might mean they have nowhere else to go and lose their sense of belonging (spiritual).*

**Question 2**

Climate change has led to rising sea levels. This reduces available land for farming, which may cause food shortages. This could decrease physical health and wellbeing as a lack of food could lead to undernutrition, which increases the risk of infections due to reduced resistance to disease.

**Question 3**

Three examples of climate change are rising sea levels, heatwaves and severe storms. Note: Although famine can be an outcome of climate change, it is not an example of climate change.

**Question 4**

Extreme weather events, such as thunder and windstorms, can trigger asthma attacks in some people. This impacts on the physical health and wellbeing of individuals, as they are not free from illness and disease.

**Question 5**

Examples of the negative impacts on health and wellbeing that result from climate change could include:

**Mental health and wellbeing**

- Rising sea levels may mean people have to leave their homes and livelihoods, increasing stress and anxiety levels.

**Physical health and wellbeing**

- Rising sea levels can contaminate water supplies, increasing risk of dehydration and diarrhoeal disease.
- Rising sea levels can reduce land for farming, impacting on food supplies and increasing risk of malnutrition and related immune functioning.
- Extreme weather events, such as heatwaves, can increase heat stress and may cause death in vulnerable population groups.

**Spiritual health and wellbeing**

- Rising sea levels may see some people become disconnected from their communities and lose a sense of purpose because they are forced to relocate.

### 10.3 The implications for health and wellbeing of conflict and mass migration

#### ANSWERS

##### 10.3 Exercise

###### Test your knowledge

1. ‘The nature of conflict has changed’ is referring to the fact that international humanitarian law is now being largely ignored. There is deliberate bombing of healthcare facilities, and siege and starvation are being used as weapons of war. (2 marks)
2. Three ways that conflict can affect health and wellbeing are:
  - The physical environment can be destroyed, which can limit access to supplies such as food and water and services such as healthcare. As a result, malnutrition is increased and conditions that may have been treatable during peaceful times, such as injuries and infections, are left untreated during times of conflict. Water and sanitation facilities and electricity supplies can also be destroyed, and thousands of people are at risk of dying from diseases caused by unsafe water.
  - The effects of conflict include physical injuries, higher maternal and infant mortality, and increases in outbreaks of communicable diseases such as typhoid, dysentery and cholera. Mental health and wellbeing is affected during times of conflict, with individuals living in fear and being concerned for the health and wellbeing of themselves and their families.
  - Women are at higher risk of rape and abuse when conflict occurs. Lack of protection from rival forces impacts the lives of women and children, affecting their physical, social, spiritual, emotional and mental health and wellbeing. Things rarely return to normal when the conflict ends, and the damage done may mean people cannot lead lives equivalent to those they were leading before the conflict. Long-lasting effects such as the presence of landmines and the lack of infrastructure can affect the lives of residents for many years after the conflict ends. Many families are also left without an income earner, which can drive them further into poverty. (6 marks)
3. When conflict occurs, women are at greater risk because they have a high risk of rape and abuse as they lack protection from rival forces. Women are left without an income earner when their partner is killed. This can force women and their children into poverty. (2 marks)
4. Mass migration refers to movement of large groups of people from one geographical area to another. (1 mark)
5. The main reasons for mass migration is the forced displacement of people due to conflict, persecution, violence and violations of human rights. (1 mark)
6. Each of the four groups of people who generally constitute mass migration are:
  - Refugees — these are 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 people — those 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 — those who do not have the nationality of any country and are therefore not protected by the laws of any country. (4 marks)
7. Four ways that mass migration can impact health and wellbeing:
  - When people are displaced they have been forced to leave their homes, farms and jobs, and are living below the poverty line. They often seek shelter with relatives or friends, in schools, public and abandoned buildings, makeshift shelters, or in the open with little or no protection. People suffer from insecurity, lack of services, and shortages of food and water.

This can impact on physical health and wellbeing as well as emotional and mental health and wellbeing.

- Women may be forced into selling sex to get enough food to survive. This will impact on their physical health and wellbeing by putting them at risk of sexually transmitted diseases and physical injury. Emotional and mental health will also be affected due to a lack of self-esteem and sense of disempowerment.
- Displaced women and children are particularly at risk of gender-based violence, increased levels of domestic violence, child abuse and alcohol-related violence, all of which not only impacts on their physical health and wellbeing but also their mental and emotional health and wellbeing.
- Refugees are often forced into crowded and unsanitary living conditions in refugee camps. This can lead to outbreaks of cholera, diarrhoea and other vaccine-preventable diseases that contribute to high rates of morbidity and mortality and reduced physical health and wellbeing. (4 marks)

### Apply your knowledge

8. Conflict can be described as a global trend because, according to the World Health Organization, armed conflicts are now at a level where they are the largest and longest experienced since the end of World War II. The number of refugees and displaced people as a result of conflict is also at its highest since World War II. (2 marks)
9. Figure 10.13 shows that most of the world's displaced people relocate to low- and middle-income countries.
  - Turkey is clearly the country that has hosted the majority of refugees. Over 35 770 million refugees were hosted by Turkey. This is followed by Columbia, Pakistan and then Uganda with 17.65 million, 14.25 million and 13.96 million refugees respectively.
  - This can create a huge burden on economies that are already struggling, put additional pressure on infrastructure and affect the security and society of these countries with consequences to health and wellbeing. Hospitals and health care systems are already stretched in these countries and therefore find it difficult to cope with the additional population.
  - The mass migration of people has the potential to contribute to the spread of infectious diseases. This adds further to the stress placed on the healthcare systems of countries that are already struggling to meet the health needs of the population and therefore has consequences for health and wellbeing. (4 marks)

### 10.3 Exam questions

#### Question 1

Source: VCE 2011, *Health and Human Development Exam, Section B, Q.4.a (adapted)*; © VCAA

Low-income countries that are experiencing conflict may allocate the limited funding they have towards defence rather than health expenditure.

This impacts on health status as, if funds are unavailable for immunisation against diseases such as measles, more children may suffer from measles, and if left untreated they may die, lowering life expectancy in the low-income country experiencing conflict.

#### Question 2

Source: VCE 2011, *Health and Human Development Exam, Section B, Q.4.b (adapted)*; © VCAA

Conflict may destroy schools and work places.

This creates an environment where people within this low-income country are unable to live productive and creative lives as their livelihoods may have been destroyed. It limits their choices and

capabilities and affects their ability to make decisions that affect their lives, as conflict often causes displacement and insecurity.

**Question 3**

Source: VCE 2007, *Health and Human Development Exam*, Q.7.c; © VCAA

Crops may be destroyed in the conflict or women may be forced to flee their homes, abandoning crops, gardens or vegetable patches that they rely on to feed their families.

Women are often responsible for the upkeep and working of land and crops and feeding children. If they are prevented access to their lands/crops, their access to food is limited.

**VCAA Assessment Report note:**

Below is a clear student response to this question.

- Ongoing conflict can lead to the government spending all their money and resources on military purpose and the high expenditure that comes with weapons and military aid. Therefore there is less money for the country to provide adequate food supply hence the availability of food for women and children may become scarce as the armies of soldiers will receive the food as they are given higher priority.

Students had to relate their description to the capacity of women and children, not just the population in general, to access food to get full marks. Possible answers included:

- most casualties of war are women and children who are often killed or permanently disabled or injured, making it difficult for women to care for their families and work to earn an income to buy food or work in the fields
- fields are bombed or landmines are laid, making the land unavailable for farming for food
- available food is often allocated to the soldiers, usually men, leaving little or none for women and children.

**Question 4**

- In conflict, people are often injured or permanently disabled. This makes it difficult for them to earn an income to buy food or to work in the fields to produce food.
- Fields may be bombed or landmines laid, making the land unavailable for farming. Available food is often allocated to soldiers, usually men, leaving little for other civilians.

**Question 5**

During times of conflict, civilians are often exposed to gunfire and bombings. This can lead to increased mortality and morbidity from injuries and burns.

## 10.4 The implications for health and wellbeing of world trade and tourism

### ANSWERS

#### Case Study Review: The challenges of tourism

1. Tourism represented 6 percent of GDP in 2018
2. In 2019, over 1300 visitors visited Sary-Mogol.
3. Four examples that represent the positive impact of tourism in Sary-Mogol include:
  - Buunisa Termechikova an entrepreneur opened a guesthouse and is an expert at traditional crafts, especially the traditional Kyrgyz women's hat. Her Ethnographic Museum highlights local products, cultural items and historical artefacts, building cultural awareness

- Umar opened the village's first yurt camp, where tourists stay in one of the twelve traditional Kyrgyz lodgings. They enjoy the unique feel of the village—the old Soviet Uaz cars, the ancient Ulak Tartysh horse game, the markets selling traditional crafts building cultural awareness
  - Umar's son is always reading and researching on the internet, with his vision leading to new ideas to develop the town's industry and expand the family business which provides employment and improves economic growth. It has also led to improved education.
  - In 2015 the village's Horse and Yak games festival and fair was established where the entire village attends, either as participants or spectators which brings about improved social and spiritual health and wellbeing. Tourists buy tickets, and the revenue goes to the villagers working in the festival, contributing to reduced poverty and improved economic growth.
  - Jobs being provided through tourism were more interesting and healthy, working outside in all day. With the drop in tourists, Ali has to work in a quarry where he is regularly breathing in the dangerous quarry gas.
  - A Korean tourist and engineer who stayed in the village later paid to upgrade the village's water infrastructure which meant they no longer had to carry water from the river.
4. COVID-19 has had a significant impact on the village. Workers previously employed in the tourism industry have lost their income with some having to work in dangerous occupations, impacting their physical health and wellbeing. All people in the village have been affected in some way. Businesses and offices had to close and some villagers had to leave to find work elsewhere and others had to take jobs in more dangerous environments.
  5. In addition to tourism, other sectors impacted by COVID-19 were trade and consumer services and construction.
  6. The decline in tourism will impact physical health and wellbeing of Umar's family as they have reduced income and are having difficulty meeting the costs of health care and food. Umar's son has started working in the quarry and is concerned about the dangerous quarry gas he is breathing in. It could also impact mental health and wellbeing as his family are stressed and worried about how they will earn an income and meet the needs of their family.

#### 10.4 Exercise

##### Test your knowledge

1. Tourism contributes 10 per cent to the world's GDP. (1 mark)
2. The regions that are expected to have the strongest growth in tourism by 2030 are Asia and the Pacific regions, where tourist visitors are predicted to increase by 331 million to reach 535 million in 2030. (2 marks)
3. Five key benefits of tourism:
  - *Inclusive and sustainable economic growth* — tourism accounts for 10 per cent of the world's GDP and this trend is set to continue.
  - *Social inclusiveness and employment* — one in every 11 jobs globally is provided by the tourism industry, and more than half of international tourists will travel to low- and middle-income countries. Almost twice as many women are employed in the tourism sector compared to any other sector, and this provides employment opportunities and increased empowerment of women and gender equality.
  - *Resource efficiency, environmental protection and climate change* — tourism is effective in raising money for the conservation of wildlife and the environment. It can be a way of protecting and restoring biodiversity.
  - *Preserves cultural values, diversity and heritage* — tourism can protect traditional values and customs; it can empower communities and foster pride. It also promotes cultural diversity and raises awareness of the value of heritage.
  - *Mutual understanding, peace and security* — tourism can break down barriers between cultures and provides opportunities to build trust and peace, which helps reduce conflict.

(5 marks)

4. Tourism and world trade can contribute to health and wellbeing as it helps to increase economic growth, which helps people and countries escape from poverty. Economic growth promotes job creation and opportunities for people to be employed and earn an income. With an income, families are more able to purchase the necessary food, water, clothing, shelter and healthcare that promote physical health and wellbeing. An income also enables families to send their children to school, which creates opportunities to develop relationships, promoting social health and wellbeing. Healthier people feel more confident and empowered, which increases the level of emotional and mental health and wellbeing. Greater empowerment builds a sense of belonging to the community, which promotes spiritual health and wellbeing. (4 marks)
5. Two challenges that are associated with tourism:
  - It can create environmental challenges, cause overcrowding and put pressure on local infrastructure and services, and place stress on fragile local ecosystems. The capacity of local infrastructure to dispose of liquid and solid wastes may be strained by having to treat the additional wastes generated by tourism activities. These wastes can contaminate water supplies.
  - Tourism can also be considered a threat to health and wellbeing. Increasing international air travel, trade and tourism can result in disease-producing organisms being transported rapidly from one country to another. (4 marks)
6. Sustainable tourism is ‘tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities’. Sustainable tourism is important because, unless the tourism can be sustainable, the economic growth that is contributed is short term and comes at the expense of longer-term issues for countries such as environmental contamination and infrastructure that is no longer able to meet the needs of people living in the country and visitors to the country.  
(3 marks)

#### Apply your knowledge

1. The impact of COVID-19 on tourism has been significant. Many communities, particularly poor communities rely on the income generated from tourism to provide food, clothing, shelter, water, education and health care. With COVID-19 effectively closing borders, these communities have received no income. This has had a disproportionate impact on women and young people who are often those who are employed in the tourism industry. Given that tourism accounts for 10 percent of GDP globally, low income countries have also experienced less income to provide health care and infrastructure to communities which has increased the level of global poverty and health status. The effects of COVID-19 has impacted all countries but low and middle income countries have had the greatest impact. (3 marks)
7. World trade and tourism can help reduce poverty by contributing to sustainable economic growth. Tourism accounts for 10 per cent of the world’s GDP and this is likely to continue. Economic growth helps to create jobs for people, which enables them to earn an income. With an income, families can purchase food, water, clothing, shelter and healthcare, which helps them stay in good health. With an income, families can afford to send their children to school, which builds their knowledge and skills so they can be employed in well-paid job; this helps reduce poverty. Greater work opportunities also provide income to governments through taxation, which generates revenue to invest in infrastructure and essential services such as roads, water and sanitation, healthcare and welfare. World trade and tourism therefore have the capacity to reduce poverty at an individual and a country level. (4 marks)
8. Tourism and world trade can help achieve gender equality:
  - Almost twice as many women are employed in the tourism sector compared to any other sector. This provides women with employment opportunities and increased empowerment, which enhances gender equality.

- Money from tourism can be reinvested in healthcare and services. These can improve maternal health, reduce child mortality and prevent diseases, giving women greater opportunities to work because they are less likely to have to care for sick family members or become sick themselves.
  - A well-trained and skilled workforce is important for tourism to prosper. The tourism sector can provide incentives to invest in education and vocational training that can benefit women, because so many of them work in this sector, and help achieve gender equality. (4 marks)
9. Tourism can contribute to social inclusiveness through the need to have a well-trained and skilled workforce for tourism to prosper. Tourism can provide incentives to invest in education and vocational training, which is often targeted towards youth, women, older people and those with special needs. This has the potential to promote inclusiveness, the value of the culture of tolerance, peace and non-violence, and all aspects of global exchange and citizenship. (3 marks)
10. World trade and tourism does not always promote health and wellbeing.
- World trade and tourism, while providing many opportunities, must be carefully planned and monitored to ensure it does not lead to further reductions in health and wellbeing for those living in the country.
  - If sustainable tourism is not achieved, then the influx of additional people through tourism can place considerable pressure on the infrastructure, especially water and sanitation and waste disposal. This can contribute to environmental issues and contamination of local water supplies, which leaves residents of the country in a worse state of health and wellbeing.
  - Increasing international air travel, trade and tourism can result in disease-producing organisms being transported rapidly from one country to another. Where countries would have previously reported infectious diseases, the possible threat to trade and tourism and the corresponding economic impact can tempt some countries not to report outbreaks of disease, leading to potential epidemics. (4 marks)

#### 10.4 Exam questions

##### Question 1

A negative consequence of world trade is the potential exploitation of workers, especially women and children.

##### Question 2

A positive outcome of tourism is increased employment, which leads to improvements in living conditions of people in low-income countries.

##### Question 3

Through world trade, many multinational companies have established businesses in low-income countries, creating job opportunities in local economies. This may have a positive impact on mental health and wellbeing, as people will have less anxiety and stress because they have a job to help support their families.

Some multinational companies may expose local workers to poor and unsafe work conditions. This may have a negative impact on physical health and wellbeing, as the risk of injury and death is higher in unsafe work conditions.

##### Question 4

A positive outcome of tourism for low-income countries would be employment, especially for women.

A challenge that tourism brings to low-income countries could be the impact on infrastructure, such as local water supplies and waste removal systems.

#### **Question 5**

Both tourism and world trade increase job opportunities and employment in low-income countries. This creates economic growth for low-income countries, enabling governments to allocate more money to building schools and subsidising the cost of education. Increasing the number of schools, and subsidising the cost of attending school, improves school availability for all children and should improve education levels within low-income countries.

### **10.5 The implications for health and wellbeing of digital technologies**

#### **ANSWERS**

##### **Case study review: Telehealth is having a consultation with a healthcare provider by phone or video call**

1. A telehealth consultation is where you have a consultation with a healthcare provider by phone or video call.
2. A person is most likely choose a telehealth consultation rather than a physical one when a physical examination is not necessary and if a person is unwell and needs to isolate to prevent the spread of disease.
3. The benefits of telehealth consultations are that you can see a nurse, doctor, psychologist, surgeon and other healthcare providers without having to visit them in person. This is beneficial when a person is ill. They are very also very convenient as you do not have to leave your home. They are also beneficial if people live in rural and remote areas and would have to travel long distances to access health care.
4. 30 million telehealth consultations occurred in 2020.
5. Two ways to have a telehealth consultation are by either mobile phone or landline or by video using an online platform.
6. Some of the disadvantages of telehealth consultations might include an increased risk of misdiagnosis when a physical examination is not being undertaken. A medical practitioner may not pick up other signs or symptoms of disease if they are not having a face-to-face conversation.

#### **10.5 Exercise**

##### **Test your knowledge**

1. Digital technologies are being used by people, business and governments to deliver and access services, obtain and share knowledge, undertake transactions, shop, work and interact with each other. (3 marks)
2. How mobile phone technology is assisting people to share information:
  - Digital technologies allow personal health records to be shared with other members of the healthcare team, for ongoing disease monitoring and feedback and the sharing of health information and treatment goals with patients.
  - Digital technologies have the capacity to open new avenues for patient-centred medicine, and eventually enable more patient choice.
  - Online networks enable people to share and compare different diagnoses and treatments with people who have the same conditions and who live anywhere in the world. Members of the online community can ask for advice, learn from each other, discuss test results, and compare how different medications, treatments, or combinations of drugs might or might not be working. (3 marks)
3. Healthcare workers can gather population data such as the number and ages of men, women and children and the number of women who are pregnant and those who access healthcare before, during and after pregnancy. This health-related information is important for

- governments to be able to establish programs that meet the needs of the population as well as evaluate the effectiveness of the programs implemented. (4 marks)
4. eHealth refers to health services and information delivered or enhanced through the Internet and related technologies. (1 mark)

### Apply your knowledge

5. Digital technologies can empower people to manage their health and adopt healthy behaviours by providing people with access to more self-care and diagnostic information that they can use at home to monitor and improve their health. People can ask for advice, learn from each other, discuss test results, and compare how different medications, treatments, or combinations of drugs might or might not be working. This sharing of information creates more informed and empowered people and can lead to changes in the patient and health provider relationship. (3 marks)
6. Digital technologies contribute to a more equal and collaborative relationship between a patient and a healthcare worker because health professionals are no longer the only source of information. Advances in technology are providing new opportunities to help individuals self-monitor and assess their symptoms and health, create online communities, and empower individuals with chronic disease to be actively engaged in the management of their health. (3 marks)
7. Three ways that digital technologies can promote health and wellbeing:
- Digital technologies provide people with access to more self-care and diagnostic information that they can use at home to monitor and improve their health and wellbeing. This can promote physical health and wellbeing as people are more aware of their own health levels, as well as promoting mental and emotional health and wellbeing because they can feel more in control of their health and wellbeing and can be reassured when their health indicators are positive.
  - Digital technologies also provide countries with the ability to register births, deaths and marriages, which ensures that people have access to legal protection, education and basic human rights. This promotes physical health and wellbeing by protecting people from being exploited and becoming victims of human trafficking or slave labour. Education empowers people, which promotes mental and emotional health and wellbeing as well as promoting social health and wellbeing through the relationships that develop at school.
  - Mobile phone technology can be used for disaster preparedness and SMS services can be used to issue warnings of an impending emergency. This promotes health and wellbeing by ensuring that people have enough time to put in place measures to protect themselves and their homes from the impact of emergencies. This can reduce deaths, injuries and disabilities. Reducing the impact of emergencies can reduce the level of stress and trauma and help bring about improvements in mental and emotional health. (6 marks)
8. Digital technologies have assisted Australia in dealing with COVID-19. Digital technology has been used to provide telehealth which enables remote care to be provided to patients with chronic conditions or with mild or moderate COVID-19 illness in their homes. This reduces the chances of passing infection onto others. We have also used QR codes for contact tracing and developed the COVID safe app which tracks and monitors people's movements and can notify them if they have come into contact with a person who has tested positive for the disease. (3 marks)

### 10.5 Exam questions

#### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.14; © VCAA

The use of digital technologies, like My Health Record, for the sharing of health knowledge can have both positive and negative implications for the health and wellbeing of individuals and communities. The fact that so many healthcare professionals have access to this information could lead to

personal information being shared to other organisations or individuals as we cannot be guaranteed that the individual computers these professionals use to access the information is secure. Having their personal information shared to other organisations, or leaked into the hands of the wrong people, could cause people to become emotionally upset and distressed (emotional health and wellbeing).

On the other hand, the mental health and wellbeing of people could be enhanced through the use of digital technologies, like the My Health Record, as the health care professionals would be able to access the required information rather than the person having to repeat their health history completely each time they meet with a new healthcare professional. This could lead to reduced anxiety as they do not have to worry about remembering everything, or fearing the worst if they forget something.

Award 1 mark for showing an understanding of digital technologies for knowledge sharing and linking this to an aspect of the stimulus material

Award 1 mark for explaining how the effects of digital technology for knowledge sharing can impact on a dimension of health and wellbeing.

Students should provide two examples in order to achieve 4 marks.

**VCAA Examination Report note:**

For full marks, students were required to outline implications of using digital technologies for knowledge sharing on health and wellbeing. Responses could be positive, negative or a mix of both. Higher-scoring responses generally took a balanced approach.

The following is an example of a high-scoring response.

*Using digital technologies such as My Health Record, can result in high levels of stress and anxiety that health information, such as what medicines individuals are taking, could be hacked. This creates immense worry and stress, negatively impacting mental health and wellbeing. Conversely, using digital technologies, such as My Health Record, can result in databases being connected between GPs and aged care services, allowing for relevant medical information and history (e.g. past diseases such as cardiovascular disease) being shared. This can allow aged care services to provide the medicines needed to uphold proper functioning of the body and its systems, promoting physical health and wellbeing.*

**Question 2**

Mobile phone apps that gather statistics on infectious disease outbreaks, online support networks for people with unique or rare illnesses and diseases, and SMS alerts for extreme weather conditions are all digital technologies that promote health and wellbeing.

**Question 3**

eHealth is the use of information and communication technologies for health. It refers to health services and information delivered or enhanced through the internet and related technologies such as Skype, Facetime and mobile apps.

**Question 4**

Positive health and wellbeing outcomes include:

- Social health and wellbeing — Communication and interaction skills may improve through talking to others online about their health condition.

- Emotional health and wellbeing — Online support groups help people manage and cope with their illness better, as they can talk to others who share similar experiences to their own.
- Mental health and wellbeing — Online support groups may reduce stress and anxiety levels if individuals can share their experiences with others who are familiar with their illness.
- Spiritual health and wellbeing — Online support groups may develop a sense of connectedness and belonging. They may also provide a sense of purpose for individuals if they can help others who are living through the same condition as themselves.

#### Question 5

The Red Cross Hazard App sends alerts to individuals and families warning them of impending emergencies. This could warn someone in an earthquake-prone area to put earthquake protection measures into place to reduce injury and death, promoting physical health and wellbeing. The app allows individuals and families to send 'I am safe' messages to family and friends, which should help alleviate anxiety and stress levels, promoting mental health and wellbeing.

#### 10.6 Topic 10 Key Skills

##### ANSWERS: PRACTISE THE KEY SKILLS

1. The global trend represented in the information is conflict.
2. Displaced people are those who are forced to leave their home because of war or persecution. They might be internally displaced, which means they leave their home and move to another part of their country of origin; or they have to leave their country of origin due to fear of persecution, and become a refugee.
3. Implications of the Syrian war for health and wellbeing:
  - Wars lead to large numbers of people being displaced. They are forced to leave their homes, farms and jobs are living below the poverty line. They often seek shelter with relatives or friends, in schools, public and abandoned buildings, makeshift shelters, or in the open with little or no protection. People suffer from insecurity, lack of services, and shortages of food and water. Children usually drop out of school to work or beg, and women may be forced into selling sex to get enough food to survive. This leads to reduced physical health and wellbeing and an increase in the level of illness and disease. Social health and wellbeing is reduced as social networks are destroyed and children are often left without educational opportunities. War and conflict disempowers people, which reduces their emotional and spiritual health and wellbeing.
  - War results in large numbers of refugees who are forced into crowded and unsanitary living conditions in refugee camps. This leads to outbreaks of cholera, diarrhoea and other vaccine-preventable diseases that contribute to high rates of morbidity and mortality and reduced physical health and wellbeing. Mental health and wellbeing is affected as people feel angry, confused and upset. The impact of trauma is also associated with high levels of depression and anxiety.
  - Displaced women and children are particularly at risk of sexual and gender-based violence, increased levels of domestic violence, child abuse and alcohol-related violence, all of which not only impacts on their physical health and wellbeing but also their mental and emotional health and wellbeing as they live in fear and feel disempowered.

#### 10.7 Topic 10 review

##### Extended Response

Answers to this extended response question will be marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected and synthesised
- Understanding the impact on health and wellbeing of the global trends of:
  - climate change,
  - conflict and mass migration
  - tourism

The following table shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used.

The first step is to determine if the response best fits the ‘not shown’, ‘low’, ‘medium’ or ‘high’ band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a ‘medium’ score if these components have been completed to a high standard.

Once a determination of ‘high’, ‘medium’, ‘low’ or ‘not shown’ is made, a decision can be made as to where the response fits within the category.

Band	Mark range	Criteria			
		How the response has been structured	How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected and synthesised	Understanding the impact of global trends on health and wellbeing.
High	7-8	Organises ideas to provide clarity of discussion.	Synthesises stimulus material to make multiple connections	Integrates discussion of own knowledge to make multiple connections	Discusses the impact of global trends with detailed links to health and wellbeing
Medium	6	Ideas are organised but may not read as well as stronger answers	Stimulus material is understood with relevant examples used to support the discussion	Concepts are discussed clearly with connections made to the question	Explains the impact of global trends with links to health and wellbeing
	5	Ideas are organised but there may be issues with how it is structured and may be a little difficult to follow.	Stimulus material is understood and examples from <b>all sources</b> have been used to support the discussion	Broad or general concepts are discussed	Outlines the impact of all three global trends on each aspect of health and wellbeing
	4	Ideas are loosely organised and sequenced	Simplistic connections are made between the stimulus material and the question	Broad or general statements are made that connect with some aspects of the question	Outlines the impact of global trends on some aspects of health and wellbeing
Low	3	Lacks coherent structure	Simplistic connections are made with <b>at least 2 sources</b> and the question	Statements are made with simplistic connections to the question	Outlines the impact of at least two global trends and connects this with some aspects of health and wellbeing
	2	Lacks coherent structure	Stimulus material is restated with connections made to the question	Information is stated with limited connections to the question	Broad statements about global trends with limited links to the impact on health and wellbeing

	1	Poorly structured and difficult to follow	Limited stimulus material is used and is copied with vague connections made to the question	Limited information is used with vague connections to the question	Limited information on global trends is provided with vague connections to the impact on health and wellbeing
Not shown	0	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding

**An example of a high scoring response is:**

Global trends refer to patterns of social, environmental and economic activity that affects many countries and requires action to be taken at a global level. Three global trends that have an impact on health and wellbeing are tourism, conflict and mass migration and climate change.

As shown in Source 1, tourism generated \$US 5 billion each day in exports in 2018 or \$US 1.7 trillion for the year. This was made up of US \$1.5 trillion spent at the destinations where people travelled and US\$256 billion in passenger transport. Source 2 indicates that tourism is expected to continue to grow with the number of tourists travelling across borders expected to reach 1.8 billion by 2030. Tourism brings many opportunities, including economic growth and job creation. Many low- and middle-income countries have benefited from increased tourism which has helped provide income and jobs for many families previously living in poverty. Income improves physical health and wellbeing as families are able to afford nutritious food, clean water, health care and adequate shelter. It also provides opportunities for children to attend school which improves social health and wellbeing. Employment contributes to improved mental and emotional health and wellbeing by building the confidence and self-esteem, particularly of women who are often those who most benefit from the increased job creation. Income reduces stress associated with not knowing how to afford food and health care, therefore contributing to mental health and wellbeing. Economic growth in low-income countries helps build resilience and a sense of empowerment and community which in turn helps promote spiritual health and wellbeing.

Whilst there are many benefits associated with tourism, source 2 points out that tourism can also have a negative impact, in particular, its contribution to climate change. In 2016, transport-related emissions from tourism contributed to 5 percent of all man-made emissions and this is anticipated to increase to 5.3 percent by 2030. This will see 1,998 million tonnes of CO<sub>2</sub> being generated by 2030. Man-made emissions are the leading cause of global warming and climate change globally. The temperature of the planet is predicted to increase which is bringing about rising sea levels, changing weather patterns and more intense and frequent extreme weather events such as floods, cyclones and heat waves. This has significant impacts on health and wellbeing.

Changing weather patterns will see an increase in droughts, floods, heatwaves and rising humidity, which will potentially impact physical health and wellbeing with an increase in vector borne diseases such as malaria and dengue fever which thrive in warm, moist conditions. Drought reduces the availability of food resulting in higher levels of hunger and malnutrition, direct impacting physical health and wellbeing. Hunger and malnutrition reduces immunity to diseases and has a greater effect on the health and wellbeing of children. Air pollution and increased pollens in the air will also be increased with higher temperature and more heat waves. This will result in an increased incidence of respiratory diseases such as asthma and high temperature levels will result in more people being at risk of heat stress. Older adults and children are particularly vulnerable. Diseases such as diarrhoea could also increase with more flooding. Flooding pollutes water supplies and increases morbidity and mortality from dehydration due to diarrhoea. Children and the elderly are particularly at risk. Overall climate change is expected to cause 250 000 more deaths and account for higher levels of morbidity.

Global warming and increased sea levels is also contributing to the mass migration of people from their homes as they become flooded and no longer able to be used to produce food. Mass migration and forced displacement is also the outcome of conflict. As shown in source 3, in 2019, there were 79.5 million forcibly displaced people in the world and 30-34 million of these were children below 18 years of age. In addition, there were 2 million new claims from asylum seekers in 2019 who have had to flee their country due to conflict. Conflict lead to large numbers of people being forced to leave their homes, farms and jobs are now living below the poverty line. They suffer from insecurity, lack of services, and shortages of food and water. Children usually drop out of school to work or beg, and women may be forced into selling sex to get enough food to survive. This leads to reduced physical health and wellbeing and an increase in the level of illness and disease. Social health and wellbeing is

reduced as social networks are destroyed and children are often left without educational opportunities. Conflict disempowers people, which reduces their emotional and spiritual health and wellbeing.

Conflict results in large numbers of refugees being forced into crowded and unsanitary living conditions, increasing outbreaks of cholera, diarrhoea and other vaccine-preventable diseases that contribute to high rates of morbidity and mortality and reduced physical health and wellbeing. Mental health and wellbeing is affected as people feel angry, confused and upset. The impact of trauma is also associated with high levels of depression and anxiety.

We can see that the global trends of conflict and climate change have significant negative impacts on health and wellbeing. Tourism can bring many benefits but its contribution to climate change needs addressing and as stated in source 2, it is urgent for the tourism sector to transform and grow whilst at the same time seek to reduce emissions so globally, people can continue to enjoy the positive benefits of tourism

## **ANSWERS: EXAM QUESTIONS**

### **Question 1**

Source: VCE 2020, *Health and Human Development Exam*, Q. 12; (adapted) © VCAA

a. Peace is important for the Rohingya people to improve their health and wellbeing as they are less likely to be injured if they are living in a place without war and conflict which would assist in improving their physical health and wellbeing as their bodies are able to function properly.

Shelter is also important for the Rohingya people as it provides a structure to help protect them from the outside environment and other people. By providing a sense of safety and security, and offering the Rohingya people privacy, mental health and wellbeing is able to be improved or maintained as they will experience lower levels of stress and anxiety.

Award 1 mark for showing an understanding of why peace is important for health and wellbeing.

Award 1 mark for linking this to the case study and the Rohingya people.

Award 1 mark for showing an understanding of why shelter is important for health and wellbeing.

Award 1 mark for linking this to the case study and the Rohingya people.

### **VCAA Examination Report note:**

This question required students to make links between both peace and shelter and improved health outcomes for the Rohingya people.

Responses did not need to provide definitions of these concepts. A common mistake was discussing how lack of peace (i.e. conflict) and lack of shelter could contribute to negative effects on health and wellbeing, which did not answer the question. Students also needed to explain how peace and shelter can affect health and wellbeing instead of simply stating that they cause an impact.

The following is an example of a high-scoring response.

*Peace: The absence of conflict and war is necessary as peace can relieve feelings of stress and anxiety around safety of themselves and family as a Rohingya person, so therefore is essential to improving / maintaining mental health and wellbeing.*

*Shelter: Shelter is essential to protect the Rohingya people from dangers within the external environment e.g. animal attacks. Attacks can result in injuries e.g. cuts that are vulnerable to*

*Topic 10: Global trends and health and wellbeing  
infection, therefore decreasing the threat of dangers in the environment can enable them to be well enough to complete daily physical activities, therefore improving / maintaining their physical health and wellbeing.*

b. Mass migration can result from violence or conflict which forces large groups of people to flee their homes and become displaced. People who are displaced may end up living in overcrowded environments such as refugee camps where infectious disease can spread easily from person to person negatively impacting physical health and wellbeing. Mass migration can also negatively impact social health and wellbeing as when people need to flee their homes it can result in children not being able to attend school which can result in them not having the opportunity to interact with other children regularly.

Award 1 mark for showing an understanding of the implications of mass migration.

Award 1 mark for linking an aspect of mass migration to a dimension of health and wellbeing.

Award 1 mark for linking an aspect of mass migration to another dimension of health and wellbeing.

**VCAA Examination Report note:**

Students who attempted this question were generally able to achieve some marks. For three marks, students could make briefer links to health and wellbeing, or fewer links with more discussion.

A common mistake was discussing conflict instead of mass migration. Although these concepts are often related, they are not the same.

The following is an example of a high-scoring response.

*Mass migration causes displacement in many people as they are forced to leave their home and most of their belongings. This contributes to people losing their sense of belonging and connection to the world, contributing to poorer spiritual health and wellbeing. Additionally, mass migration means that many individuals and families must live without an income as they are moving or struggling to find a new job. This increases levels of stress and anxiety within people and therefore contributes to poorer mental health and wellbeing.*

**Question 2**

- a. The global trend evident in the eco-friendly sustainable camp is world trade and tourism, in particular, tourism. It represents international trade in services, in this case the experience of staying in a camp whilst in Tanzania.
- b. Three advantages of this project include:
  - It provides an income to those people who employed in this project which means they can afford to buy food, clothing, shelter, health care and send their children to school. It helps promote economic growth for Tanzania.
  - The project is environmentally sustainable which means the environment is being preserved and the project can be delivered in a sustainable way for many years.
  - It preserves cultural values diversity and heritage as it allow foreign travellers the experience of true life and daily existence of the Maasai.
- c. This project could promote health and wellbeing:
  - By increasing economic growth and creating jobs, people can be employed and earn an income. With an income, families are more able to purchase the necessary food, water, clothing, shelter and healthcare that promote physical health and wellbeing. With an income, families can afford to send their children to school, which creates opportunities to develop relationships that promote social health and wellbeing. Money from this camp can be reinvested in healthcare and services, which can improve maternal health, reduce child mortality and prevent diseases; this promotes physical health and wellbeing.

- This example of tourism protects traditional values and customs. This can empower communities and foster pride, which promotes spiritual health and wellbeing.
- This example of tourism could help break down barriers between cultures and provide opportunities to build trust and peace. This promotes mental health and wellbeing as people can feel proud and happy.

### Question 3

- a. Two factors that have contributed to the consequences shown in the diagram include:
- The burning of fossil fuels to provide energy for transport and industry has resulted in an increase in the production of carbon dioxide and other greenhouse gases. Greenhouse gases trap heat that is radiated from the sun.
  - Expansion of water that occurs as it warms and the increase in the volume of water that results from the melting of the ice caps in the polar regions have contributed to the rising sea levels that have occurred.
- b. Examples of climate change represented in the diagram and the impact on health and wellbeing:
- Arctic and Antarctic sea ice well below average and rising sea levels:  
The melting of the glaciers and ice sheets that cover West Antarctica and Greenland is contributing to rising sea levels. The impact on health and wellbeing of rising sea levels include:
    - *Relocation of villages and farms:* Rising sea levels mean people living in coastal areas will lose their villages and farms due to flooding. Having to relocate houses and farms can be stressful and increases the risk of people suffering from poor mental health and wellbeing. Relocation can also place strain on existing infrastructure such as safe water and sanitation services, housing and healthcare services. This can lead to poor physical health and wellbeing and increased mortality rates from communicable diseases.  
Relocating can interfere with social networks within the community and reduce levels of social health and wellbeing.
    - *Reducing the availability of fresh water:* As sea levels increase, salt water gradually seeps into fresh water sources. People cannot drink salt water and many plants cannot survive high levels of salt. This will bring about widespread water scarcity that will have significant consequences for health and wellbeing. Lack of water could bring about increased levels of morbidity and mortality from diarrhoea and other water-borne diseases as people struggle to reuse the limited water they might have available. Water scarcity can also lead to increased levels of poverty as people must pay large amounts of money to purchase clean water for drinking. This will impact mental and emotional health and wellbeing due to the increased stress this produces. Physical health and wellbeing can also be affected because families may not have sufficient money to afford food, clothing, shelter and healthcare. In addition, water scarcity could be a major cause of conflict as countries seek to gain control over the limited fresh water supplies that are available. Conflict leads to poor health and wellbeing in all dimensions.
  - Increased temperatures from global warming are changing weather patterns and bringing about more intense and frequent extreme weather events such as floods, cyclones and heat waves. This can impact on health and wellbeing by:
    - *Increasing the incidence of infectious diseases*
      - Many infectious diseases are spread by mosquitoes that breed in surface water that becomes stagnant, and thrive in humid conditions. Warmer temperatures are likely to produce ideal breeding grounds for mosquitoes. This could result in an increase in diseases such as malaria, dengue and yellow fever, and their spread into countries that were previously unaffected.
      - Floods and droughts also increase the risk of diarrhoeal diseases. Other diseases linked to heavy rainfall and contaminated water supplies include cholera, giardia, typhoid, and hepatitis A.

- *Bringing about extremes in temperature: heatwaves and cold spells*
  - Extremes of temperature can kill people, particularly those who suffer from cardiovascular and respiratory diseases, the elderly and young children. Climate change will see an increased frequency and intensity of heatwaves, as well as warmer summers and milder winters. Pollen levels increase during periods of high heat and can trigger asthma, which already accounts for a high burden of disease

**Question 4**

Access to financial services could promote health and wellbeing by enabling people (especially women) to borrow small amounts of money to establish a business that can be used to generate an income. The ability to generate an income means families have money they can use to purchase essentials such as food, safe water, shelter, clothing, healthcare services and education. This improves physical health and wellbeing by reducing the risks associated with getting ill from poor nutrition and unsafe water. The risk of infectious diseases is reduced through better quality shelter; when ill, family members can access healthcare services. When people earn an income, they feel better about themselves and feel more empowered, which improves emotional and mental health. Social health is also promoted through operating a business and enabling children to attend school.

- a. Other examples of how digital technologies can be used to promote health and wellbeing:
  - Mobile phones help healthcare workers in the field gather population data such as the number and ages of men, women and children and the number of women who are pregnant and those who access healthcare before, during and after pregnancy. This health-related information is important so governments can put in place, plans and programs that meet the needs of the population, as well as follow up and evaluate the effectiveness of the programs that are implemented.
  - Digital technologies provide countries with the ability to register births, deaths and marriages, which ensures that people have access to legal protection, education and basic human rights.
  - Mobile phone technology can be used for disaster preparedness, and SMS services can be used to issue warnings of an impending emergency.
  - Digital technologies can engage individuals and families more directly in their health-care experience. People now have access to more self-care and diagnostic information that they can use at home to monitor and improve their health.
- b. Other examples of how digital technologies can be used to promote health and wellbeing:
  - Mobile phones help healthcare workers in the field gather population data such as the number and ages of men, women and children and the number of women who are pregnant and those who access healthcare before, during and after pregnancy. This health-related information is important so governments can put in place, plans and programs that meet the needs of the population, as well as follow up and evaluate the effectiveness of the programs that are implemented.
  - Digital technologies provide countries with the ability to register births, deaths and marriages, which ensures that people have access to legal protection, education and basic human rights.
  - Mobile phone technology can be used for disaster preparedness, and SMS services can be used to issue warnings of an impending emergency.
  - Digital technologies can engage individuals and families more directly in their healthcare experience. People now have access to more self-care and diagnostic information that they can use at home to monitor and improve their health.

c.

Examples	How they can promote health and wellbeing
Mobile phones help healthcare workers in the field gather population data such as the number and ages of men, women and children and the number of women who are pregnant and those who access healthcare before, during and after pregnancy.	<ul style="list-style-type: none"> <li>This health-related information allows governments to put in place plans and programs that meet the needs of the population, and can improve population health.</li> <li>The information can be used to evaluate the effectiveness of programs that are implemented and make necessary changes to better improve health and wellbeing.</li> </ul>
Digital technologies provide countries with the ability to register births, deaths and marriages, which ensures that people have access to legal protection, education and basic human rights.	<ul style="list-style-type: none"> <li>This improves physical health and wellbeing by reducing the vulnerability of people to become victims of illegal trafficking or slave labour.</li> <li>Education helps promote social health and wellbeing. When children are educated, they build relationships and social networks.</li> <li>Education improves the chances of being employed and earning an income that can be used to promote health by being able to afford food, safe water and healthcare services.</li> </ul>
Mobile phone technology can be used for disaster preparedness, and SMS services can be used to issue warnings of an impending emergency.	<ul style="list-style-type: none"> <li>This reduces stress levels and promotes mental health and wellbeing.</li> <li>Lives can be saved by notifying people early so they can take the necessary action to protect themselves from the emergency.</li> </ul>
Digital technologies can engage individuals and families more directly in their healthcare experience. People now have access to more self-care and diagnostic information that they can use at home to monitor and improve their health.	<ul style="list-style-type: none"> <li>This can promote physical health and wellbeing as people are more aware of their own health levels, and can take preventative measures to improve their health</li> <li>It can promote mental and emotional health and wellbeing by reassuring people that they are in a state of good health and wellbeing or by empowering them to take action to promote their health and wellbeing.</li> </ul>

## Topic 11: Sustainable Development Goals and the World Health Organization

### 11.2 Objectives and rationale for the Sustainable Development Goals

#### ANSWERS

##### 11.2 Activities

###### SDG worksheet

- a. 193 countries were involved in the development of the SDGs.
- b. The aims of the SDGs are to:
  - eradicate extreme poverty and hunger
  - fight inequality
  - tackle climate change
  - achieve sustainable development for all.
- c. 800 million people still live in extreme poverty.
- d. Sub-Saharan Africa and Southern Asia are regions that consistently achieve less progress.
- e. The consequence of the measurements of success used by the MDGs was that marginalised groups were often missed. These groups included people with disabilities, indigenous groups, rural communities and women.
- f. The SDGs that are the focus of this study are:
  - End poverty
  - Zero hunger
  - Good health and wellbeing
  - Quality education
  - Gender equality
  - Water and sanitation
  - Climate action.
- g. The four underlying principles of the SDGs:
  - The goals are universal and apply to all countries including high-, middle- and low-income countries, and their achievement requires a coordinated approach.
  - The goals integrate all dimensions of sustainability.
  - No one should be left behind — no goal is met unless it is met for all.
  - The SDGs require the participation of everyone.

##### 11.2 Exercise

###### Test your knowledge

1. The Sustainable Development Goals (SDGs) were introduced in 2016 by the United Nations member states. (2 marks)
2. The rationale for the introduction of the SDGs:
  - A new set of goals and targets were needed when the Millennium Development Goals (MDGs), finished in 2015.
  - Progress that was achieved through the MDGs was uneven across regions and countries, and significant work still needed to be done to improve health and wellbeing globally.
  - New global challenges had emerged that needed to be addressed such as increasing conflict and extremism, widespread migration, economic and financial instability and large-scale environmental changes. (3 marks)
3. The objectives of the SDGs:
  - end extreme poverty
  - fight inequality and injustice
  - address climate change. (3 marks)

4. The five areas of importance under the SDGs are:
  - *People* — end poverty and hunger, in all their forms and dimensions, and ensure that all human beings can fulfil their potential with dignity and equality and in a healthy environment.
  - *Planet* — protect the planet from degradation through sustainable consumption and production, management of natural resources and acting on climate change to support the needs of present and future generations.
  - *Prosperity* — ensure all people can enjoy successful and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.
  - *Peace* — foster peaceful, just and inclusive societies that are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.
  - *Partnership* — implement the SDGs through a global partnership for sustainable development, focused on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people. (5 marks)
5. The dimensions of sustainability that underpin the SDGs are social, economic and environmental. (3 marks)
6. The goals are described as being interconnected because their achievement requires collaboration across all sectors and at national, international, regional and local levels. Each of the goals complement and interconnect with each other. (2 marks)

### Apply your knowledge

7. Collaboration is needed across all sectors because the goals and targets are integrated, interdependent and indivisible; therefore, their achievement requires all sectors to work together. (2 marks)
8. There can be no sustainable development without peace and no peace without sustainable development'. This statement recognises that peace is a prerequisite for health. Without peace, people do not feel safe, their homes are often destroyed along with crops and water supplies. Schools are often destroyed and people can become refugees. This contributes to ill health and reduces productivity and therefore impacts on the resources available to a country to invest in sustainable infrastructure, health and wellbeing services and poverty reduction activities. Therefore, peace is important for economic, social and environmental sustainability. Without sustainable development, conflict often arises as there are disputes over resources such as land, water and food. Sustainable development ensures adequate resources for all and governments have the capacity to support those who are poor and unable to afford these resources. (4 marks)

### 11.2 Exam questions

#### Question 1

- To achieve these goals, all countries have to work together, which may be difficult
- Governments will be required to dedicate considerable funding to the implementation of these goals, and some countries may be unwilling or unable to commit these funds.

#### Question 2

The three main objectives of the Sustainable Development Goals (SDGs) are:

- to end poverty
- to fight inequality and injustice
- to tackle climate change.

#### Question 3

The United Nations is the organisation responsible for the development of the Sustainable Development Goals

**Question 4**

The Sustainable Development Goals aim to be achieved by 2030.

**11.3 Key features of Sustainable Development Goal 3 Good health and wellbeing**

**ANSWERS**

**11.3 Exercise**

**Test your knowledge**

1. The name of SDG 3 is 'Good health and wellbeing'. It aims to achieve health and wellbeing for everyone, at every stage of life. (2 marks)
2. The difference between the features of SDG 3 that represent health and wellbeing outcomes and the features that represent 'means of implementation' or action features is that the key features include targets for improvements or outcomes for a range of global health and wellbeing issues. The means of implementation targets are inputs or actions that must be met to achieve the health and wellbeing outcomes as part of Goal 3. (2 marks)
3. Universal health coverage refers to expanding health services so all people have access to the health services they need, and reducing the cost of healthcare so people can access the health services they need without suffering financial hardship. (3 marks)

**Apply your knowledge**

4. Universal health coverage is considered to be a prerequisite for achieving Goal 3 because without access to health services, people will not have an opportunity to experience good health and wellbeing. Universal health coverage ensures access to essential medical care at a price that does not plunge people into poverty. Poverty is a major cause of ill health and means that people are unable to afford the basic necessities for good health such as food, water, clothing and shelter. Those who are poor are less likely to be able to afford education for their children which traps families in a cycle of poverty and ill health. (3 marks)
5. It is important to strengthen the capacity of all countries for early warning, risk reduction and management of health and wellbeing risks because these can happen to any country at any time. Without early warning and plans in place to minimise risks, the impact on individuals, families and communities can be extensive. A country without plans to manage risks is less able to recover from a significant event such as floods and droughts. Early warning systems allows people to take action to prevent widespread devastation and loss which reduces the economic, social and environmental consequences. (4 marks)
6. The features of SDG 3 can be grouped below:

Health and wellbeing outcomes	
Population groups	<ol style="list-style-type: none"><li>1. Reduce maternal mortality</li><li>2. <i>End preventable deaths of newborns and children under five.</i></li></ol>
Disease groupings	<ol style="list-style-type: none"><li>1. End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases (NTD), and combat hepatitis, water-borne diseases and other communicable diseases.</li><li>2. <i>Reduce non-communicable diseases and promote mental health and wellbeing</i></li><li>3. <i>Reduce non-communicable diseases and promote mental health and wellbeing</i></li></ol>

**Topic 11: Sustainable Development Goals and the World Health Organization**

Causes of burdens of disease	<ol style="list-style-type: none"> <li>1. <i>Reduce deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</i></li> <li>2. <i>Reduce road traffic accidents</i></li> </ol>
<b>Actions or ‘means of implementation’</b>	
Universal health coverage	<ol style="list-style-type: none"> <li>1. Achieve universal health coverage, including affordable access to quality and healthcare services and essential medicines and vaccines</li> <li>2. <i>Access to sexual and reproductive healthcare services</i></li> <li>3. Increase investment in healthcare services and a well-trained workforce</li> </ol>
Substance control	<ol style="list-style-type: none"> <li>1. <i>Strengthen prevention and treatment of substance abuse</i></li> <li>2. Strengthen the implementation of the WHO Framework Convention on Tobacco Control</li> </ol>
Medicines and research	<ol style="list-style-type: none"> <li>1. <i>Support the research and development of vaccines and medicines for communicable and non-communicable diseases</i></li> </ol>
Early warning and protection	<ol style="list-style-type: none"> <li>1. <i>Strengthen capacity for early warning, risk reduction and management of health and wellbeing risks</i></li> </ol>

(7 marks)

### 11.3 Exam questions

#### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.10.a.i (adapted); © VCAA

Sustainable Development Goal 3: Good health and wellbeing.

#### Question 2

SDG 3 — Ensure healthy lives and promote wellbeing for all ages aims to increase access to vaccines for diseases such as measles for all people. This promotes physical health and wellbeing globally, as there will be less under-5 mortality worldwide from infectious diseases, which will increase global life expectancy.

#### Question 3

Action areas for SDG 3 are:

- Achieve universal health coverage
- Access to sexual and reproductive healthcare services
- Strengthen prevention and treatment of substance abuse
- Strengthen the implementation of the WHO Framework Convention on Tobacco Control
- Support the research and development of vaccines and medicines for communicable and non-communicable diseases
- Increase investment in healthcare services and a well-trained workforce

- Strengthen capacity for early warning, risk reduction and management of health and wellbeing risks

**Question 4**

The actions are the implementation targets that must be met to achieve the health and wellbeing outcomes. The outcomes are the health and wellbeing targets to work towards.

For example, an action is: access to sexual and reproductive healthcare services. The outcome is: reduce maternal mortality.

**Question 5**

Two health and wellbeing features of SDG 3 that are more likely to be an issue in low-income countries than middle- or high-income countries are:

- Reduce maternal mortality

In low income countries there is less access to health care which includes access to the required 5 prenatal checks as well as access to trained birth attendants. This means that if complications arise during pregnancy and childbirth, there is a greater chance of the mother dying than if she was living in a middle- or high-income country. In low-income countries there is also higher rate of adolescent pregnancy. This come with an increased risk of maternal mortality as girls are often still developing and their bodies are less able to cope with pregnancy and childbirth.

- End epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases

These diseases are more associated with poverty and lack of access to clean water and sanitation. These conditions are more likely to be experienced by those living in a low income country rather than a middle- or high-income country. In addition, many of these diseases can be prevented by vaccination which is often lower in low-income countries.

## **11.4 SDG 3 Key features of maternal and child health and wellbeing**

### **ANSWERS**

#### **11.4 Exercise**

##### **Test your knowledge**

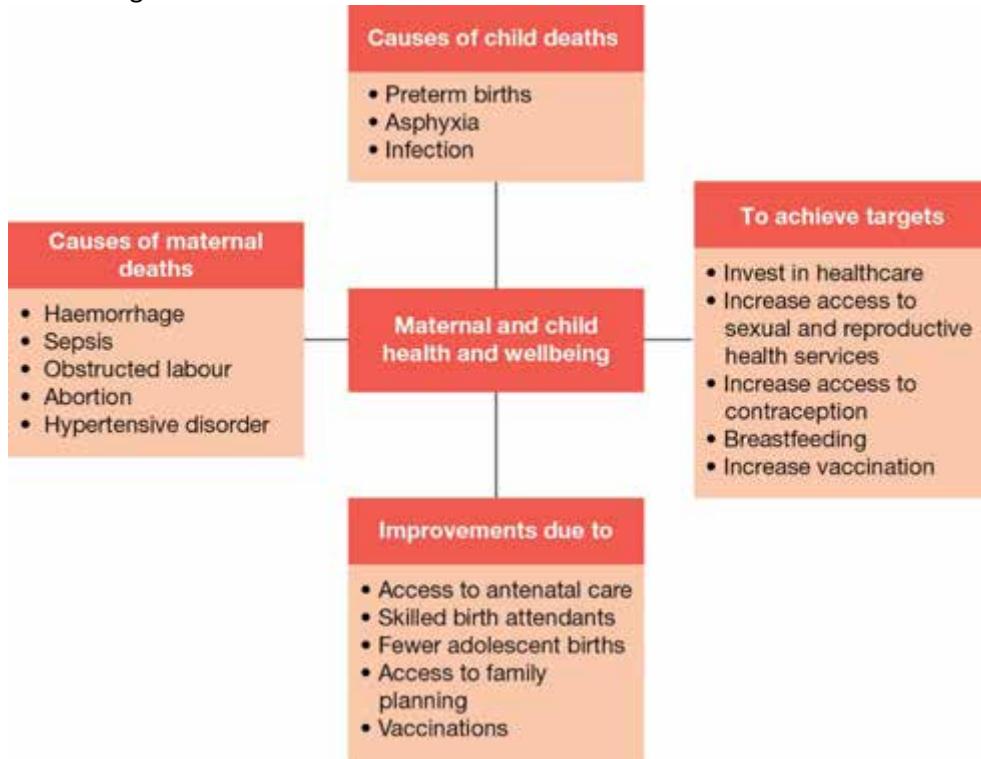
1. The five main causes of maternal mortality are:
  - haemorrhage (excessive bleeding)
  - sepsis (an infection that affects the whole body)
  - obstructed labour (i.e. when the baby cannot pass through the birth canal, either due to the mother's small pelvis or the position of the baby in the uterus)
  - unsafe abortion
  - hypertensive disease (heart conditions caused by high blood pressure). (5 marks)
2. Three ways that maternal mortality rates can be reduced are:
  - increasing investment by governments in healthcare services, particularly in low- and middle-income countries, to ensure all women have access to sexual and reproductive health services
  - increasing access to contraception for women aged 15–49 so they can control the number of children, and the timing and spacing of births
  - reducing the number of adolescents who become pregnant. (3 marks)
3. Most infant 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. (2 marks)
4. The factors that have contributed to reductions in under-five mortality rates include:
  - Improved access to antenatal care

- more births being assisted by skilled health personnel
  - fewer adolescent births
  - greater access to family planning services
  - higher rates of childhood vaccination. (5 marks)
5. COVID-19 is expected to impact on the achievement of the targets for maternal mortality and preventable deaths of newborns and children under five with hundreds of thousands of additional under-five deaths are expected, along with tens of thousands of additional maternal deaths in 2020. Two reasons that might explain this include:
- Increased levels of poverty caused by COVID-19 will have the greatest impact on low- and middle-income countries and families will not be able to afford medical care
  - COVID-19 has placed considerable strain on the health care systems of all countries but low- and middle-income countries have been most affected which means less access to antenatal services and fewer births being able to be attended by trained health personnel
  - COVID-19 has resulted in the deaths of many health care workers and reduced access to trained medical personnel, particularly in low- and middle-income families

**Apply your knowledge**

6. How access to sexual and reproductive health services can help reduce maternal and child mortality:
- By providing access to antenatal care. This means qualified health workers can monitor the mother's and baby's health and reduce the risk of complications.
  - By ensuring that all births are assisted by skilled health personnel who can assist with obstructed labour and provide medical assistance if a baby needs to be born by caesarean section or if haemorrhaging occurs. Giving birth in a medical clinic reduces the risk of infection during childbirth and helps reduce maternal and child deaths.
  - By reducing the number of adolescent girls who become pregnant, accomplished by providing them with access to contraception. Pregnancy during adolescence increases the risk of maternal mortality, as girls are often still developing and their bodies are less able to cope with pregnancy and childbirth. Stillbirths and newborn deaths are also much higher among infants born to adolescent mothers.
  - By providing access to contraceptives or family planning services so 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. (4 marks)
7. Children born into poverty are almost twice as likely to die before the age of five as those from wealthier families because those with fewer resources cannot afford prenatal care and access to trained medical workers when giving birth. This increases the risk of children dying due to birth complications. Living in poverty means women are less nourished and their bodies are not always able to support a healthy pregnancy. This contributes to low birth weight and preterm births, which increase children's risk of dying before their fifth birthday. Without money to afford healthcare, mothers may not be able to vaccinate their children, increasing the risk of dying from communicable diseases; and lack of access to essential medicines means the mother and baby are more likely to die due to infections. (4 marks)
8. Universal health coverage could help reduce under-five mortality because essential healthcare services would be provided to everyone and at a cost that everyone could afford. Mothers could access affordable antenatal care and have their babies born in a health facility with qualified health professionals. This would help reduce death in newborns due to birth complications and infections. Essential medicines, including vaccinations would be provided, and children would have a better chance of not contracting and dying from communicable diseases. (3 marks)

9. Referring to figure 11.10, the main causes of death of newborns are complications associated with being born prematurely, birth asphyxia and birth trauma and neonatal sepsis. The major causes of death of children under 5 are acute respiratory infections, diarrhoea, injuries and malaria. (4 marks)
10. Students could create a mind map like the one below to represent maternal and child health and wellbeing.



(6 marks)

#### 11.4 Exam questions

##### Question 1

SDG 3 — Ensure healthy lives and promote wellbeing for all ages aims to increase access to vaccines for diseases such as measles for all people. This promotes physical health and wellbeing globally, as there will be less under-five mortality worldwide from infectious diseases, which will increase global life expectancy.

##### Question 2

The neonatal period occurs in the first 28 days after birth.

##### Question 3

Examples include:

- governments spending more on healthcare services, particularly in low- and middle-income countries, to ensure all women have access to sexual and reproductive health services
- providing more access to contraception for women aged 15–49 so they can control the number of children, and the timing and spacing of births
- reducing the number of adolescents who become pregnant

##### Question 4

COVID-19 is expected to have a significant impact on achievements made in relation to reducing under five mortality rates, with an expected increase in hundreds of thousands of additional under five deaths in 2020. This will be due to the number of children becoming orphans as a result of their

parents dying from the disease, increased difficulties in accessing health care due to strain on the already stressed health care systems and a decrease in the development assistance or aid that is provided from other countries around the world. COVID-19 will also exacerbate levels of poverty which means the cost of food, clothing, shelter and health care will be even greater in low- and middle-income countries.

### **11.5 SDG 3 Key feature of communicable diseases**

#### **ANSWERS**

##### **11.5 Exercise**

###### **Test your knowledge**

1. 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. AIDS is therefore the condition that occurs due to infection with the HIV virus. (2 marks)
2. The HIV virus 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 can also be passed from an infected mother to a child during pregnancy and birth. (2 marks)
3. Factors that have contributed to the reduction in new cases and deaths from AIDS include improvements in preventing mother-to-child transmission of HIV and reducing deaths of mothers who are infected with HIV. This has been due to the investment in health services enabling more people to access to ART treatment; ongoing research and development for better ways to diagnose the disease; and cheaper medicines. (2 marks)
4. Malaria is a life-threatening disease caused by parasites that are transmitted to people when bitten by infected female mosquitoes. It can be prevented by controlling and eradicating mosquitoes, which is known as vector control. It includes the use of insecticide-treated mosquito nets to protect a person while they are sleeping; the spraying of the inside walls of homes with insecticide to kill and repel mosquitoes; and the use of anti-malarial medicines. (3 marks)
5. The use of insecticide-treated bed nets and internal spraying of homes with insecticide have contributed to the reduction in malaria deaths. (2 marks)
6. TB is preventable with vaccinations and, if diagnosed early, can be treated and cured with appropriate drugs. (2 marks)
7. Neglected tropical diseases are a diverse group of 18 diseases that mainly occur in tropical and subtropical environments. They are referred to as 'neglected' because they have received very little funding in the past by governments and other organisations for research, prevention and control. (1 mark)
8. Neglected tropical diseases can be reduced through vector control which seeks to remove carriers of these diseases such as mosquitoes, ticks, flies, fleas, bugs and worms. (1 mark)
9. Schistosomiasis, trachoma and trypanosomiasis are neglected tropical diseases that cause considerable morbidity and mortality. (3 marks)
10. Hepatitis B and C cause the greatest number of deaths. (2 marks)

**Apply your knowledge**

11. Reducing the number of deaths from AIDS results in an increase in the number of people living with HIV because it means that people are surviving longer with HIV being dormant in the body rather than the virus leading to the breakdown of the immune system that leads to death.  
(2 marks)
12. Climate change is a barrier to reducing NTDs. Vector control is important to remove many of the carriers of NTDs such as mosquitoes, ticks, fleas, flies, bugs and worms. Improved water and sanitation is another effective way to reduce morbidity and mortality from NTDs. Climate change has the potential to increase the risks to interfere with these measures. More floods means more breeding grounds for the vectors that carry these diseases and floods can also disrupt water and sanitation systems. More prolonged drought leaves limited water for sanitation and hygiene, and other environmental events that occur as a result of climate change such as cyclones can destroy water and sanitation systems and increase breeding grounds for vectors carrying NTDs. Climate change can also result in fewer resources being available for research and development of improved diagnosis, treatment and prevention of NTDs as well as better veterinary public health measures. (4 marks)
13. Actions that need to be taken to meet the SDG 3 target for malaria include:
  - Invest in healthcare and the health workforce to ensure universal access to healthcare.
  - Ensure everyone has access to insecticide-treated bed nets and indoor spraying of homes.
  - Invest in research and development of new vector control strategies to overcome anti-malarial drug resistance.
  - Find better ways to diagnose the disease and develop more effective medicines. (3 marks)
14. According to figure 11.14 in the student text, the number of new HIV infections increased sharply between 1990 and 1996. Following this, new HIV infections reduced steadily and between 2010 and 2019 new HIV infections were reduced by 23 per cent.  
According to figure 11.15, a rapid increase in AIDS related deaths occurred between 1990 and 2006, after which time there has been a steady decline with deaths from AIDS related illnesses reducing 39 per cent since 2010.  
Two reasons for the trend evident in each of the graphs include:
  - There has been substantial investment in health services which has seen an increase in the availability of anti-retroviral drugs that effective in delaying and in some cases preventing the progression of HIV to AIDS.
  - There have been significant improvements in preventing mother-to-child transmissions of HIV and reducing deaths of mothers infected with HIV.
  - Ongoing research and development for better ways to diagnose the disease and to provide cheaper medicines has been made. (4 marks)
15. According to figure 11.25 of the student text, the neglected tropical disease that saw the greatest reduction in DALYs between 1990 and 2013 was Ascariasis. (1 mark)
16. 'All forms of hepatitis can be treated and prevented.'
  - There are five types of hepatitis referred to as types A, B, C, D and E.
  - Hepatitis A and E are food- and water-borne infections. Outbreaks of these types of hepatitis are more likely to occur in communities with contaminated water and poor sanitation and are therefore preventable through improved sanitation, hygiene and food supply.
  - There are no specific medicines to treat hepatitis A and E, but most sufferers will recover with bed rest and fluids to prevent dehydration. A vaccine is available for both hepatitis A and E.
  - Hepatitis B and C are blood-borne infections transmitted through unsafe injections and medical procedures, and less commonly through sexual contact. Hepatitis B can also be transferred from mothers to babies at birth. Hepatitis B and C can be prevented through safe medical practices, including ensuring blood supplies are screened and safe from the virus before being used for transfusions; with safe injection practices and safe sex practices.

- There is a vaccine for hepatitis B but no specific treatment. Those with chronic hepatitis B infection can be given drugs to slow the progression of cirrhosis, reduce incidence of liver cancer and improve long-term survival, but there is no cure for the hepatitis B infection. Hepatitis C can be cured.
- Hepatitis D is transmitted through contact with infected blood and only occurs in people who are already infected with hepatitis B virus; it is therefore preventable.
- Therefore, all forms of hepatitis can be prevented and treated in some way, but not all forms can be cured with the treatments currently available. (6 marks)

### **11.5 Exam questions**

#### **Question 1**

Goal 3 — Good Health and Wellbeing, as having access to affordable vaccines is an aim of this goal.

#### **Question 2**

Any three of: AIDS, tuberculosis, malaria, neglected tropical diseases, hepatitis, and water-borne diseases.

#### **Question 3**

Vector control includes the use of insecticide-treated mosquito nets to protect a person while they are sleeping; the spraying of the inside walls of homes with insecticide to kill and repel mosquitoes; and the use of anti-malarial medicines

#### **Question 4**

Ending the AIDS epidemic requires all population groups to have access to prevention, diagnosis and ART. This requires continued investment in healthcare services and ART, and cost-effective testing and ongoing research and development into a vaccine.

#### **Question 5**

Major advances in the prevention, diagnosis and treatment of TB have contributed to the reduction of its mortality and incidence.

### **11.6 SDG 3 Key feature of non-communicable diseases**

## **ANSWERS**

### **11.6 Exercise**

#### **Test your knowledge**

1. Non-communicable diseases are those diseases that occur as a result of lifestyle or environmental factors. (1 mark)
2. Four major risk factors that account for most of the burden of disease associated with non-communicable diseases worldwide are:
  - tobacco use
  - unhealthy diets
  - physical inactivity
  - harmful use of alcohol. (4 marks)
3. Ways that premature mortality from non-communicable diseases could be reduced globally include:
  - implement taxes on alcohol and tobacco products,
  - implement the Framework Convention on Tobacco Control
  - legislate for food labels to include easy to understand information
  - encourage schools and workplaces to find ways to encourage regular physical activity.

(3 marks)

4. Those suffering mental disorders often experience higher rates of morbidity and mortality because mental disorders contribute to poverty and homelessness; those with mental disorders are often stigmatised, suffer discrimination and are denied their basic human rights; and because mental disorders often affect, and are affected by, other diseases such as cancer, cardiovascular disease and HIV/AIDS. (3 marks)
5. Mental health and wellbeing can be improved by:
  - more effective leadership and governance for mental health and wellbeing. It needs to be a high priority for governments of all countries, but particularly low- and middle-income countries. This includes putting in place anti-discrimination laws and social protection for those who suffer from mental disorders.
  - the development and implementation of a range of strategies to promote good mental health and wellbeing and prevent mental disorders
  - more data on the number of people who experience mental health and wellbeing issues
  - more investment in providing a range of mental health services that are accessible to those who need them. (4 marks)
6. Factors that are responsible for road traffic accidents are poor quality roads; unsafe vehicles and driver behaviour, particularly speed; driving while under the influence of alcohol; and other risk-taking behaviours that put people at risk of injury, disability or death. (3 marks)
7. The type of environmental contamination that is responsible for the largest burden of disease worldwide is internal and external air pollution. (1 mark)
8. Diseases that can be attributed to environmental contamination include childhood pneumonia and acute lower respiratory infections, stroke, heart disease, chronic obstructive pulmonary disease and lung cancer in adults. Diseases due to unsafe water, sanitation and hygiene are diarrhoeal diseases, malnutrition, intestinal worm infections, and schistosomiasis. (2 marks)

#### Apply your knowledge

9. The information in figure 11.35 shows that Africa and the Americas are the two regions where the prevalence of obesity in adults has increased the most between 2005 and 2019. (2 marks)
10. The information in figure 11.36 shows that the rates of childhood obesity have declined in low-income countries which is a positive trend. However, the rates of childhood obesity in lower-middle and upper middle income countries have increased between 2000 and 2019. This is an issue for these countries because they are simultaneously dealing with undernutrition and increasing rates of obesity. This places considerable stress on healthcare systems that are already struggling to cope. (2 marks)
11. ‘Reducing road traffic accidents requires a coordinated approach.’ This is true, as reducing road traffic accidents must involve the transport sector, police, health and education sectors. Good road infrastructure is important, along with ensuring that vehicles on the road are safe and in good working condition. Education, healthy public policy and law enforcement are needed to modify driver behaviour and, in the event of a road accident, emergency services and quality healthcare are needed to ensure those who are injured can get immediate and longer-term treatment. (3 marks)
12. Alcohol increases the risk of developing cancer and death and injury due to accidents, including road accidents. Illicit drugs contribute to the spread of HIV. Injecting drugs carry a high risk of infection with blood-borne viruses such as HIV, hepatitis C and hepatitis B. Therefore, reducing drug and alcohol misuse could assist in reducing the burden of disease associated with other diseases that are part of SDG 3; namely cancer, HIV, hepatitis and road traffic accidents. (4 marks)

#### 11.6 Exam questions

##### Question 1

Suitable responses include:

- Substance abuse is a major burden of disease globally and therefore needs to be addressed
- Drug, tobacco and alcohol abuse is a significant problem in both developed and developing countries
- Drug, tobacco and alcohol abuse contributes significantly to global morbidity and mortality rates.

**Question 2**

Goal 3 — Good Health and Wellbeing.

A feature of this goal is to strengthen the prevention and treatment of drug and alcohol abuse. This is reflected in the data as it is about the world extent of substance abuse, including use of illicit drugs, alcohol and tobacco.

**Question 3**

Diabetes, cancer and cardiovascular disease are all non-communicable diseases.

**Question 4**

Mental disorders such as depression can be treated if they are diagnosed accurately. However, the availability of specialised and general mental health workers in low- and middle-income countries is extremely low, which means most mental disorders go undiagnosed and untreated. Almost half the world's population live in countries where, on average, there is one psychiatrist to serve approximately 200 000 people.

**Question 5**

Changes in our lifestyle have contributed to the increased incidence of non-communicable diseases. Levels of physical activity have declined while the consumption of energy dense foods has increased. This has led to a rise in both adult and childhood obesity, a risk factor for many non-communicable diseases.

## **11.7 The relationships between SDG 3 and SDG 1**

### **ANSWERS**

#### **11.7 Activities**

##### **Neglected tropical diseases worksheet**

- a. The seven most common neglected tropical diseases are:

- elephantiasis
- snail fever
- trachoma
- river blindness
- roundworm
- whipworm
- hookworm.

- b. One in six people worldwide are infected with neglected tropical diseases.

Eliminating neglected tropical diseases (NDDs) is critical to ending extreme poverty. These diseases are responsible for the stunting of half a billion children worldwide and causing anaemia in mothers, which is a major risk factor for low birth weight in low- and middle-income countries. Neglected tropical diseases also increase the susceptibility of sufferers to other diseases such as malaria and HIV. Neglected tropical diseases occur in some of the poorest regions of the world; therefore, if good health and wellbeing is to be achieved for everyone, the poverty that causes neglected tropical diseases must be addressed. SDG 3 and SDG 1 are therefore closely related

## 11.7 Exercise

### Test your knowledge

1. Extreme poverty is defined as the number of people who live on less than US\$1.90 per day. (1 mark)
2. Two other causes of poverty are discrimination and social exclusion. Women, youth, the elderly, migrants and those with a disability are most at risk of poverty due to discrimination and social exclusion. (2 marks)
3. Social protection measures are measures that are put in place to prevent individuals and families from suffering from poverty as a result of a crisis or other unexpected event. They include healthcare, income security for children, those who become sick or disabled, and the elderly. Social protection measures are important because they help ensure that poverty reduction is sustainable in the long term. (3 marks)
4. *How poverty affects health and wellbeing and human development:*
  - Poverty has a significant impact on health and wellbeing.
    - When individuals and families are poor, they can't afford to purchase food, clean water, clothing, shelter and healthcare. This brings about malnutrition and poor physical health.
    - Those who are poor are more vulnerable to air and water pollution and other hazards, such as landslides, drought and flooding, all of which carry physical and mental health and wellbeing risks.
    - Without the necessary resources, people are unable to access medical care and protect their children through vaccination. This brings about high death rates from infectious diseases such as tuberculosis, measles, whooping cough (pertussis), cholera, malaria and tetanus.
    - With increased levels of illness comes reduced mental and emotional health. People feel disempowered and have lower self-esteem. Social health and wellbeing is reduced as children are too sick to attend school, and social networks are reduced when people are ill.
  - Human development is also affected by poverty.
    - With few resources, families struggle to afford to educate their children. This reduces opportunities for people to find and remain in a job. Without an education and income, people have less chance of gaining knowledge and achieving a decent standard of living. This also impacts on security and the achievement of human rights. In turn this reduces opportunities for people to participate in political and community life.
    - Women often carry the greatest burden of poverty, which reduces gender equality and impacts on human development. (4 marks)
5. Goal 1 focuses on strengthening community resilience and reducing exposure to environmental disasters because, if a country is affected by natural disasters or outbreaks of disease, it can be plunged into poverty. When strategies are put in place to help reduce such risks and minimise their impact, the number of people who become poor as a result can be decreased. (2 marks)

### Apply your knowledge

6. Children born into poverty are almost twice as likely to die before the age of five compared to those born into wealthier families because poorer families are less able to afford basic healthcare, including immunisation. This leads to higher rates of death from vaccine-preventable diseases such as measles, tetanus, tuberculosis and whooping cough. With less access to health services, diseases such as malaria, cholera and diarrhoea are also more likely to occur, increasing the likelihood of children dying before their fifth birthday. (4 marks)
7.
  - a. Globally, 10 per cent of people in 2015 were living in poverty. In the four years between 2015-2019, the proportion had decreased to 8.2 per cent. With a projected pre COVID level of achievement estimated to be 7.4 per cent in 2021. This was an ambitious target to

- eliminate poverty by 2030. However, as a consequence of COVID-19, this proportion is expected to increase to 8.8 per cent in 2020. This will mean the likelihood of meeting the aim of eradicating poverty by 2030, very unlikely. (2 marks)
- b. COVID-19 has had a negative impact on the aim to eliminate poverty by 2030. Globally the number of people who have become ill from the virus and have therefore been unable to work has been significant. This has reduced the level of income for thousands of families and individuals who were already struggling to make ends meet. In addition, the world has essentially shut down, with the tourism industry being affected in a major way. Many low- and middle-income families rely on tourism for their livelihoods, especially women. This essentially was cut off as a result of COVID-19, plunging many women and families into poverty. Deaths due to COVID-19 have also left many families without a wage earner, again plunging many families further into poverty. (2 marks)
8. *Examples of how SDG 1 and SDG 3 are related:*
- Policies designed to achieve SDG 1 will also help achieve SDG 3. When governments of countries that are poor do not invest resources to provide public health services, such as safe water and sanitation, preventative health programs, healthcare, education and social security benefits (needed to achieve SDG 1), this affects the ability of people to enjoy good health and wellbeing (SDG 3).
  - Providing universal health cover as part of achieving SDG 3 will help improve physical health and wellbeing by ensuring everyone can access healthcare when needed, at a cost they can afford. This will help address SDG 1 as improved physical health and wellbeing means people are able to work and children are well enough to attend school. This increases education levels and the ability to gain well-paid employment, which helps alleviate poverty.
  - Ending poverty and achieving good health and wellbeing relies upon countries having strategies in place to help reduce risks, minimise the impact of events and ensure people do not experience poverty because of an event. Putting in place social protection measures as part of SDG 3 ensures everyone will have access to food, shelter and education; and will have income security in the event of unemployment, illness, maternity, disability or old age.
  - Many of the economic, social and environmental actions that need to be taken to achieve SDG 1 and SDG 3 require collaboration across different sectors such as welfare, finance, legal, health, water and sanitation, and industry. Implementing social protection measures has been successful in reducing the levels of poverty in many countries, and introducing laws that protect human rights such as gender equality helps improve the health and wellbeing of women. Laws aimed at reducing tobacco consumption not only improve health and wellbeing but can also help reduce poverty. (4 marks)

### **11.7 Exam questions**

#### **Question 1**

Source: VCE 2017, *Health and Human Development Exam*, Q.10.b; © VCAA

A decline in global poverty should see more income available in families to send children, especially girls, to school. Educated girls are more likely to marry later and have fewer children. If girls marry later and have fewer children, the risk of death during childbirth is reduced. This may have contributed to a reduction in maternal deaths between 1990 and 2015.

A decline in global poverty may see more money available by governments for the establishment of healthcare centres in rural areas. This may mean that pregnant women in these areas will have improved access to antenatal care and a trained healthcare worker present during childbirth. Access to antenatal care and a trained birth attendant will assist in reducing maternal mortality and may have contributed to a reduction in maternal deaths between 1990 and 2015.

#### **VCAA Examination Report note:**

## *Topic 11: Sustainable Development Goals and the World Health Organization*

This question assessed students' ability to apply the concept of global poverty to a reduction in maternal deaths. Many students struggled to discuss two ways that a decline in global poverty could contribute to a decline in maternal mortality. A common error was to present a discussion that was focused around pregnancy without linking the discussion to maternal mortality. Where students identified improved nutrition, many were unable to link it to reduced maternal mortality.

The following is an example of a high-scoring response.

*-If people are being brought out of the poverty cycle, they will be able to afford education/schooling. This will promote health-related knowledge, and therefore women will be more aware of the importance of family planning for example. This will mean mothers can space out when they have children, reducing the risk of maternal mortality between 1990 and 2015.*

*-Reduction in poverty will mean pregnant women will have the money to access health care when pregnant. This will ensure the pregnancy is going well and, when it's time to give birth, the woman will have trained midwives etc present to ensure a safe delivery, thus reducing rates of maternal death/mortality.*

### **Question 2**

The graph shows that the global number of extreme poor has decreased over time since 1990, from 1926 million in 1990 to 836 million in 2015.

### **Question 3**

Sustainable Development Goal 1 — No Poverty is about implementing social protection measures and halving the number of people living in poverty.

### **Question 4**

SDG 3 — Ensure healthy lives and promote wellbeing for all ages is about ending epidemics of communicable diseases such as HIV/AIDS, tuberculosis and malaria. Working toward achievement of this goal should see a global increase in the health of adults. Healthy adults are able to work and earn an income for themselves and their families, which will help achieve SDG 1 — No poverty as it should decrease the number of people living in extreme poverty.

### **Question 5**

SDG 3 — Ensure healthy lives and promote wellbeing for all ages is about reducing communicable and non-communicable illness and diseases, and promoting access to essential and affordable medicines. Achieving this goal will see improved health and wellbeing for children and adults alike, which will help achieve SDG 1 — No poverty, as healthy adults can work and earn a living, decreasing poverty and increasing economic growth. This relationship between the goals should improve human development as adults and their children can lead productive and creative lives as they are well enough and have sufficient income to do so. Improved health and the ability to work will also increase choices and capabilities and provide access to a decent standard of living.

## **11.8 The relationships between SDG 3 and SDG 2**

### **ANSWERS**

#### **Case study review: Three smart ways innovation is helping reduce food loss and waste**

1. As a result of the pandemic people's food security and nutrition is at risk in many countries. It also hurts the livelihoods of small producers. Therefore we cannot afford food loss and waste.

2. The restrictions in movement and quarantine measures caused by the COVID-19 have increased the levels of food loss and waste across the world. Fresh produce such as tomatoes are rotting on vines because there is no one to pick them and no markets to bring foods to sell. COVID has meant that people have less access to food than they did before.
3. Two ways that smart phone Apps can be used to reduce food loss and waste are:
  - Too Good to Go is an app that gives shops and restaurants in many cities a platform to sell their surplus food at reduced prices at the end of the day. For example, in Rome, app users can find food offered at discounted prices by a neighbourhood market, a large supermarket chain and popular city eateries.
  - The Feeding India app, focuses on donations of food for those in need. Restaurants and individuals can sign up on the app to donate food, which is then collected and distributed by this non-profit's network of more than 4 500 volunteers. These regular feeding programmes run in more than 45 Indian cities and have served over 4.8 million meals so far.
  - In Kenya, the Twiga Foods platform connects 3 000 food outlets a day with fresh produce through a network of 17 000 farmers and 8 000 vendors, allowing restaurants to buy only what they need and farmers to deliver more efficiently. The company has reduced typical post-harvest losses in Kenya from 30 percent to 4 percent for produce brought to markets on the Twiga network.
4. Packaging is an important consideration in reducing food loss and waste because a large proportion of produce is lost during transportation due to the type of packaging used. This loss can range between 20 and 50 percent for fruits and vegetables. Improved packaging can dramatically improve handling in the supply chain and have a huge impact on the income and food security of local farmers. It also contributes to improving the quality and shelf life of food for consumers.
5. Two examples of how the packaging and transport of food has been improved using either 3D printing design or simple equipment.
  - An FAO project used large crates to transport perishable vegetables which substantially reduced losses and allowed farmers to sell a larger proportion of their produce. FAO provided groups of smallholder farmers with crates to get them started and trained them on food-handling best practices, including in transport.
  - The FAO offers online, open-source 3D designs of innovative equipment (equipment that the Organization itself uses in country projects) for download and use. One of the most popular downloads is a multipurpose wooden crate for the transport, handling, storage and retail display of produce, reducing the need for the produce to be transferred from one box to another.

### **11.8 Activities**

#### **Undernutrition worksheet**

- a. SDG 2 aims to end hunger, and achieve food and nutrition security globally.
- b. Good nutrition is an essential foundation for health and development.
- c. Malnutrition is a significant global concern because it is the single biggest contributor to child mortality. It is the cause of 45 per cent of the 6.3 million preventable deaths in children under five, which is approximately 2.8 million children each year.
- d. Ensuring all children receive adequate nutrition in the first 1000 days of life will help save lives, address inequality and build resilient communities.

#### **End malnutrition worksheet**

- a. Undernutrition in children can lead to stunting. When a child is stunted, brain cells develop less well, there are fewer of them and they have less connectivity, leading to decreased school function and decreased performance in work life. This in turn contributes to poverty. The undernourished child is also at increased risk of disease.

- b. Sub Saharan Africa and South Asia have the highest rates of malnutrition.
- c. Malnutrition can be treated through exclusive breast feeding and ensuring children are immunised and have access to safe water and sanitation.
- d. It is most important to address malnutrition during pregnancy to two years of age.

### **11.8 Exercise**

#### **Test your knowledge**

1. Hunger is the continuing lack of food needed for an active and healthy life. It includes undernutrition, where people do not have enough food to meet their daily energy requirements; and malnutrition, where there is a lack of specific nutrients needed for the effective functioning of the body. (2 marks)
2. Food security refers to people having access to nutritious food that is culturally appropriate, safe to eat and readily available. (1 mark)
3. Micronutrients of concern when people are undernourished include iron, vitamin A, zinc and iodine. (2 marks)
4. When people are malnourished and suffer ill health, human development is reduced. 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. Those who are hungry and malnourished will not be able to attend school; go to work and develop the skills and knowledge needed to get decent work; or participate in the social and political lives of their communities. All this reduces human development. (3 marks)

#### **Apply your knowledge**

5. Poverty and hunger are interrelated. When people are poor, they struggle to find the resources needed to purchase healthy food and clean water to drink. This means they are often forced to drink contaminated water, which is a major cause of diarrhoea. This contributes to ongoing hunger and malnutrition. A lack of food and hunger leads to a poorly developed immune system and reduced physical health and wellbeing. This affects people's ability to work and has a significant effect on women, who are responsible for farming, collecting water and looking after children. When children are ill, they are unable to attend school and therefore are less likely to gain paid employment later in life. This contributes to a cycle of poverty and hunger which impacts on health and wellbeing. In this way, SDGs 1, 2 and 3 are interrelated. (4 marks)
6. Hunger, immunity and disease are related. Hunger weakens the immune system and children particularly, 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. (3 marks)
7. Collaborative action between SDG 2 and SDG 3 is necessary to promote health and wellbeing and human development because:
  - Good health and wellbeing cannot be achieved without ending hunger and ensuring that everyone has access to nutritious food in sufficient quantities. Therefore, actions taken to promote good health and wellbeing must take into account actions to end hunger.
  - Healthy food is needed to enable children to grow; this promotes physical health and wellbeing.
  - Maternal and child health will be improved with access to nutritious food, contributing to reductions in under-five and maternal mortality rates. With improved nutrition, children will be at reduced risk of contracting and dying from communicable diseases such as malaria and hepatitis, and vaccine-preventable diseases such as measles and tuberculosis.
  - Well-nourished mothers are more likely to give birth to healthier babies and to experience good health and wellbeing during pregnancy and childbirth. A well-nourished population is a healthier one, and this will help reduce the demand for health services and corresponding costs to the healthcare system.

- Well-nourished children and adults have the energy they need to explore their environment, to concentrate and to learn new skills and knowledge. Children can attend school, and adults can work and support their families. This contributes to good social health and wellbeing.
- When people are healthy they feel happier, which promotes mental health and wellbeing.
- Healthy people feel more empowered and confident, which increases their emotional health and wellbeing.
- Healthy people are more likely to become engaged in their community and have a sense of high self-esteem. This improves their spiritual health and wellbeing.
- A population with good physical, social, mental, emotional and spiritual wellbeing is more likely to enjoy a long and healthy life and have a decent standard of living. This promotes human development. (4 marks)

### **11.8 Exam questions**

#### **Question 1**

The proportion of undernourished people in 2014–16 was 12.9 per cent.

#### **Question 2**

Goal 2 — Zero Hunger is about ending hunger and malnutrition and promoting sustainable agriculture to ensure adequate food for all.

#### **Question 3**

SDG 3 — Ensure healthy lives and promote wellbeing for all ages is about reducing communicable and non-communicable illness and diseases. Achieving this goal will see adults who are healthy and able to work earn sufficient income to purchase adequate and nutritious foods for themselves and their children, reducing hunger and achieving SDG 2. This relationship between the goals should improve human development as children who are no longer hungry have the energy to go to school and learn, increasing their capabilities and choices in life. Children and adults can participate in the life of their community and can lead productive and creative lives as they are healthy and not hampered by hunger and malnutrition.

#### **Question 4**

SDG 3 — Good health and wellbeing is about ensuring people have access to essential and affordable medicines and vaccines. Increasing access to affordable medicines means that adults can be treated for illness and disease, enabling them to work and earn an income. This should help in the achievement of SDG 2 — Zero hunger as sufficient income allows families to purchase adequate and nutritious food, which will reduce hunger and malnutrition.

#### **Question 5**

SDG 2 — Zero hunger is about reducing hunger and malnutrition. Children who are receiving sufficient and nutritious food have well developed immune systems. This will make them less vulnerable to communicable diseases such as measles, which can be fatal in infants and children under 5. This should help in the achievement of SDG 3 — Good health and wellbeing as it will contribute to less infant and child mortality.

### **11.9 The relationships between SDG 3 and SDG 4**

## **ANSWERS**

### **11.9 Activity**

#### **Quality education worksheet**

- a. Education is important because its benefits extend beyond the individual: it helps people get a good job and be healthy; it helps society be more peaceful; and it helps countries be more

- secure. Currently education is not equally available to all; children in emergencies, girls and the disabled are often left out.
- b. This is because SDG 4 extends beyond primary education. It includes early childhood and pre-primary education, which is important for brain development. It also encompasses secondary education and education that builds the skills required for jobs.
  - c. Lifelong learning means that people can retrain at any time through life to get back into the workforce. It is important because if people lose their jobs, retraining helps them find new work, thus earning an income to help keep their families out of poverty.
  - d. Education benefits societies because it reduces the gap between those who are educated and those who are not. This leads to more peaceful societies
  - e. Having educated girls leads to a healthier society because educated girls have fewer babies and are more likely to access healthcare services for the children they do have. The children of educated girls are more likely to survive and more likely to go to school themselves.

### **11.9 Exercise**

#### **Test your knowledge**

- 1. The focus of SDG 4 is for girls and boys 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. (2 marks)
- 2. Girls are less likely to enrol in and complete primary and secondary education than boys because factors such as drought, food shortages, armed conflict, poverty, child labour and HIV/AIDS are more likely to interfere with girls' enrolment in school. For families on limited incomes, male children are often provided with educational opportunities before their female siblings. Lack of access to water and sanitation means girls must spend a significant proportion of their day fetching water; they therefore cannot attend school. The lack of sanitation facilities also impacts on girls' enrolment at school; families are less likely to send their female children to school if separate and private toileting facilities are not provided for girls. (4 marks)
- 3. Trained and qualified teachers are important for the achievement of quality education because they are more likely to deliver a relevant curriculum, ensure the educational experience is productive and help build the necessary knowledge and skills. (2 marks)
- 4. Education impacts human development as it helps develop the skills, values and attitudes that enable people to lead healthy and fulfilling lives, make informed decisions, and respond to local and global challenges, such as climate change. Education helps build knowledge and helps achieve gender equality, which is necessary if all people are to have control over the decisions that affect their lives. Educated people are more likely to gain paid employment, which provides the resources needed to live a long and healthy life. (4 marks)
- 5. Children from poorer households are four times more likely not to be in school than those from wealthier households because poorer families are usually unable to afford to send their children to school. Children from poor families are often required to work to help families get enough money to pay for the basic resources needed to survive. (3 marks)
- 6. There has been progress in achieving universal primary education. At the global level, the participation rate in early childhood and primary education was 70 per cent in 2016, up from 63 per cent in 2010, however, there is a lot of variation across countries and regions. The lowest rates are in sub-Saharan Africa (41 per cent) and Northern Africa and Western Asia (52 per cent). Youth literacy rates were estimated to be 93 per cent for young men and 82 per cent for young women in 2016. However, there remained an estimated 103 million illiterate youth and 124 million children and youth not enrolled in school. In addition, 757 million adults, two-thirds of whom were women, could not read or write. Children from the poorest households are still four times more likely not to be enrolled in school than those from the wealthier households. Differences between rural and urban areas also remain high. (4 marks)
- 7. 617 million or 58 per cent of children and adolescents of primary and lower-secondary level are not meeting minimum standards in reading and mathematics. This is important because reading

and writing skills provide an opportunity for the development of vocational skills and well-paid employment which creates income and contributes to economic growth. (2 marks)

#### **Apply your knowledge**

8. Children in rural areas are more likely not to be in school than those in urban areas as there are fewer schools available in rural areas, so the children there must travel long distances to get to school. Many families living in rural areas need to walk long distances to collect water and firewood, and this role is often carried out by women and children. Children are often required to work in the fields and help family members to earn an income. (3 marks)
9. Actions taken to achieve SDG 4 will also contribute to the achievement of SDG 3 because:
  - An educated and skilled workforce contributes to greater economic growth. Economic growth provides more resources for governments to invest in universal healthcare, essential medicines and social protection measures. People are able to access preventative and curative health services, which helps reduce morbidity and mortality from communicable and non-communicable diseases.
  - Educating women and girls 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 as mothers without an education.
  - At an individual level, education and employment provides income for families to be able to purchase nutritious food, water, clothing and shelter, as well as being able to afford healthcare and education, all of which promotes health and wellbeing. 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.
  - The achievement of good health and wellbeing means that children can attend school and learn the knowledge and skills required to contribute to the workforce and become employed. (4 marks)

#### **11.9 Exam questions**

##### **Question 1**

Access to preschool and kindergarten helps build the foundations for literacy and numeracy and promotes social health and wellbeing and human development. Preschool and kindergarten provides opportunities for children to learn through play and develop their creativity and problem solving. This promotes both social and mental health and wellbeing. Education at all levels is important if we are to achieve SDG 3.

##### **Question 2**

Another aim of SDG 4- Quality education is to ensure all adults have equal access to affordable and quality technical, vocational and tertiary education.

##### **Question 3**

SDG 4 — Quality education is about ensuring all children have equal access to high quality education at all levels from pre-primary through to tertiary education. Achievement of this goal will promote human development as all children, boys and girls alike, will have the opportunity to gain numeracy and literacy skills, which will increase their capabilities and choices in life. A quality education will also allow children to lead productive and creative lives in accordance with their needs and interests.

##### **Question 4**

If all children have equal access to quality education, they will gain health-promoting knowledge such as the link between hygiene and sanitation. This knowledge will promote SDG 3, as all children

and their families will now know the importance of washing hands after using a toilet and of not defecating in the open. This should reduce the spread of communicable diseases, such as diarrhoea, and decrease infant and child morbidity and mortality rates.

**Question 5**

SDG 3 — Ensure healthy lives and promote wellbeing for all ages is about ensuring people, particularly children, have access to essential and affordable medicines and vaccines. Increasing access to affordable vaccines assists in the achievement of SDG 4 — Quality education as fewer children will become ill from diseases such as measles, enabling them to be well enough and have the energy to attend school and gain numeracy and literacy skills. Having these skills will enable children to develop their vocational skills, which will increase their employment opportunities in the future.

**11.10 The relationships between SDG 3 and SDG 5**

**ANSWERS**

**Case study review: Digital technologies can reduce the gender gap**

1. Mobile phone ownership of women in developing (low-income) countries is much lower than for men. 1.7 billion women do not own a mobile phone and on average, are 14 per cent less likely to own a mobile phone than men.
2. There are barriers in relation to women accessing the internet. Women are less likely to own and have access to the internet than men but they also lack control over the use of technology with many women believing it is not appropriate for that family and friends would not approve.
3. Digital technologies can reduce the gender gap in the world as they can make work arrangements more flexible, connect women to work and generate new opportunities in online work, ecommerce and the sharing economy. Technology can also improve women's access to and accumulation of productive assets. Mobile money and online learning can also benefit women. The ICT industry provides jobs that are well-paid and digital technologies provide employment opportunities for women.
4. Digital technologies can advance women's voice and agency as social media provides an outlet for women to participate in public discussions and voice their opinions. Mobile money increases women's control over economic resources.

**11.10 Activity**

**Gender equality worksheet**

- a. This means that everyone must be treated equally because each of us is human. Everyone has the right to inclusion, protection and dignity.
- b. The groups most likely to be affected by inequalities are the elderly, those living with a disability, migrants, minorities, indigenous peoples, the displaced and those living in poverty and human settlements, children, women and adolescents.

**11.10 Exercise**

**Test your knowledge**

1. Gender equality means women and men have the same level of power and control over all aspects of their lives. (1 mark)
2. The aim of SDG 5 is to end discrimination and violence against women and girls by addressing the barriers that exist to gender equality. (2 marks)
3. Women face discrimination in all areas of political, economic and social life. They are often denied access to education and healthcare, are under-represented in political and economic decision-making processes, and do not have equal access to paid work. They are discriminated

against in the laws of some countries where they are not permitted to vote, to own property, to take out loans from banks or to take ownership of possessions arising from an inheritance. (3 marks)

4. Women and girls in some countries are the property of their husband, who has the right to marry off his daughters at a young age or to sell children into prostitution. With no legal right to ownership of property or access to finance, women can be powerless and vulnerable to trafficking and sexual exploitation. (2 marks)
5. Women lack access to work beyond the agricultural sector, where they tend to undertake almost 80 per cent of the unpaid work. Unpaid work includes housework such as preparing meals, fetching firewood, collecting water and caring for children, the sick and older people, in the home and community. Therefore, women have less time than men for other activities, including paid work and education. (2 marks)
6. Mobile phones help women feel safer and more connected; they save time, and enable access to key services such mobile finances and health information. Mobile phones offer a new way of delivering services and have the potential to increase access to education and employment opportunities that have traditionally been denied many women. (3 marks)

**Apply your knowledge**

7. Women spend approximately three times as many hours in unpaid domestic work as men. This is a problem because women have less time than men for other activities, including paid work and education. This means women have fewer choices and are less empowered to have control over their own lives, reducing their level of human development. (2 marks)
8. It is important for women to have leadership roles in government because they can promote policies that address the socioeconomic and political challenges facing themselves and their children. Women can also help reduce the level of corruption in government and are often strongly committed to peace. When women are represented in government, there are positive developments in education, infrastructure and health at the local level. Where rates of gender development and empowerment are higher, standards of living are also higher. (3 marks)
9. Girls' education and fertility rates are strongly linked. Educated mothers have fewer and healthier children. It is believed that education provides women with greater confidence and the information they need to make informed choices, which empowers them to have greater control over their fertility. Educated women are more likely to engage in paid employment, so having more children requires taking more time off work. This increases the cost of having children and often results in women having fewer children. (3 marks)
10.
  - a. Sub Saharan Africa with 34.5 per cent of children and youth married before the age of 18 in 2019.
  - b. The region with the greatest decline in child marriage between 2009 and 2019 was Southern Asia, reducing from 47.1 per cent in 2009 to 29.2 per cent in 2019.
  - c. When girls are forced into marriage at a young age, they usually drop out of education and become pregnant before their bodies have adequately matured to deal with pregnancy and childbirth. When young girls give birth, they are more likely to suffer from obstetric fistula and other complications associated with pregnancy and childbirth such as excessive bleeding. This increases their risk of dying during childbirth. Young girls are also more likely to be at risk of contracting HIV/AIDs from older men whom they often marry.

Dropping out of school means they are more likely to live in poverty, further reducing their levels of health and wellbeing. Uneducated girls are also more likely to have more children which increases the stress on their bodies and less spacing between births. When girls are educated they are more likely to have children who are healthier and this helps reduce levels of infant and under five mortality rates.

11. Collaborative action between SDG 5 and SDG 3 is necessary to promote health and wellbeing and human development because:
- The achievement of good health and wellbeing is not possible without the achievement of gender equality. When women are denied access to education and healthcare, are under-represented in political and economic decision-making processes, and do not have equal access to paid work, they are not able to experience good physical health and wellbeing.
  - Without access to healthcare and education, women are less likely to have the knowledge necessary to prevent ill health. When they do become ill, they are less able to be treated quickly and receive treatment and care; this affects physical health and wellbeing.
  - When ill, women are less able to work and to develop social networks; this impacts social health and wellbeing.
  - Gender equality is a human right and one of the conditions necessary for human development. Without gender equality, women are often not permitted to vote, to own property, to take out loans from banks or to take ownership of possessions arising from an inheritance. Gender inequality diminishes self-esteem and confidence, and reduces emotional and mental health and wellbeing. This reduces human development.
  - Without access to education and health, women are unable to develop the necessary knowledge and skills needed to achieve a decent standard of living or to enjoy a long and healthy life. And without gender equality, women lack the opportunity to have control over the decisions that affect their life. Therefore, collaboration is essential between actions taken to improve health and wellbeing and to achieve gender equality. (15 marks)

### **11.10 Exam questions**

#### **Question 1**

SDG 5 — Gender equality is about eliminating harmful practices such as child marriage and female mutilation. Eliminating harmful practices such as child marriage should help in the achievement of SDG 3 — Ensure healthy lives and promote wellbeing for all ages. Girls who marry young are more likely to become pregnant at a young age, which increases the risk of maternal death due to long and difficult childbirth. Reducing this should contribute to less maternal mortality due to pregnancy and birth complications.

#### **Question 2**

SDG 5 — Gender equality is about ending all forms of discrimination and violence against women. This could promote human development as, if women are treated equally, they have greater opportunities in education and work, enabling them to live productive and creative lives in accordance with their needs and interests. It will also allow women to participate more fully in their community and have greater control over the decisions that impact on their lives.

#### **Question 3**

This is related to SDG 5 — Gender equality, as this goal is about decreasing discrimination against women and girls.

#### **Question 4**

The minimum age of marriage for women has been raised to 18 years. This could improve the physical health and wellbeing of Mozambiquan women, as fewer young girls will be forced into early marriage and suffer conditions such as fistula from protracted births because of their underdeveloped reproductive systems.

#### **Question 5**

The Sustainable Development Goal that is the main focus is SDG 5 — Gender equality.

## 11.11 The relationships between SDG 3 and SDG 6

### ANSWERS

#### Case study COVID-19 will not be stopped without providing safe water to people living in vulnerability – UN experts

1. Washing hands with soap and clean water is vital in the fight against COVID-19 to ensure good hygiene. However, this fight has little chance of succeeding if personal hygiene, the main measure to prevent contagion, is unavailable to the 2.2 billion persons who have no access to safe water services.
2. The groups of people identified as needing continuous access to sufficient and affordable water include people living in informal settlements, those who are homeless, rural populations, women, children, older persons, people with disabilities, migrants and refugees.
3. Actions by the government that are recommended to help ensure people have access to safe water and hygiene are to immediately prohibit water cuts to those who cannot pay water bills and provide water free of cost for the duration of the crisis to people in poverty and those affected by economic hardship. Public and private service providers must also be enforced to comply with these measures.
4. ‘Economically vulnerable people will become victims of a vicious cycle’ means that with limited access to water those in poverty are more likely to get infected. Infection then leads to illness and isolation measures, making it difficult for people without social security to continue earning a living. Their vulnerability increases, which results in even more limited access to water.

### 11.11 Activity

#### Clean water and sanitation worksheet

- a. Forty-one countries experienced water stress in 2011.
- b. One in four people are predicted to be affected by water shortages in 2050.
- c. SDG 6 aims to ensure universal access to safe drinking water by 2030.
- d. Actions required to achieve this goal include international cooperation to improve water efficiency and protect and restore water related ecosystems. It also calls for international investment in developing adequate water infrastructure, improving sanitation facilities and supporting treatment technologies in low- and middle-income countries.

### 11.11 Exercise

#### Test your knowledge

1. Each person needs 20–50 litres of water each day for drinking, cooking and hygiene. (1 mark)
2. Sanitation is the safe disposal of human waste as well as the maintenance of hygienic conditions through garbage collection and disposal, and the disposal of waste water. (2 marks)
3. Water can become contaminated by animals and humans excreting into a water catchment area, contaminated water seeping into leaky or damaged pipes in a distribution system, and from unhygienic handling of stored household water. Contamination can also occur from industrial and agricultural waste such as pesticides, arsenic and other chemicals that are dumped into lakes and rivers. (3 marks)
4. Diseases associated with a lack of access to safe water and sanitation include diarrhoea, schistosomiasis (a disease caused by parasitic worms), cholera, dysentery, hepatitis A, typhoid and trachoma. (2 marks)
5. Water scarcity is a problem because it is predicted to become a major cause of conflict. (1 mark)
6. To ensure everyone has access to safe water and sanitation by 2030, there needs to be investment in adequate infrastructure, sanitation facilities and hygiene education that is culturally appropriate. (3 marks)

#### Apply your knowledge

7. Access to safe water and sanitation is a basic human right because water is indispensable for leading a life in dignity, and it is a prerequisite for the achievement of other human rights.

(2 marks)

8. Improved water quality and sanitation can contribute to poverty reduction, which in turn reduces malnutrition. For every dollar spent on sanitation, there is a \$5.50 return as people become healthy and productive. It is estimated that economic gains from safe water and sanitation are around \$260 billion each year. This helps countries to increase their wealth, which provides opportunities for further investment in water and sanitation. When people are healthy, they can work and therefore have the resources needed to purchase food and medical care, which reduces malnutrition. (3 marks)
9. Collaborative action between SDG 6 and SDG 3 is necessary to promote health and wellbeing and human development because:
  - Actions taken by the water and sanitation sector to achieve SDG 6 underpin the ability to achieve SDG 3. Without clean water and sanitation, reductions in maternal and child mortality, communicable diseases and diseases caused by soil and water pollution and contamination will not be achieved. Unsafe water is the major cause of diarrhoea, which results in the death of millions of children worldwide.
  - Ensuring people have access to high-quality healthcare services is also impacted. In low- and middle-income countries, 25 per cent of healthcare facilities themselves lack any water source, 10 per cent do not have improved sanitation and 33 per cent lack water and soap for hand washing.
  - Safe water and sanitation is a basic human right that underpins the achievement of human development as well as contributing to environmental sustainability. Without safe water and sanitation, people are unable to achieve a decent standard of living or live a long and healthy life, which impacts human development.
  - 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 by keeping people healthy and productive. The potential global economic gains from investing in sanitation and water are estimated to be \$260 billion per year. These economic gains provide greater capacity for countries to invest resources into providing universal healthcare, sexual and reproductive health services and access to essential and affordable medicines and vaccines, and so help achieve SDG 3.

(4 marks)

### **11.11 Exam questions**

#### **Question 1**

The focus of SDG 6 is to ensure that all people can enjoy clean water and adequate sanitation.

#### **Question 2**

If people have access to clean, safe, affordable drinking water (SDG 6 — Clean water and sanitation) then they will be free from illness such as diarrhoea, a major cause of death in infants and children. This can help achieve SDG 3, as this goal is about reducing infant and child mortality.

#### **Question 3**

Through the achievement of SDG 6 — Clean water and sanitation, more people have access to safe water and adequate sanitation. This can improve physical health and wellbeing of children and adults, as there will be fewer waterborne diseases, such as diarrhoea. Both children and adults should have the energy to attend work and school, which improves human development, as it creates an environment where both adults and children can participate in the life of their communities. Children can also enhance capabilities such numeracy and literacy skills, and adults through work can increase their access to a decent standard of living.

#### **Question 4**

SDG 3 — Ensure healthy lives and promote wellbeing for all ages is about reducing communicable and non-communicable diseases. If people are free from illness and disease they can work and contribute taxes to their country. Taxes can be used to ensure communities have access to safe water and sanitation through the establishment of water and sanitation infrastructures, leading to achievement of SDG 6 — Clean water and sanitation.

If SDG 6 — Clean water and sanitation is achieved, people will have improved access to safe and affordable drinking water and adequate sanitation. This will help achieve SDG 3 — Ensure healthy lives and promote wellbeing for all ages, as safe drinking water will decrease infant and child mortality rates from diseases such as diarrhoea caused by unsafe water. Also, if people have access to a toilet, less defecation outside will occur, resulting in cleaner and safer water supplies and also reducing risk of infection and disease.

### **Question 5**

Actions that need to be taken to ensure everyone has access to safe water and sanitation by 2030 include countries investing in adequate infrastructure, providing sanitation facilities and encouraging hygiene practices. People also need to be educated so they understand the links between clean water, sanitation and health and wellbeing. This should be done in a way that involves participation from local communities to ensure culturally appropriate communication tools are used and school-based programs are implemented.

## **11.12 The relationships between SDG 3 and SDG 13**

### **ANSWERS**

#### **11.12 Activity**

##### **Climate change worksheet**

###### *Climate change 1*

- a. Effects of climate change:
  - Each of the 16 months leading up to September 2016 broke the record for global average high temperatures.
  - During September 2016, the Arctic sea ice reached its lowest extent ever, and much of the sea ice that lasts more than year has declined since 1984.
  - Antarctic sea ice is the lowest it has ever been.
  - Oceans have risen 84.8 mm since 1993, or 3.34 mm per year. This has led to inland flooding.
  - Levels of carbon dioxide have reached levels never seen before.

###### *Climate change 2*

- b. Rapid response is considered to be key to tackling malnutrition because children receive emergency food supplies and intervention through the use of technology and medical care, and this helps reduce mortality from extreme malnutrition.
- c. Plumpy nut is a high-protein, high-energy peanut paste that is fortified with additional vitamins and minerals that helps address malnutrition. It is a form of emergency food aid.
- d. The drought in Chad has meant that food is in short supply and transporting it to the village is very expensive. Many families are unable to afford to purchase the food that is available.
- e. Climate change has resulted in changing weather patterns and severe drought in Chad. Agriculture has been crippled and livestock destroyed by it. Recent harvests yielded enough grain to feed the region for only two weeks. Desertification has occurred, the soil has disappeared and nothing grows in the sand. This has led to severe food shortages, and highly priced food and unbalanced diets that have resulted in widespread and chronic child malnutrition. As a result of climate change (SDG 13), health and wellbeing (SDG 3) has been reduced.

### 11.12 Exercise

#### Test your knowledge

1. The over-reliance on fossil fuels and the resulting greenhouse gases have contributed to global warming and increasing sea levels. (2 marks)
2. Rising sea levels are of concern for many people because those living in small island states and other coastal regions, and those living in cities that are built on the coast, are at risk of losing their homes and livelihood. More than half of the world's population lives within 60 km of the sea. (2 marks)
3. Climate change is expected to bring about an increase in:
  - infectious diseases due to increased humidity and heat from droughts, flood and heat waves. This increase in heat and humidity will provide ideal breeding grounds for vector-borne diseases like malaria, dengue fever and other neglected tropical diseases.
  - allergies and asthma due to an increase in air pollution and pollen seasons.
  - deaths from cardiovascular and respiratory disease, particularly among elderly people. This is due to extreme high air temperatures which raises the levels of ozone and pollutants in the air.
  - hunger and malnutrition as food production is affected by increased drought in some areas and flooding in others. Drought significantly limits food production while flooding can contaminate sources of fresh water and increase the risk of diarrhoeal diseases.(4 marks)
4. Action that can be taken to reduce carbon emissions and household air pollution is to transform existing energy, industry, transport, food, agriculture and forestry systems. (2 marks)

#### Apply your knowledge

5. The establishment of a Green Climate Fund is important in acting on climate change because it would provide low- and middle-income countries with financial and technical support to develop and implement new initiatives. The Green Climate Fund was created and designed to generate funds to support international action as climate change needs to be addressed by all countries, not just high-income countries. (2 marks)
6. The home solar system in Africa could assist in promoting health and wellbeing and human development because:
  - Electricity can be used to provide lighting. Lighting increases the level of safety, particularly for women and girls. This improves emotional and mental health and wellbeing as they no longer feel frightened outside at night, and are at less risk of sexual and physical violence. This reduces the level of trauma experienced by women and girls.
  - Lighting can reduce the level of poverty. Women can work at night in the home making homewares that can be sold at markets to generate an income. Children can read and study at night which helps them gain an education. This improves human development as it enables people to gain knowledge and increases their chances of obtaining employment. Paid work provides an income that can be used to achieve a decent standard of living and to purchase basic needs such as food, water, shelter and healthcare, all of which can help promote life expectancy and increases the control that people have over the decisions that affect their lives. (4 marks)
7. SDG 13 and SDG 3 are interdependent. Many policies and individual actions have the potential to reduce greenhouse gas emissions and improve health and wellbeing. Cleaner energy systems, promoting energy efficient public transport and alternatives such as cycling or walking rather than private vehicles, could reduce carbon emissions and household air pollution, thereby helping reduce current morbidity and mortality rates.  
The achievement of SDG 3 is dependent upon collaborative action being taken to address climate change. Clean water and sanitation underpins the achievement of reducing child deaths from diseases such as diarrhoea. Ending the epidemics of infectious diseases cannot be achieved if climate change produces conditions that increase the risk of these diseases.

Similarly, reducing premature mortality from non-communicable diseases is compromised when climate change produces conditions that increase the risk of these diseases. Reducing deaths and illnesses from hazardous chemicals, air, water and soil pollution will not be achieved if the effects of climate change are not addressed.

Actions to address climate change will also protect and promote health and wellbeing and achieve SDG 3. It will bring about a planet that is not only more environmentally intact, but also has cleaner air, safer water, more food, more effective and fairer health and social protection systems and healthier people—what is good for the planet is also good for health. (4 marks)

### 11.12 Exam questions

#### Question 1

Source: VCE 2019, *Health and Human Development Exam*, Q.5; © VCAA

The following is an example of a high-scoring response:

*By addressing the HIV/AIDS epidemic, health and wellbeing can be significantly improved and SDG 4: Quality education can be achieved. The HIV/AIDS program must be addressed in order to improve health and wellbeing as despite AIDS related deaths (all ages) decreasing over time from approximately 1.5M in 200 to approx. 1M in 2015 (source 1), ‘every minute of every day a girl aged between 15–24 years gets HIV in sub-Saharan Africa’ (source 2), highlighting that the HIV/AIDS epidemic continues to harm individuals. By addressing the HIV/AIDS epidemic, there can be a reduction in the spread of communicable diseases, a key feature of SDG 3: Good health and wellbeing. Moreover, as the HIV/AIDS epidemic results in girls being ‘forced to work in the sex industry’ (source 3), addressing the epidemic can reduce levels of stress and anxiety in girls [...], leading to an improvement in mental health and wellbeing. This can simultaneously decrease the development of mental conditions (e.g. depression) in such girls, decreasing the prevalence of non-communicable diseases and mental conditions, another key features of SDG 3. Furthermore, in addressing the HIV/AIDS epidemic, less families will be devastated by the loss of a loved one, such as Mosiya who was orphaned as ‘both parents (died) from AIDS complications’ (source 3). This can increase levels of peace and harmony, leading to improvements in spiritual health and wellbeing, as well as maintaining a supportive network of family and friends for people like Mosiya, leading to improvements in social health and wellbeing. Thus, in addressing the HIV/AIDS epidemic, as in 2015, approx. 2.2M adults and children acquired HIV (source 2), more families would have stable sources of income. This would mean that children like Mosiya wouldn’t be ‘forced to leave school and work’ (source 3), and instead could receive an education and acquire literacy and numeracy skills, helping to achieve SDG 4: Quality education. Moreover, by addressing the HIV/AIDS epidemic, more adults would be healthy enough to return to school and university to develop greater skills and knowledge, aiding the achievement of SDG 4: Quality education. Thus, addressing the HIV/AIDS epidemic can lead to significant improvements in health and wellbeing and the achievement of SDG 4: Quality education.*

This answer is marked holistically, so the following guide may be used to mark student responses.

High	9–10 marks	<ul style="list-style-type: none"><li>Answer clearly analysed how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing as well as one other SDG.</li><li>Response made clear links to characteristics of the dimensions of health and wellbeing.</li><li>A thorough understanding of the key features of SDG 3 and one other SDG were shown and effectively able to be connected.</li></ul>
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		<ul style="list-style-type: none"> <li>Information from all three sources was used well to support the analysis showing it was well understood.</li> <li>Response was well structured and coherent.</li> </ul>
	7–8 marks	<ul style="list-style-type: none"> <li>Answer analysed how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing with links to the dimensions of health and wellbeing.</li> <li>An understanding of the key features of SDG 3 and one other SDG were shown and some connection was evident.</li> <li>Information from all three sources was included with some success with it supporting the analysis made.</li> <li>Response had some structure and flow to it.</li> </ul>
Medium	5–6 marks	<ul style="list-style-type: none"> <li>A general understanding of how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing with a link to dimensions of health and wellbeing</li> <li>Limited knowledge and understanding of the key features of SDG 3 and one other SDG was evident.</li> <li>Source information was included with an attempt to support the statements being made.</li> <li>Response had some structure and flow to it.</li> </ul>
	3–4 marks	<ul style="list-style-type: none"> <li>A general understanding of how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing with a link to dimensions of health and wellbeing</li> <li>Limited knowledge and understanding of the key features of SDG 3 was evident.</li> <li>Limited source information was included.</li> </ul>
Low	1–2 marks	<ul style="list-style-type: none"> <li>An attempt was made to show how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing with a link to dimensions of health and wellbeing.</li> </ul>
	0 marks	<ul style="list-style-type: none"> <li>Incorrect information provided</li> </ul>

**VCAA Examination Report note:**

Student responses were scored on the interplay between how well:

- the stimulus material and related concepts had been understood, connected and synthesised
- the stimulus material had been used to support the analysis of how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing and an SDG (besides SDG 3)
- key features of SDG 3 were used to support how addressing the HIV/AIDS epidemic could lead to an improvement in health and wellbeing and another SDG
- the response was structured for clarity and coherence.

Common errors in response to this question included discussing the negative impacts of HIV/AIDS or how another SDG could assist in addressing the HIV/AIDS epidemic, neither of which answered the question. Many responses did not include specific features of SDG 3 and did not demonstrate specific knowledge of another SDG. Although many responses made links to dimensions of health and wellbeing, in a lot of cases this was the main emphasis of the response and other key

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requirements were neglected. Most responses referred to all three sources of information, which was a fundamental requirement of the question.

### **Question 2**

If progress towards achievement of SDG 13 is slow, then greenhouse gas emissions will continue to occur at an alarming rate, increasing extreme weather events. This could impact on the achievement of SDG 3 as extreme weather events can trigger asthma attacks or increase the rate of injuries, which will slow the achievement of reducing the incidence of non-communicable diseases.

### **Question 3**

As a result of climate change, grain yields have decreased, which may lead to a food shortage particularly for those in low- and middle-income countries. A lack of food can impair the functioning of the immune system, particularly in infants and children. Impaired immunity can increase the susceptibility to diseases such as measles and malaria, impacting on the achievement of SDG 3 — Ensure healthy lives and promote wellbeing for all ages, in particular reducing infant and child mortality.

### **Question 4**

- a. Underground irrigation (karezes) and canal systems will be rehabilitated to reduce water losses and enhance agricultural productivity. Through this action, agricultural productivity will be enhanced, ensuring an adequate food supply. This should assist in the achievement of SDG 3 — Ensure healthy lives and promote wellbeing for all ages, as having sufficient food should help reduce disease and illness associated with undernutrition where infants and children are particularly vulnerable, which will help reduce infant and child mortality.
  
- b. The article represents SDG 13 — Action climate change.

### **Question 5**

Actions that are required if we are to achieve the targets for SDG 13 include all countries making a commitment to transforming existing energy, industry, transport, food, agriculture and forestry systems to reduce greenhouse gas emissions and global warming. Countries also need to develop their capacity to anticipate extreme weather events through early warning systems. They also need to become more resilient to the effects of climate change and put in place strategies to reduce the effects of extreme weather events when they do occur, such as the protection of water and sanitation systems.

## **11.13 The UN's Sustainable Development Goals and the World Health Organization**

### **ANSWERS**

#### **Case study review: Antibiotic resistance still poses substantial risk despite fall in antibiotic use, report finds**

1. It is important for antibiotics not to be overprescribed because several dangerous bacteria are growing increasingly resistant to common medicines.
2. Common pathogens that have shown to have developed resistance to antibiotics are *Staphylococcus aureus* or golden staph, *E. coli*, the most common cause of urinary tract infections (UTIs), *Salmonella* and the bacteria that cause gonorrhoea.
3. The pathogen of particular concern in relation to resistance to antibiotics is *Staphylococcus aureus* or golden staph. It is of particular concern because it is relatively common, living on people's hands and skin but can cause a range of mild to severe infections, including meningitis and pneumonia. It is starting to impact aged care homes and remote areas.

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4. Antibiotics are most likely to be overprescribed in aged care homes where more than half of prescriptions were issued to residents with no signs or symptoms of infection.
5. In 2017, more than 10 million Australians had at least one antibiotic dispensed, and more than 26 million prescriptions for antimicrobials were issued. An average of 290 people die in Australia each year as a result of infections from eight drug-resistant bacteria.
6. An increase in drug-resistance pathogens will impact both individuals and the community. From a community perspective hospitals would come under further pressure to take care of people when pharmacy medications failed. From an individual perspective, people will need to be hospitalised and put on an intravenous antibiotic because there are no tablets available to treat diseases.

### **11.13 Activities**

#### **Universal health coverage: Maya worksheet**

- a. Affordable healthcare meant that Maya could get her broken arm treated at a medical clinic without plunging her family into debt. It meant her family did not have to decide between treating Maya's arm and buying food.
- b. Countries provide affordable healthcare so they have healthy citizens who build healthy communities; and healthy communities build healthy countries where everyone can thrive and contribute. This increases health and wellbeing, improves economic growth and improves human development.

#### **Universal Health Coverage: Right. Smart. Overdue. worksheet**

- a. Universal health coverage is the single most powerful concept that public health has to offer because it has the opportunity to stop the largest killers such as cancer, TB, HIV, malaria and heart disease. It can also help advance gender equality; build resilience to threats such as climate change and disease outbreaks; and put us on the path to ending poverty.
- b. Universal health coverage is designed to keep everyone as healthy as possible. Health is a human right, and universal health coverage provides the tool to ensure the health of the poor is the same as the health of the rich.
- c. People who need health services the most are often those who are unable to afford them. Each year, one in five people are pushed into or fall further into poverty by having to pay for healthcare.

By ensuring good health and financial stability, universal health coverage encourages all people to reach their full potential. When people are healthy, they can attend school or work, benefiting families, communities and entire countries as a result.

### **11.13 Exercise**

#### **Test your knowledge**

1. The WHO was established in 1948. (1 mark)
2. The WHO's mission is to promote health, keep the world safe and serve the vulnerable. (1 mark)
3. The three principles that underpin the WHO's work are:
  - The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political beliefs, economic or social condition.
  - The health of all peoples is fundamental to the attainment of peace and security and is dependent on the fullest cooperation of individuals and States.
  - Unequal development in different countries in the promotion of health and control of diseases, especially communicable disease, is a common danger. (3 marks)
4. Three core functions of the WHO could include any of the following:

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Function	Explanation
Provide leadership and create partnerships to promote health and wellbeing	The WHO works with member states and other agencies to develop international policies and regulations to prevent and manage disease outbreaks and coordinate relief efforts in times of disaster
Conduct research and provide health and wellbeing information	The WHO works with others to ensure the most up-to-date research is available to help inform decisions that promote health and wellbeing; prevent and control diseases, improve health systems; and help achieve universal access to healthcare. WHO provides expertise in research and development to improve the way in which diseases can be prevented, diagnosed, managed and treated
Set norms and standards, and promote and monitor their implementation	The WHO works with other agencies and governments to standardize the way research is carried out, the use of common indicators for the collection of data and the health and wellbeing terminology that is used. This makes it more effective and efficient to share information, monitor the impact of disease and evaluate the effectiveness of programs and initiatives.
Develop policies to help countries take action to promote health and wellbeing	Policies help governments and the global community implement action that is known to be effective in bringing about improvements in health and wellbeing. The WHO helps countries adapt these policies to meet their local context and helps governments implement them.
Provide technical support and help build sustainable health systems	The WHO provides advice and support to countries to implement changes in areas such as the provision of universal healthcare, health financing and a trained workforce. They help countries strengthen their capacity for early warning, risk reduction and the management of health and wellbeing risks.
Monitor health and wellbeing and assess health and wellbeing trends	The WHO has developed a Global Health Observatory which stores and shares health related data. It helps countries identify who is getting ill, from which diseases and how and where they are getting ill so resources can be targeted to where they are needed most.

(6 marks)

5. The WHO's three strategic priorities are:
  - Achieving universal health coverage — 1 billion more people benefitting from universal health coverage
  - Addressing health emergencies — 1 billion more people better protected from health emergencies
  - Promoting healthier populations — 1 billion people enjoying better health and wellbeing.
 (3 marks)
6. The table below includes the name of the relevant WHO strategic priority for each of the examples provided. (7 marks)

Example	Relevant WHO strategic priority
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Ensure people can access high-quality essential medicines when they need them at an affordable cost.	Achieving universal health coverage
Put in place recommended actions to reduce the spread of a new disease.	Addressing health emergencies
Ensure all people have access to health services during a health emergency.	Addressing health emergencies
When people are sick ensure they can access medical treatment at an affordable cost.	Achieving universal health coverage
Address risk factors such as tobacco and alcohol misuse.	Promoting healthier populations
Work to eliminate diseases such as polio and tuberculosis.	Promoting healthier populations
Investing in sexual and reproductive health services.	Promoting healthier populations

### Apply your knowledge

7. The purpose of the International Health Regulations (2005) is to prevent the spread of diseases from one country to another. This can include restrictions on people coming into the country by air, road, train or other forms of transport. It is designed to ensure that diseases, such as Ebola and the Zika virus, do not spread and become epidemics on a global scale. (3 marks)
8. How diseases such as tuberculosis could be reduced using the WHO strategic priorities:

WHO priority	How the strategic priority could address tuberculosis
Universal health coverage	<ul style="list-style-type: none"> <li>• This will help ensure all people have access to the health services they need to prevent and treat tuberculosis. This may include diagnosis and information.</li> <li>• Sufferers and their families can be provided with health information that will decrease the chances of spreading tuberculosis to others and assist with its elimination.</li> <li>• It is important that people with TB have access to appropriate antibiotics to treat the disease. This will help improve the lives of sufferers and their families, and enable people to continue to work and reduce the level of poverty.</li> <li>• Ensure there are sufficient trained health workers available to provide health care services to everyone who needs them</li> <li>• WHO will work with countries to improve health information systems to enable the monitoring of TB infections and track morbidity and mortality rates associated with TB.</li> <li>• When countries have good governance for health and development, outbreaks of tuberculosis can be acted upon quickly to reduce the risks of it spreading.</li> </ul>
Addressing health emergencies	<ul style="list-style-type: none"> <li>• The International Health Regulations can be used by the WHO to provide advice and measures that all countries should take to reduce the spread of tuberculosis and better control the worldwide spread of the disease.</li> </ul>
Promoting healthier populations	<ul style="list-style-type: none"> <li>• WHO will accelerate prevention, control and elimination efforts by introducing cost-effective and high-impact interventions and try to eliminate tuberculosis.</li> <li>• Clean water and sanitation also builds healthier immune systems which enables people to better fight tuberculosis.</li> <li>• WHO will work with countries to increase awareness and understanding of the correct use of antimicrobial medicines for tuberculosis and promote research and development into ways of addressing antimicrobial resistance to the disease</li> </ul>

(6 marks)

### **11.13 Exam questions**

#### **Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.7; © VCAA

a. A strategic priority of WHO that is reflected in the stimulus material is ‘Achieving universal health coverage’. Achieving universal health coverage focuses on helping every country to have strong and resilient health systems based on primary health care, health promotion and disease prevention. This is achieved by ensuring everyone has access to good quality, affordable health care by trained health care workers. This is made possible through the increased awareness, education and training for health care workers in antimicrobial resistance so they can provide good quality health care.

Award 1 mark for accurately identifying a strategic priority of the World Health Organization reflected in the stimulus material.

Award 1 mark for describing the strategic priority.

Award 1 mark for showing an understanding of how the strategic priority is reflected in the stimulus material.

#### **VCAA Examination Report note:**

This question was not handled well. While students could identify a strategic priority of the World Health Organization (WHO), most did not include a description of it. Many students who identified the priority correctly tried to demonstrate how it was evident in the case study by simply restating part of the stimulus material without showing any understanding of how it reflected the priority identified.

The following is an example of a possible response.

Addressing health emergencies – the WHO works towards promoting health for all with governments providing access to lifesaving health services during epidemics and other health emergencies, including health promotion. The WHO supports member countries to build processes in preparation for health emergencies. Health emergencies require access to medications such as antibiotics. These drugs will be more effective if reducing antibiotic resistance is achieved.

Many students also provided high-scoring responses using one of the other two priorities ('Promoting healthier populations' and 'Achieving universal health coverage').

b. WHO works to provide leadership and create partnerships to promote health and wellbeing. They do this by working with countries and other agencies to develop policies and regulations to prevent and manage outbreaks of disease. By having these policies in place an outbreak of disease may be able to be contained more effectively thereby reducing the number of people infected with the disease which can lead to good physical health and wellbeing.

Award 1 mark for identifying and briefly explaining an example of the work WHO undertakes.

Award 1 mark for linking the work of WHO to a characteristic of a dimension of health and wellbeing.

#### **VCAA Examination Report note:**

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The question required students to provide an example of how the WHO works and then make a meaningful link to a dimension of health and wellbeing for two marks. While students could draw on their knowledge of the core functions of the WHO to formulate a response, this was not a requirement. The most common error was providing general answers relating to what the WHO aims to achieve (e.g. to reduce the impact of communicable diseases) without including how the WHO actually achieves this (e.g. carrying out and funding research in relation to the development of vaccines).

The following is an example of a high-scoring response.

Provide technical support and help build sustainable health systems: by helping countries build a stable health care system that can benefit the population, by being accessible to all and provide quality services, the WHO is able to reduce stress/anxiety in those populations, as they will be able to access health if they need it (without falling into poverty), which positively contributes to mental health and wellbeing

### **Question 2**

Source: *VCE 2017, Health and Human Development Exam, Q.11.b.i;* © VCAA

Universal health coverage means all people have access to the health services they need without causing financial hardship.

### **Question 3**

Source: *VCE 2017, Health and Human Development Exam, Q.11.b.ii;* © VCAA

Universal health coverage ensures that all people can access treatment for diseases without fear of financial hardship. This promotes global health, as more people will be treated for diseases, decreasing morbidity and mortality worldwide, and ensuring greater equity in health.

#### ***VCAA Examination Report note:***

Many students found this question challenging and were unable to explain how universal health coverage can promote global health. A common error was failing to consider that global health extends beyond individuals and focuses on achieving equity in health for all people worldwide. Students who understood the concept of global health were able to answer this question.

### **Question 4**

Achieving universal health coverage — The infographic asks “Are there policies in place to make quality services available to everyone, every time?” and “Who will pay for it?”. Both are key questions relevant to achieving universal health coverage as it is about all people being able to obtain the health services they need, regardless of the ability to pay.

### **Question 5**

WHO priorities include:

- Achieving universal coverage - this priority is about providing all people, regardless of where they live, with access to quality essential health-care services. It is also about providing safe and effective essential medicines and vaccines, and ensuring health care, medicines and vaccines are provided at a cost everyone can afford.
- Addressing health emergencies - this priority is about increasing the capacity to reduce the risk from high threat infectious hazards and health emergencies and that all people have quick access to essential health services during health emergencies.

- Promoting healthier populations - this priority is about improving human capital across the life span, by accelerating action on preventing non-communicable diseases and accelerating elimination and eradication of high impact communicable diseases, promoting mental health, tackling antimicrobial resistance and addressing health effects of climate change in small island developing States and other vulnerable States.

### **11.14 Topic 11 Key Skills**

#### **ANSWERS: PRACTISE THE KEY SKILL**

1. The objectives of the Sustainable Development Goals are to end extreme poverty, fight inequality and injustice and address climate change.
2. The SDGs were introduced for three main reasons:
  - There was a need for a new set of goals to guide global action when the Millennium Development Goals expired in 2015.
  - Progress that had been made in a wide range of areas was not shared equally and many people were being left behind. These tended to be the poorest and those who are disadvantaged due to sex, age, disability, ethnicity and geographical location.
  - New global challenges had emerged that needed to be addressed.
3. The SDGs are important because they direct global action to:
  - End poverty and hunger
  - Promote health and wellbeing
  - Address inequalities within and among countries
  - Build peaceful, just and inclusive societies
  - Protect human rights
  - Promote gender equity and the empowerment of women and girls.
4. The SDGs represented in the program is SDG 3: Good health and wellbeing, SDG 4: Quality education and SDG 5: Gender equality.
5. This program would help achieve SDG 3 as it would help reduce maternal and child mortality and has the potential to reduce deaths from infectious diseases and NTDs. Women in remote and disadvantaged areas are at greater risk of dying during child birth. Trained health care workers can provide antenatal care and assist with childbirth. This will help reduce deaths from sepsis due to poor hygiene during childbirth, support caesarian section in the event of obstructed labour, diagnose and treat hypertensive disorders, all of which are the major causes of maternal mortality and reduce the incidence of fistula which can occur following difficult births. Trained healthcare workers can also provide women with family planning options which will reduce unsafe abortions and allow women to control the timing and spacing of births and result in better maternal health. Antenatal care and trained health workers can also assist in reducing the death of newborns and those under five. Health workers can provide vaccinations for children to protect them from infectious diseases such as measles and provide health education and hygiene advice which will help reduce diarrhoea and improve health and wellbeing and under-five mortality rates. Encouraging women to breastfeed will help reduce malnutrition and child mortality. Trained health care workers can also treat diseases such as NTDs, malaria and tuberculosis all of which contribute to morbidity and mortality and help achieve SDG 3.
6. This program would contribute to health and wellbeing and human development globally because:
  - Access to healthcare provides people with essential preventative healthcare, medicines and vaccinations which help reduce the level of communicable diseases such as TB, malaria, measles and tetanus. This improves physical health and wellbeing. Access to trained birth attendants improves health and wellbeing by reducing the risk of mothers and neonates dying during childbirth. Antenatal care also provides early diagnosis of difficulties associated with pregnancy and can help reduce complications and therefore improves the health and wellbeing of mothers and neonates.

Access to health care provides mothers with important health information such as the importance of safe water and sanitation which reduces morbidity and mortality from diarrhoea.

- Access to healthcare improves human development. When people experience improved health and wellbeing, children are able to attend school and adults can work. This generates income that can be used to purchase adequate food, clothing, shelter and education. This contributes to the achievement of a decent standard of living. When women and girls are educated, they are more empowered, have greater control over the decisions that affect their lives and are more likely to participate in the social and political lives of their communities. This contributes to improved human development.
7. Two ways that the WHO might work to assist countries in reducing deaths from dengue fever and reduce the spread of the disease include:
- *Conduct research and provide health information* — the WHO could undertake research on dengue fever and develop better ways to control the spread of and prevent and treat the condition, given it is spreading to non-tropical areas. Once more information is known about the disease, the WHO could provide information for all countries on how to address the disease.
  - *Monitor health and assess health trends* — the WHO could continue to monitor the incidence and prevalence of dengue fever, and its transmission and spread within and across countries. The WHO could use this information to make decisions about the actions that should be taken and the advice that should be provided to respective countries in order to address the disease and reduce its transmission. This is evident in the release of the Dengue Fever Strategy.
  - *Develop policies to help countries take action to promote health and wellbeing* — the WHO has introduced policies to help governments and the global community implement action known to be effective in reducing dengue fever. The WHO can help countries where Dengue fever is affecting, to adapt these policies to meet their local context and assist governments to implement them.
8. WHO priorities that could be used to address the spread of dengue fever:

<b>WHO priority</b>	<b>How the priority could address DENGUE fever</b>
Achieving universal health coverage	<p>This will ensure all people have access to the health services and the medication they need to treat dengue fever. This would include diagnosis and information about how to prevent the disease.</p> <p>Sufferers of dengue fever need access to appropriate medication to deal with the effects of the disease. This will help improve the lives of sufferers and their families, and enable people to continue to work and reduce the level of poverty.</p>
Addressing health emergencies	The International Health Regulations can be used by the WHO to provide advice and measures that countries should take to reduce the spread of dengue fever.
Promoting healthier populations	<p>Achieving the target of reducing deaths from dengue fever by 50 percent cannot be achieved without significantly accelerating prevention, control and elimination efforts by introducing cost-effective and high-impact interventions. The disease is becoming a major public health challenge and WHO will increase their efforts to support the implementation of actions designed to address this disease.</p> <p>As a possible consequence of climate change, the rainy season in many countries is lengthening which is resulting in an increase in this disease.</p>

### **11.15 Topic 11 review**

#### **EXTENDED RESPONSE**

Answers to the extended response question will be marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected and synthesised
- Understanding of:
  - the relationship between maternal mortality rates and universal health coverage (coverage of essential health services)
  - reasons why collaborative action across one other SDG will be necessary to achieve the 2030 target of reducing maternal mortality to less than 70 per 100 000 live births.

The following table shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used.

As outlined previously, the first step is to determine if the response best fits the ‘not shown’, ‘low’, ‘medium’ or ‘high’ band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a ‘medium’ score if these components have been completed to a high standard.

Once a determination of ‘high’, ‘medium’, ‘low’ or ‘not shown’ is made, a decision can be made as to where the response fits within the category.

Band	Mark range	Criteria				
		How the response has been structured	How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected and synthesised	Understanding of the relationship between maternal mortality rates and universal health coverage	Understanding of why collaborative action across one other SDG is necessary to achieve 2030 target
High	7-8	Organises ideas to provide clarity of discussion.	Synthesises stimulus material to make multiple connections	Integrates discussion of own knowledge to make multiple connections	Discusses universal health coverage and makes multiple connections to maternal mortality	Discusses one SDG and makes comprehensive connections on how collaborative action is necessary to reduce maternal mortality
Medium	6	Ideas are organised but may not read as well as stronger answers	Stimulus material is understood with relevant examples used to support the discussion	Concepts are discussed clearly with connections made to the question	Discusses universal health coverage and makes connections to maternal mortality	Discusses one SDG and makes clear connections to how collaborative action could be made to reduce maternal mortality
	5	Ideas are organised but there may be issues with how it is structured and may be a little difficult to follow.	Stimulus material is understood and examples from <b>all sources</b> have been used to support the discussion	Broad or general concepts are discussed	Explains universal health coverage and connects it to a range of aspects related to maternal mortality	Explains one SDG and makes broad and general connections to how collaborative action could be made to reduce maternal mortality
	4	Ideas are loosely organised and sequenced	Simplistic connections are made between the stimulus material and the question	Broad or general statements are made that connect with some aspects of the question	Explains universal health cover with connections made to some aspects of maternal mortality	Outlines one SDG and makes connections to how collaborative action could reduce some aspects of maternal mortality
Low	3	Lacks coherent structure	Simplistic connections are made with <b>at least 2 sources</b> and the question	Statements are made with simplistic connections to the question	Broad statements about universal health coverage with simplistic links to maternal mortality	Broad statements are made about one SDG with simplistic connections made to maternal mortality

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	2	Lacks coherent structure	Stimulus material is restated with connections made to the question	Information is stated with limited connections to the question	General statements about universal health coverage with limited links to maternal mortality	General statements are made about one SDG where collaborative action can be taken
	1	Poorly structured and difficult to follow	Limited stimulus material is used and is copied with vague connections made to the question	Limited information is used with vague connections to the question	Limited information on universal health coverage is provided with vague connections to maternal mortality	One SDG where collaborative action is needed is identified
Not shown	0	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding

**An example of a high scoring response is:**

Universal health coverage is a prerequisite for reducing maternal mortality. It refers to expanding health and wellbeing services to provide access to everyone at a cost that does not cause them to suffer financial hardship. Where access to universal health coverage is low, maternal mortality rates are high. This can be seen in source 1 which shows that between 2010 and 2017, as the percentage of people provided access to universal health coverage increased, maternal mortality rates decreased. Source 1 also shows that access to universal health coverage is the lowest shown, rates of maternal mortality were also the highest.

Women must be provided with antenatal care during pregnancy that is delivered by qualified health care workers. This means that the mother's and baby's health and wellbeing can be monitored to reduce the risk of complications or to take preventative action if complications are identified. Preeclampsia is one such complication that is responsible for many maternal deaths in low-income countries. Universal health coverage means women can give birth in a medical clinic which is safe and sterile, protecting mothers from infection and death. Attendance by trained health care workers also means that in the event of an obstructed labour, then a caesarean section can be undertaken with less risk to the health and wellbeing of the mother.

Universal health coverage provides women with access to family planning which means women can control the timing and spacing of births. Two years between pregnancies is recommended to allow a mother's body to fully recover which helps reduce complications and contributes to a reduction in maternal mortality rates.

Pregnancy during adolescence puts girls at an increased risk of dying from complications during pregnancy. This is because a teenager's body is still developing and is less able to cope with the physical demands of pregnancy and childbirth. Source 2 states that despite improvements in teenage marriage, 34.5 percent of girls or 1 in 5 in Sub-Saharan Africa are married before the age of 18. As shown in source 1, Sub-Saharan Africa continues to have high rates of maternal mortality. Consistent with the information in source 1, rates of teenage marriage have declined in the 10 years leading up to 2019, which has contributed to improvements in maternal mortality.

To achieve the 2030 target to reduce maternal mortality to less than 70 per 100 000 live births, collaborative action is required across other SDGs. One SDG that underpins this success is SDG 5 Gender equality. Source 3 highlights that women are more likely to live in poverty than men. Globally there are 122 women aged 25-34 living in extreme poverty for every 100 men. It also highlights that without gender equality, the current unequal access to, and control over economic resources that are the main cause of poverty, will not be able to be addressed. This in turn means women will continue to die during pregnancy and childbirth. Poverty is a major contributor to maternal mortality. Gender inequality that leads to poverty means women are denied access to education and adequate nutrition. Good nutrition, particularly the intake of sufficient iron can minimise the risk of haemorrhage during childbirth which increases the risk of the mother dying. Action taken to achieve gender equality means women will be empowered to make decisions that impact their lives, enjoy equal access to employment and financial resources and have the means to care for themselves during pregnancy. This will enable them to access quality antenatal care and vaccination which will help achieve the 2030 target. With the necessary financial resources women will be able to afford nutritious food, high quality housing, safe water, education and healthcare services. Gender equality will see a reduction in domestic violence and sexual assault which can bring about unintended pregnancies and therefore will bring about improvements in maternal mortality rates.

Gender equality means women will have access to education which results in fewer children, healthier mothers and fewer maternal deaths. Therefore, collaborative action to achieve gender

equality is important if the 2030 target for reducing maternal mortality rates to less than 70 per 100 000 is to be achieved.

### **ANSWERS: EXAM QUESTIONS**

#### **Question 1**

Source: VCE 2020, *Health and Human Development Exam*, Q.11; © VCAA

Global trends and other factors have a large impact on SDG 2 ‘Zero hunger’. Conflict (global trend) in Yemen has ‘turned daily life into a living hell’ for individuals as it has made food very scarce. This leads to malnutrition, in children such as Moteab, impacting SDG 2 and making it harder to achieve. SDG 2 also effects SDG 3: good health and wellbeing because when children suffer from SAM the ‘neonatal and U5MR’ increases. The sickness of children with SAM (vomiting, diarrhoea and weight loss) leads to hospitalisation and makes it difficult to ‘ensure access to universal healthcare’ because healthcare systems in low-income countries become overwhelmed. Despite this, malnutrition rates have decreased worldwide from 947.2 million in 2005 to a 785.4 million in 2015. Global trends emerging in recent years are unravelling this progress however as conflict and climate change have caused malnutrition levels to increase to 811.7 million in 2017, hindering the progress of SDG 2 ‘zero hunger’ which aims to provide food security worldwide and decrease malnutrition and hunger rates. Another issue that is emerging is the global marketing of processed foods. They are advertised to be ‘healthy’ in low-income countries and marketed at a cheaper price than fresh foods e.g. meat. ‘Unhealthy food is easier to come by’. This availability is a double edged sword because although eating processed, energy dense food may reduce hunger rates, it leads to an increase in malnutrition still because processed foods don’t contain the nutrients the body needs.

When people in low-income countries eat energy dense foods consistently it leads to what is known as a ‘double burden of disease’ where people suffer from communicable and non-communicable diseases. This makes SDG 3 harder to achieve because rates of non-communicable diseases are increasing world-wide. Overall, global trends are having a major impact on the achievement of SDG 2 and 3 and significant effort needs to be made to address these issues.

As this answer is marked holistically, marks are allocated depending on how well the students incorporate all aspects of the question in their answer and how well their answer is structured. The following guide could be used.

High	8 marks	<ul style="list-style-type: none"> <li>• Response is coherent, flows well and has been well structured</li> <li>• Information from all three sources has been understood, connected and synthesised</li> <li>• the student’s own understanding had been used to formulate the response</li> <li>• global trends and other factors were thoroughly discussed in terms of the impact on achieving SDG 2 ‘Zero hunger’</li> <li>• the relationship between SDG 2 and two features of SDG 3 were discussed in detail</li> </ul>
Medium	3-5 marks	<ul style="list-style-type: none"> <li>• Response is coherent and generally flows well</li> <li>• Information from one or more sources was used and showed some understanding, connection and synthesis</li> <li>• global trends and other factors were discussed in terms of the impact on achieving SDG 2 ‘Zero hunger’</li> </ul>

		<ul style="list-style-type: none"> <li>the relationship between SDG 2 and two features of SDG 3 were discussed</li> </ul>
Low	1-2 marks	<ul style="list-style-type: none"> <li>Information from one or more sources was used but did not demonstrate an understanding and connection</li> <li>global trends and other factors were discussed in terms of the impact on achieving SDG 2 ‘Zero hunger’ OR</li> <li>the relationship between SDG 2 and SDG 3 was discussed with a general links only</li> </ul>
	0 marks	<ul style="list-style-type: none"> <li>Incorrect or insufficient information provided</li> </ul>

**VCAA Examination Report note:**

Student responses were scored on the interplay between how well:

- the response had been structured
- the stimulus material had been understood, connected and synthesised
- the student’s own understanding had been used to formulate the response
- global trends and other factors were discussed in terms of the impact on achieving SDG 2 ‘Zero hunger’
- the relationship between SDG 2 and two features of SDG 3 were discussed.

Most students who attempted this question gained some marks, with many showing a good understanding of the key features of SDG 3.

Common errors included neglecting to include global trends or not making links between global trends and SDG 2, not referring to all pieces of stimulus material or failing to show how the stimulus material was connected, and making vague links between SDG 2 and SDG 3.

**Question 2**

Source: VCE 2020, *Health and Human Development Exam*, Q.13; © VCAA

a. A WHO strategic priority evident in the case study is: Achieving universal health coverage. This priority focuses on ensuring everyone has access to affordable and essential health care services no matter their location, socioeconomic status, culture, etc. Essential health care services includes providing vaccinations at a cost that is affordable for all. The M&R initiative reflects this priority as it is committed to reducing the prevalence of measles globally by increasing vaccination coverage thereby ensuring this essential health care service is easily accessible to people globally.

Award 1 mark for identifying a WHO strategic priority.

Award 1 mark for describing the WHO strategic priority identified.

Award 1 mark for using an example from the stimulus material to support your answer.

**VCAA Examination Report note:**

Students were able to accurately identify a WHO strategic priority but many neglected to describe it and simply linked it to the case study, which did not satisfy all requirements of the question. Another common mistake was simply restating part of the stimulus material without explaining how it reflected the priority.

The following is an example of a high-scoring response.

*Addressing health emergencies is evident in the case. This WHO priority features helping individuals and communities recover from mass disease outbreaks by supplying medical resources. As there was a measles outbreak in 2018, causing 140 000 people to die, the WHO showed leadership alongside the CDC to supply vaccinations and immunisations to treat communities.*

b. Sample response:

The Measles and Rubella Initiative increases vaccination coverage, and improves disease response to not only reduce the number of children who develop measles and rubella but to also ensure they get the treatment they need in a timely manner. This allows more children to be well enough to attend school to gain an education. By increasing their knowledge and skills through an education, the children's capabilities are enhanced expanding the opportunities they have and possible career options. By having a choice of career, it allows them to reach their full potential by having a career they enjoy and that allows them to live the life they want.

Award 1 mark for providing meaningful links between the initiative and human development

Award 1 mark for including a specific aspect of human development.

Award 1 mark for including a second specific aspect of human development.

**VCAA Examination Report note:**

Students were required to explain how the Measles and Rubella Initiative could promote human development. Meaningful links between the program and aspects of human development were required for full marks. Responses could include fewer links with more discussion or more links with less discussion.

A common mistake was stating that the program could affect an aspect of human development without explaining how.

The following is an example of a high-scoring response.

*This initiative means the 2.9 billion children that are vaccinated were able to attend school. This develops their knowledge and enhances their capability. This means these healthy children with a good education can get a good job that earns a good income to be able to achieve a decent standard of living. They may also be able to make better informed decisions that affect their lives, thus contributing to human development.*

**Question 3**

a. The relevant WHO priority represented in the diagram is Universal Health Care. Universal health coverage is focused around providing access to essential healthcare services, including medicines and vaccines at a cost that is affordable for all.

b. Communicable disease: HIV/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 infections, cancers and other diseases such as tuberculosis, which eventually leads to death. The HIV virus 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. HIV can also be passed from an infected mother to a child

during pregnancy or birth, or through breastfeeding. 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 can 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.

Investing in health care systems would help ensure that all people with HIV can access ART to stop the virus from progressing to AIDS. Given that HIV can be transmitted from one person to another, investment in health care systems would also provide health prevention and health promotion to help people understand how they can avoid contracting the disease and transmitting it to others. Given HIV/AIDS currently has no cure, this is the best way to help reduce premature deaths.

#### Non-communicable disease: Mental disorders

Mental disorders such as depression can be treated effectively with appropriate medication and psychological support. Depression can be treated with antidepressants, but fewer than half of those affected worldwide have access to these treatments. In addition, mental disorders such as depression also need to be accurately diagnosed. The availability of specialised and general mental health workers in low and middle-income countries is extremely low, which means that most mental disorders go undiagnosed and untreated. Therefore investments in health care systems would help ensure there are a sufficient number of trained mental health workers available to accurately diagnose and treat the condition. Depression can lead to suicide and therefore investment in health care services would help reduce premature mortality.

#### **Question 4**

- a. The countries with the highest gender gap in primary school completion are low-income countries.
- b. Reasons for this include:
  - Girls are less likely to complete primary education in developing countries because these countries are poor and access to education is usually not provided free of charge for most families. This means that if money is scarce, boys may be given opportunities over girls.
  - In many developing countries, there is a lack of access to water and sanitation. As girls often spend much of their day fetching water, they do not have time to attend school.
  - Lack of sanitation facilities can also impact on girls' attendance at school. Families are less likely to send their daughters to school if separate and private toileting facilities are not provided for girls.
- c. This information relates to SDG 4: Quality education.
- d. Reducing the gender gap in primary school completion could help achieve SDG 3: Good health and wellbeing.
  - Educating and empowering girls not only boosts their chances of getting a job, staying healthy and participating in society, it also has a significant impact on the health of their children and contributes to lower fertility rates and stable population growth.
  - Educated mothers have fewer and healthier children; are more likely to immunise their children; and their children have a 40 per cent higher survival rate. They are also twice as likely to send their own children to school as mothers without an education.
  - Educating girls is an effective measure to lower infant and maternal mortality, improve nutrition and promote health and wellbeing. 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. Therefore, reducing the gender gap in education will significantly improve health and wellbeing.
- e. Reducing the gender gap in primary school completion could improve human development.

- Education empowers women and girls, and is also important for economic growth and ending poverty. When girls are educated, health is improved and they are more likely to gain employment and earn an income, which contributes to achieving a decent standard of living.
- Educated people are more empowered, have greater control over the decisions that affect their lives and are more likely to participate in political and community life, which promotes human development.
- Greater employment generates wealth within a country and develops a stronger economy. Governments can use taxation revenue to invest in infrastructure such as water and sanitation systems, schools, social protection benefits, medical facilities, and communication and transportation networks such as telephones, internet and television. All this promotes good health and wellbeing, and contributes to improved standards of living and longer life expectancy.

**Question 5**

- a. Three key features that are part of SDG 3 include:
  - *End preventable deaths of newborns and children* — one of the features of SDG 3 is to reduce the global under-five mortality rate, which is represented by the burden of disease associated with neonatal conditions.
  - *End epidemics of communicable diseases* — this feature of SDG 3 focuses on reducing the burden of disease associated with neglected tropical diseases such as intestinal nematode infections, Tuberculosis, HIV/AIDS and malaria.
  - *Reduce premature mortality from non-communicable diseases* — this feature of SDG 3 focuses on reducing the burden of disease associated with stroke, ischaemic heart disease, cancers, anxiety disorders and depression, road traffic accidents, and alcohol use disorders, all of which are represented in figure 11.89 of the student textbook.
  - *Reduce deaths and illnesses from air, water and soil pollution* — this feature of SDG 3 is represented by the burden of disease associated with diarrhoeal diseases, lower respiratory infections and asthma.
- b. Students could include two of any of the following examples:
  - Stroke
  - Ischaemic heart disease
  - Cancer
  - Road traffic accidents
  - Anxiety disorders
  - Depression
  - Tuberculosis
  - HIV/AIDS
  - Malaria
  - Alcohol use disorders
  - Intestinal nematode disorder
  - Lower respiratory infections

Actions the WHO might take to reduce the global burden of disease are shown in the table below:

Example	Actions that could be taken by WHO
Depression	<ul style="list-style-type: none"> <li>• WHO will work with countries and support them to implement preventive strategies to address noncommunicable diseases</li> <li>• Work to ensure all people have access to universal health coverage to correctly diagnose and treat depression</li> <li>• Work with countries to ensure that all people affected by health emergencies have access to mental health and psychosocial support.</li> <li>• WHO could work with countries to ensure there are sufficient trained mental health workers available to provide health care services to everyone who needs them</li> <li>• WHO can provide guidelines and advice to countries on ways of preventing, treating and managing depression</li> </ul>
HIV/AIDS	<ul style="list-style-type: none"> <li>• Conduct research and provide health and wellbeing information</li> <li>• WHO can provide guidelines and advice on preventing and treating HIV/AIDS</li> <li>• WHO studies and monitors trends in HIV/AIDS to determine where support and action needs to be provided</li> <li>• Ensure all people have access to universal health coverage so the disease can be diagnosed and those infected with HIV can receive anti-retroviral medication to delay the onset of AIDS</li> <li>• Implement the International Health Regulations that recommend actions for countries to implement to reduce the spread of HIV/AIDS</li> </ul>

- c. An example of a disease with a large environmental contribution and actions that could be taken to address SDG 13 that will help achieve improvements in health and wellbeing are:

*Diarrhoeal diseases*

- Diarrhoeal diseases are one example of a disease with a large environmental contribution because climate change has the potential to affect sources of clean water and sanitation.
- Rising sea levels can lead to flooding of sanitation systems, which can then flow into water sources and contaminate them. Extreme weather conditions can also contribute to flooding and the contamination of water supplies. Both events therefore increase the risk of diarrhoeal diseases.
- Clean water and sanitation underpins the achievement of reducing child deaths from diseases such as diarrhoea. Therefore, actions to address SDG 13 will help achieve improvements in health and wellbeing in relation to diarrhoeal diseases.

## Topic 12: Australian aid and non-government organisations (NGOs)

### 12.2 Types of aid

#### ANSWERS

##### 12.1 Exercise

###### Test your knowledge

1. Aid can be described as assistance given to countries or communities in the event of a crisis or for the development of long-term sustainable improvements. (1 mark)
2. The three types of aid and examples of each are:
  - *Emergency aid or humanitarian aid* — examples include the provision of food, medicines or shelter; and the provision of personnel, such as health workers, doctors or emergency workers from other countries.
  - *Bilateral aid* — examples include the Australian government providing funding to the government of Papua New Guinea to provide prevention, treatment, counselling and education programs in relation to HIV/AIDS; or the Australian government providing funds and personnel to the Samoan government to help build a bridge in Samoa.
  - *Multilateral aid* — examples include the UN providing emergency relief and funding for transnational issues, such as global warming and control of disease; and the World Bank funding major infrastructure projects, such as the building of roads. (6 marks)
3. The characteristics and purpose of each type of aid are:
  - *Emergency aid or humanitarian aid* — is the rapid assistance given to people or countries in immediate distress to relieve suffering during and after emergencies such as conflict, and natural disasters such as floods, tsunamis or earthquakes. It is designed to be short-term and is usually needed to keep people alive. The purpose of this type of aid is to respond quickly and effectively to address the immediate health needs of the affected communities and, in this way, help improve short-term health and wellbeing.
  - *Bilateral aid* — is aid provided by the government of one country to the government of another country. The purpose of bilateral aid is to reduce poverty and bring about long-term sustainable development by helping the governments of recipient countries strengthen their economic, political, health and education systems to eventually become self-sufficient.
  - *Multilateral aid* — is aid provided through an international organisation such as the World Bank, United Nations or World Health Organization. Multilateral aid combines donations from several countries and then distributes them to countries in need. The purpose of multilateral aid is to contribute to the achievement of equity in health and wellbeing and to promote human development. (6 marks)
4. Bilateral aid sometimes attracts criticism because the goods and services may be provided by companies from the donating country, thereby favouring the economy of the donor country. There can also be risks with providing bilateral aid if the government of the country receiving aid is corrupt and the aid 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. (2 marks)
5. It is important to be able to pool resources to provide multilateral aid because pooled funds are less tied to the political interests of individual donor countries, and pooled funds can be used to more efficiently address global issues that require a global approach. (2 marks)
6. The focus of aid provided by non-government organisations is on smaller community-based projects that are targeted to meet basic health needs and promote community development and participation. (1 mark)

**Apply your knowledge**

7. The benefits of each type of aid and possible limitations of each one is shown in the table below:

Type of aid	Advantages	Limitations
Emergency	<ul style="list-style-type: none"> <li>Helps relieve suffering during and after emergencies</li> <li>Seeks to keep people alive</li> <li>Helps improve short-term health and wellbeing</li> </ul>	<ul style="list-style-type: none"> <li>It is short-term and does not seek to eliminate poverty.</li> <li>It can lead to dependency upon aid if maintained for too long.</li> </ul>
Bilateral	<ul style="list-style-type: none"> <li>Helps reduce poverty and brings about long-term sustainable development.</li> <li>Through consultation, meets the needs of the country and its people</li> <li>Helps governments strengthen their economic, political, health and education systems to eventually become self-sufficient</li> </ul>	<ul style="list-style-type: none"> <li>Sometimes the goods and services are provided by companies from the donating country, thereby favouring the economy and political interests of the donor country.</li> <li>If the government of the country receiving aid is corrupt, the aid funds may not be spent on their intended purpose.</li> <li>Sometimes bilateral aid projects are focused on urban areas and neglect the poorest people, who are more likely to live in remote rural villages.</li> </ul>
Multilateral	<ul style="list-style-type: none"> <li>Often used to address global issues (e.g. global warming and control of disease) and to fund major infrastructure projects (e.g. building roads)</li> <li>Contributes to the achievement of equity in health and wellbeing and to promote human development</li> <li>Is less tied to the political interests of individual donor countries</li> <li>Allows for the efficient pooling of resources to address global issues that require a global approach</li> </ul>	<ul style="list-style-type: none"> <li>Some of the funds provided to multilateral agencies must be spent by the agency itself for administrative purposes.</li> </ul>

(9 marks)

8. Emergency or humanitarian aid is short-term aid and should end once the emergency is over because this type of aid does not address the underlying causes of poverty and could lead to countries becoming dependent upon handouts rather than support to rebuild their communities for longer term sustainable development. (2 marks)
- 9.
- a. The two types of aid represented in the examples are:

## *Topic 12: Australian aid and non-government organisations (NGOs)*

- Local companies work with the government of Bangladesh to build new schools or classrooms and repair those that are damaged —*bilateral aid*.
  - Each household affected by flooding was provided with 40 packets of fortified biscuits to provide a source of food — *emergency aid*.
  - 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 — *bilateral aid*. (2 marks)
- b. One example that represents the most appropriate response to the situation in Bangladesh is the second example: a natural disaster has occurred and people living in Bangladesh are at risk of dying from lack of water, food, medicine and fuel. This response is designed to keep people alive by providing them with an immediate food source. (3 marks)
10. NGOs often work in collaboration with governments and local aid agencies because they are able to focus on smaller community-based projects that are targeted to meet basic health needs and promote community development and participation. NGOs have strong connections to local communities and can access areas that other types of aid doesn't reach. (2 marks)

### **12.2 Exercise**

#### **Question 1**

Source: VCE 2019, *Health and Human Development Exam*, Q.13.a; © VCAA

Bilateral aid is aid provided from the government of one country, to the government of another country to strengthen their economic, political, health and education systems (large scale, whole country programs). The aid provided by non-government organisations (non-profit organisations) is different as NGOs operate separately to governments and they provide aid that tends to focus on smaller community-based projects aimed to promote the health and wellbeing, and human development, by meeting the specific needs of each community.

Award 1 mark for describing bilateral aid.

Award 1 mark for describing aid provided by non-government organisations.

Students must show how the two types of aid are different through their descriptions.

#### **VCAA Examination Report note:**

Most students were able to describe bilateral aid, but many could not describe aid provided by non-government organisations. When discussing bilateral aid, reference to ‘two countries’ should be included and not just ‘two governments’. Aid provided by non-government organisations is not the same as multilateral aid. Aid provided by non-government organisations often reaches those not reached by other types of aid. It often works with local communities to address the underlying causes of poverty such as lack of education and unsafe water. Higher-scoring responses included information that was specific to the type of aid in question and that did not apply to other types of aid. For example, ‘working to reduce poverty’ is characteristic of aid provided by non-government organisations, but it also applies to other types of aid.

#### **Question 2**

Source: VCE 2017, *Health and Human Development Exam*, Q.13.c; © VCAA

Bilateral aid is aid provided by the government of one country directly to the government of another country.

#### **Question 3**

Source: VCE 2017, *Health and Human Development Exam*, Q.14.b; © VCAA

## *Topic 12: Australian aid and non-government organisations (NGOs)*

Humanitarian assistance (aid) provides rapid assistance to people after crises such as flood or earthquake, often in the form of food, water and medical care. This will help promote human development because if adults have food and medical care, they will be well enough to care for their families and other community members, enabling them to participate and contribute to their community. If children receive adequate nutrition during this time, malnutrition will be reduced, enabling the children to lead productive and creative lives.

### **VCAA Examination Report note:**

Many students struggled to explain how humanitarian assistance promotes human development. There were also quite a few students who did not attempt this question.

The following is an example of a high-scoring response.

*Providing provisions of emergency materials such as food and water, and temporary shelter could mean children do not suffer hunger and malnutrition, allowing them to develop to their full potential. By providing medical supplies, individuals could recover from injuries and illnesses following the crisis, and rejoin community activities, such as rebuilding schools, allowing them to lead productive lives and participate in the life of their community.*

### **Question 4**

Source: VCE 2017, *Health and Human Development Exam*, Q.13.b; © VCAA

Australia's aid program works with non-government organisations (NGOs) as often NGOs have no political affiliation, making it easier for them to work in small communities that Australia's aid program may not be able to reach. NGOs also have expertise in working in emergency situations where rapid assistance is needed.

### **VCAA Examination Report note:**

This question enabled students to show their understanding of the benefits of aid programs provided by non-government organisations (NGOs). Many students did not answer this question well.

The following is an example of a high-scoring response.

*NGOs focus on community projects such as safe water and sanitation projects that involve local communities and address the concerns of the most vulnerable communities, making their efforts more sustainable. They are also more likely to reach rural and remote, and vulnerable populations that Australian aid programs are unable to reach.*

### **Question 5**

Source: VCE 2015, *Health and Human Development Exam*, Q.12.b; © VCAA

Bilateral aid is where aid is given by one country directly to another.

Multilateral aid is where aid is provided through an international organisation, such as the World Bank, United Nations or World Health Organization. Multilateral aid combines donations from a number of countries and then distributes them to the recipients.

## **12.3 The features of Australia's aid program**

### **ANSWERS**

### Case study review: Tropical Cyclone Harold

1. The types of aid represented in the case study are humanitarian assistance or emergency aid and aid provided by non-government organisations (NGO's).
2. The aim of providing the aid is to provide rapid assistance to those living in the Solomon Islands, Vanuatu, Fiji and Tonga who have been affected by a natural disaster-in this case a cyclone. It is designed to provide emergency supplies to those affected to enable them to meet the immediate needs to enable them to survive. It is also designed to support early recovery activities, including restoring education and health services.
3. This program will promote health and wellbeing and human development by
  - Providing the necessary needs such as blankets, lanterns shelters, hygiene kits and other essential items, will protect people from the elements and enable them to stay clean which will help promote physical health by reducing the risk of communicable diseases and additionally, the risk of COVID-19.
  - It will help address mental health and wellbeing by reducing the anxiety and stress associated with having no shelter to protect them
  - By helping to restored education and health services, social health will be promoted as children will be able to attend school.
  - Health services will help improve physical health and wellbeing by providing medical care if needed.
  - By building community resilience, it will promote mental health and wellbeing by reducing stress and anxiety.
  - Human development will be promoted as the aid provided will give people the chance to enjoy good health once the emergency is over and the country can rebuild. Re-establishing health services and education means children can go to school, develop the knowledge and skills they need to live a productive life. Better education empowers people to make decisions about their life, get a job and earn an income and to be productive.
4. The program reflects key features of Australia's aid program as it is working in partnership with non-government organisations to provide assistance and providing emergency aid will help reduce levels of poverty than can result from a natural disaster. The Solomon Islands, Tonga, Fiji and Vanuatu are also part of the Indo Pacific region which is a focus of Australia's aid program.

### 12.3 Activity

#### Shared Value Partnerships in Sri Lanka worksheet

##### Project 1: Reforestation in Nikaweva

- a. The Australian government assisted Sri Lanka by:
  - helping with forest restoration
  - building a water supply
  - designing and implementing programs for children
  - creating children's clubs
  - involving children in the tree planting programs.
- b. The reforestation project helped promote human development by providing an income from the forest when it was cut down nine years later. It also provided wages for families and education for children. This helps provide a decent standard of living and improved health and wellbeing. With an income, people can afford to buy food, clothing, housing, healthcare and education for their children. This brings about gender equality and builds the capacity of community members to take control over the decisions that affect their lives.
- c. This project met the purpose of Australia's aid program as it helped contribute to sustainable economic growth and the reduction of poverty. It enabled human development to occur.

*Project 2: Red Lady papaya in Vavuniya*

- d. This project assisted women to grow Red Lady papayas in their own yards; they were then able to earn an income from selling the fruit. The women also developed a cooperative society that was 60 per cent owned by the local community. This gave them the ability to make decisions about their business.
- e. This project met the purpose of Australia's aid program as it contributed to sustainable economic growth and poverty reduction. The women were able to afford to educate their children and to save money for the future. They could also afford better quality housing, and could live peacefully in their village. The project also strengthened partnerships, as 40 per cent of the cooperative was owned by CR Exports Private Limited, which helped the women export their product. The project also enabled human development to occur.

*Project 3: Funding a boat yard in Mulankavil*

- f. This project funded and trained women so they could develop a boat yard; there they built boats and sold them at a cheap price to the fisherman. This gave the fisherman a business opportunity as well as reducing the costs of transportation. The fisherman would catch seafood and then sell it to generate funds.
- g. This project had a strong focus on private sector development for economic growth. It met the purpose of Australia's aid program as it contributed to sustainable economic growth and poverty reduction by providing the women with a steady income, as well as enabling the men to set up their own business through which they could also generate an income. The project enabled human development as it reduced unemployment and gave families an income which they could use to buy food, clothing, water, healthcare and education for the children. By owning their own business, people were more empowered to make decisions that affected their lives and the lives of their families. The project also focused on gender equality and gave families the means to enjoy a decent standard of living, thereby improving human development.

### 12.3 Exercise

#### Test your knowledge

1. The government department responsible for managing Australia's aid program is the Department of Foreign Affairs and Trade (DFAT). (1 mark)
2. The three ways Australia provides aid are:
  - *Emergency aid (also known as humanitarian aid)* — the supply of resources to assist countries that have experienced a crisis such as conflict, floods, earthquakes, fire and tsunamis. Emergency aid may be the provision of food, medicines or shelter; or it could involve personnel, such as health workers, doctors or emergency workers from other countries, or aid organisations providing assistance to manage the situation.
  - *Bilateral aid* — the provision of aid from the government of one country to the government of another country. Bilateral aid generally meets the needs and desires of both governments. This type of aid sometimes attracts criticism, as the goods and services may be provided by companies from the donating country, thereby favouring the economy of that country.
  - *Multilateral aid* — aid that is provided by many countries and distributed through international organisations such as the United Nations, the World Bank and the World Food Programme. (6 marks)
3. The purpose of Australia's aid program is to promote Australia's national interests by contributing to sustainable economic growth and poverty reduction. DFAT does this by focusing on achieving two development outcomes: strengthening private sector development and enabling human development. (2 marks)
4. The percentage of GNI Australia allocated to overseas aid in 2020–21 was 0.22. The United Nations recommends countries invest 0.7 per cent of their GNI. (2 marks)

5. It is important for Australia to develop partnerships for the delivery of our aid program because:
  - It helps to maximise the benefits of aid programs in our region.
  - It enables collaboration to create opportunities to promote economic growth in the region, reduce poverty and return commercial profits. (2 marks)
6. Australia focuses its aid program on the Indo-Pacific region because of the region's proximity to Australia, and it is where Australia's aid can make the greatest difference. There are many people living in poverty in this region, struggling to afford enough food, water and sanitation to meet their needs. Many of these countries are also affected by conflict, and this has the potential to directly affect our national and security interests. These countries are our nearest neighbours and stronger growth, prosperity and stability in our region will benefit both Australia and our neighbouring countries. (3 marks)

### Apply your knowledge

7. *An example of how the Australian government contributes to each of emergency, bilateral and multilateral aid*
  - *Emergency aid* — DFAT contributed \$2.5 million to the international effort to assist Haitians in the aftermath of Hurricane Matthew when at least 546 Haitians were killed and thousands of homes were destroyed. There was a surge in cholera cases that left more than 1.4 million Haitians in need of humanitarian assistance.
  - *Bilateral aid* — in Fiji, Australia's assistance supports 85 schools operating in remote and/or socially disadvantaged communities. In 2015, the proportion of year 4 students in target schools performing above the national average in literacy increased to 50 per cent from 37 per cent in 2012, and in numeracy to 54 per cent from 39 per cent.
  - *Multilateral aid* — through multilateral aid, Australia hopes to accelerate achievement of the Sustainable Development Goals by improving access to health services, especially maternal and child health; HIV/AIDS treatment and prevention; gender equality; education; health; and the reduction of poverty. (6 marks)
8. 'Australia should allocate more funds to NGOs given the way they strengthen our aid program.'
  - *Example response in favour of statement*  
Australia should allocate more funds to NGOs. In 2016–17, only \$178 million of Australia's aid funding went to NGOs, yet NGOs are an important part of our aid program as they work in areas that are difficult to access, such as conflict-affected regions, and often focus their efforts on small community-based development work. They also have expertise in working in emergency situations where fast and flexible responses are needed. They provide effective aid to those who need it and are an efficient way to achieve human development outcomes.
  - *Example response against the statement*  
While NGOs are an important part of our aid program, they often do not focus on the important areas that will bring about long-term sustainable development. It is important for governments to initiate changes and to invest in infrastructure measures such as roads, schools, transport systems, and fresh water and sanitation systems. Governments play a major role in the ongoing funding and maintenance of these important infrastructure measures and, unless there is political will to support these measures, changes may not be sustainable. Bilateral aid and multilateral aid is therefore much more effective and should attract the greatest allocation of expenditure. Non-government organisations are also effective in raising donations that help fund their work. (4 marks)

### 12.3 Exercise

#### Question 1

Source: VCE 2015, Health and Human Development Exam, Q.12.a (adapted); © VCAA

Reasons why Australia provides aid to low- and middle-income countries include:

- to assist in achieving the Sustainable Development Goals

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- to help people who have been affected by disasters, or in times of emergency, to be able to survive
- as a high-income country, Australia has a moral responsibility to help other countries and communities escape poverty and achieve sustainable human development
- helping countries eliminate poverty may open trade opportunities for Australia, which is beneficial
- helping other countries eliminate poverty can help reduce the threat of global diseases that are more common in low- and middle-income countries and can easily spread to Australia and other countries
- eliminating poverty can also assist in reducing the level of global conflict, which can affect all countries including Australia
- to promote regional security.

### Question 2

Source: VCE 2012, *Health and Human Development Exam, Section B, Q.6.d (adapted)*; © VCAA

**VCAA Assessment Report note:**

Type of Aid	Description	Example
Humanitarian aid or emergency	Short-term aid given after an emergency; for example, an earthquake, tsunami, flood, drought	After Mount Merapi erupted in Indonesia, ash covered the farming land and people were unable to grow food, so short-term food relief was provided
Bilateral	Aid given by one government to another	Aid given to develop infrastructure like roads, bridges, schools, water wells; for example, in Indonesia
Multilateral	Aid given by developed countries to international bodies such as the World Health Organization, World Bank	Aid provided to the World Health Organization to help fund the World Food Program or Roll Back malaria program

Most students provided relevant responses, but floods in Queensland and fires in Victoria were not acceptable examples of humanitarian or emergency aid by AusAID.

### Question 3

Source: VCE 2007, *Health and Human Development Exam, Q.4.a (adapted)*; © VCAA

DFAT stands for Department of Foreign Affairs and Trade.

DFAT is Australia's official overseas aid agency, providing assistance to developing countries.

### Question 4

The Asia-Pacific region receives the majority of DFAT funding. Reasons may include:

- Asia-Pacific region has two-thirds of the world's poorest people, and aid needs to be allocated to those most in need.
- Australia is located in this region so it makes sense to help countries that we may later be able to trade with.
- Australia is located in this region; by helping countries within this region it improves regional security.

**Question 5**

Reasons could include any of the following:

- Some of the poorest people in the world live in the Indo-Pacific region, so it makes sense to provide aid to those who are the most vulnerable.
- To promote Australia's interests, it makes sense to provide aid to countries in our region. Through aid, economic growth and trade may increase in these countries, which will provide more markets for Australia to trade with.
- To promote stability in our region, it makes sense for aid to be spent in countries who are our closest neighbours. Countries are less likely to experience conflict if action is taken to reduce poverty and promote human development.

## 12.4 The Australian government's aid priorities

### ANSWERS

#### 12.4 Activities

**Australian aid and Samoa: bridges** worksheet

- a. The DFAT priority reflected in the project is *Infrastructure, trade facilitation and international competitiveness*.
- b. The project is important for Samoa as bridges provide access to services such as schools, hospitals and markets. They also link communities together.
- c. It is important that the project focuses on assisting the LTA engineers as this helps ensure sustainability of the project by increasing the engineers' knowledge and skills, and building their capacity to undertake the work without the assistance of Australian engineers.
- d. The project helps promote health and wellbeing as it facilitates economic development, improves trade opportunities and reduces poverty. When people can access markets and communities are linked, people are able to trade in order to bring in an income. Incomes help reduce poverty and provide resources for families to buy food, clothing, shelter, healthcare and education, all of which help promote physical, social, emotional, mental and spiritual health and wellbeing.

**Australian aid and Samoa: voters with a disability** worksheet

- a. The DFAT priority reflected in this project is *Effective governance: policies, institutions and functioning economies*.
- b. The barriers to voting faced by people with a disability include:
  - inability to access polling booths
  - inability to understand the voting process.
- c. These barriers were overcome by breaking down the technical jargon in advertisements and other information into simple language. On the day of voting, polling booths were made more accessible for those with a physical disability.
- d. It is important that all people are able to participate in the voting process, including those with a disability, because they have the right to have a voice and help decide who will lead the country and make decisions that reflect their interests.

#### **12.4 Exercise**

##### **Test your knowledge**

1. Infrastructure refers to the technical structures that support a society, such as roads, water supply, removal of wastes and communications. (2 marks)
2. Good infrastructure is important for reducing poverty because good infrastructure includes the development of road, transport, health and education systems that provide people with access to markets to buy and sell goods. It facilitates trade because it enables people to transport their goods quickly and efficiently so they can be available for trading with other countries. Economic development is important in bringing about opportunities for decent work and a regular income, which helps families escape poverty and builds a strong economy. Being able to participate in global trade markets also increases economic growth and reduces poverty by creating opportunities to buy and sell products and resources, generating money for families, communities and the government. This money can be used by families to achieve a decent standard of living and by governments to invest further in providing infrastructure and health and welfare systems for the population. (3 marks)
3. International trade promotes economic development which is important in bringing about opportunities for decent work and a regular income, which helps families escape from poverty and builds a strong economy. Being able to participate in global trade markets increases economic growth and reduces poverty by creating opportunities to buy and sell products and resources, which generates money for families, communities and governments. This money can be used by families to achieve a decent standard of living and by governments to invest further in providing infrastructure and health and welfare systems for the population. (2 marks)
4. A focus on infrastructure and trade facilitation promotes gender equality because it includes providing microfinance loans so individuals, particularly women can start their own business. This involves lending small amounts of money at low interest rates so people can purchase the resources required to start their business (such as a cow or sewing machine). This is effective in helping families escape from poverty and helps promote gender equality. (2 marks)
5. The private sector is essential for bringing about economic development because this sector is responsible for many of the new businesses created in developing countries and therefore provides opportunities for increased employment and economic activity. (2 marks)
6. The five key areas that DFAT focus on to improve health and wellbeing outcomes are:
  - strengthening public health systems for better service delivery and a better trained health workforce
  - addressing health threats that cross national borders, such as preventable infectious diseases and drug-resistant strains of malaria and tuberculosis
  - establishing more effective global health responses by contributing to and influencing the work of global health initiatives and organisations
  - improving nutrition and access to clean water, sanitation and hygiene
  - fostering innovations in health that respond to the complex health challenges in our region.(5 marks)
7. The focus areas for achieving gender equality and empowering women and children are:
  - enhancing women's voice in decision making, leadership and peace building
  - promoting women's economic empowerment
  - ending violence against women and girls. (3 marks)
8. Effective management of water supplies is important because the demand for water is expected to increase by 55 per cent by 2050, and 40 per cent of the world's population is predicted to be living in areas of severe water shortage by this time. This has the potential to become a source of conflict among countries, which could threaten global peace and stability. (2 marks)

##### **Apply your knowledge**

9. DFAT focuses on providing social protection because it is a feature of our aid program which seeks to reduce poverty and achieve sustainable development. Social protection refers to

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programs that address risk, vulnerability, inequality and poverty through a system of transfers to people in cash or in kind. Social protection improves an individual's ability to cope and not resort to survival measures that can entrench poverty. Following a crisis, cash transfers, which are part of social protection programs, can provide resources to help people rebuild their life without being forced into poverty. (3 marks)

10. 'Without gender equality, countries are less likely to prosper.' This is true because gender equality contributes to higher average incomes, greater levels of education and healthier families. Gender equality means girls have the same access to education as boys. Better educated women have fewer and healthier children and are more likely to send their children to school, leading to a more educated community. A more educated community means higher employment and greater economic growth. Providing female farmers with equal access to resources has the potential to reduce hunger for an extra 150 million people. This leads to increased health and wellbeing at a community and national level. Improved health and wellbeing brings about greater opportunities for school and work, generating increased income and economic growth and therefore greater prosperity. (4 marks)
11. Australia's aid priorities evident in the information are:
  - Infrastructure, trade facilitation and international competitiveness. This is evident as \$2 billion was provided for infrastructure, \$6 billion worth of two-way trade was provided in 2017, development assistance maintained a core network of 16 national priority roads and 5000 Australian businesses operate in PNG.
  - Education and health. 560 education scholarships were awarded in 2018.
  - Effective governance, policies, institutions and functioning economies. Four new patrol boats were funded and 3000 legal and support officers were trained. (6 marks)
12. For each of the six DFAT aid priorities listed, the table below shows how each of the priorities links to the achievement of SDG/s and the priorities of the WHO.

DFAT Priority	Relevant SDG/s	Relevant WHO priority
Infrastructure, trade facilitation and international competitiveness	No Poverty Good health and wellbeing Clean water and sanitation Quality education	Promoting healthier populations
Agriculture, fisheries and water	Gender equality Good health and wellbeing Clean water and sanitation Zero hunger No poverty Climate action	Promoting healthier populations
Education and health	Quality education Good health and wellbeing No poverty Gender equality Clean water and sanitation	Promoting healthier populations Achieving universal health coverage
Gender equality and empowering women and girls	Gender equality No poverty Good health and wellbeing Quality education	Achieving universal health coverage Promoting healthier populations
Effective governance: policies, institutions and functioning economies	No poverty Good health and wellbeing Quality education Gender equality Climate action	Promoting healthier populations Achieving universal health coverage

Building resilience, humanitarian assistance, disaster risk reduction and social protection	No poverty Climate action	Addressing health emergencies Achieving universal health coverage
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#### 12.4 Exercise

##### Question 1

Source: VCE 2017, *Health and Human Development Exam*, Q.13.a; © VCAA

Australia's aid priorities shown in the program described include:

- education and health
- gender equality and empowering women and girls
- infrastructure, trade facilitation and international competitiveness.

##### VCAA Examination Report note:

While many students showed that they had a general understanding of Australia's aid priorities in the program, they often struggled to provide the accurate wording. This question was often not attempted.

##### Question 2

Source: VCE 2016, *Health and Human Development Exam*, Q.11.a (adapted); © VCAA

The priorities of Australia's aid program, include:

- infrastructure, trade facilitation and international competitiveness
- agriculture, fisheries and water
- effective governance: policies, institutions and functioning economies
- building resilience: humanitarian assistance, disaster risk reduction and social protection
- gender equality and empowering women and girls.

##### VCAA Assessment Report note:

Most students were able to identify a relevant priority of Australia's aid program, although students should note that the wording of these priorities is important. Some students were only able to recall parts of the priority.

##### Question 3

Source: VCE 2015, *Health and Human Development Exam*, Q.13.b; © VCAA

The priority of the Australian Government's aid program that is reflected in this statement is: empowers women and girls.

##### Question 4

##### Suggested responses include:

- Infrastructure, trade facilitation and international competitiveness — Australia has provided financial assistance for the building of roads and bridges in Timor Leste.
- Building resilience, humanitarian assistance, disaster risk reduction and social protection — Australia provided humanitarian assistance to Fiji after Tropical Cyclone Winston.
- Agriculture, fisheries and water — Australia has provided grants for the establishment of sustainable farming systems in countries such as Indonesia.
- Education and health — Australia has provided financial assistance for the building of schools and the training of teachers in Laos.

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- Gender equality and empowering women and girls — Australia supports the Vanuatu Women's Centre, a service provider for women and children survivors of violence.
- Effective governance, policies, institutions and functioning economies — Australia continues to support stability in the Solomon Islands through new programs in justice, governance and police development.

### **Question 5**

- a. Education and health
- b. Gender equality and empowering women and girls
- c. Effective governance, policies, institutions and functioning economies

## **12.5 World Vision and its role in promoting health and wellbeing and human development globally**

### **ANSWERS**

#### **12.5 Activity**

##### **World Vision water for everyone worksheet**

- a. 100 children die each day from diseases caused by unsafe water.
- b. World Vision's aim is to provide water to one new person every 10 seconds by 2020.
- c. The changes that the project has brought to the community:
  - Safe water is now available for drinking.
  - There is a continuous supply of safe water.
  - Less time is now needed to collect water.
  - Families and communities are healthier.
  - Opportunities now exist for children to go to school.

#### **12.5 Exercise**

##### **Test your knowledge**

1. World Vision seeks to overcome poverty and injustice around the world. (2 marks)
2. Three ways World Vision attempts to achieve its aims:
  - *Community development* — uses an integrated approach called an Area Development Program, which is designed to meet the needs of the community. ADPs operate in geographical areas that are large enough to have a regional impact but small enough to make a major impact on the individuals and communities in the area. They usually operate for 15 years and are designed to address the long-term, interconnected causes and effects of poverty in a way that is sustainable and that empowers the community.
  - *Humanitarian and emergency relief* — responds to natural and human-induced disasters to meet immediate needs like food, water and shelter. Also works with communities to help them recover and reduce the impacts of future disasters.
  - *Tackling injustice through policy change, education and advocacy* — engaging with governments, institutions, donors, communities and the public to address the underlying causes of poverty, and empowering communities to speak up for their rights and influence change. (6 marks)
3. *How the work of World Vision promotes health and wellbeing*
  - World Vision focuses on the health of pregnant women, mothers and children through the 7–11 Strategy for Maternal and Child Health.
  - World Vision seeks to reduce under-five and maternal mortality through seven main interventions for mothers and 11 main interventions for children. These strategies include infectious disease prevention; malaria prevention, treatment access and preventative treatment; and prevention and care-seeking for paediatric HIV. They aim to reduce the level

of disease and the transmission within and beyond individual countries, thereby improving health and wellbeing. (4 marks)

4. *How World Vision's approach promotes human development*

- World Vision works alongside the community to improve the health of pregnant women, mothers and children. It focuses on the major causes of ill health that can be prevented, such as malnutrition and disease. This is achieved through the seven core interventions for mothers and 11 core interventions for children. Human development is promoted through training and supporting community health workers who can provide education and support to the community around good nutrition, healthy behaviours and preventative healthcare measures.
- With education, the knowledge on how to maintain a healthy lifestyle can be carried on through generations to become sustainable in the long term. When mothers and children are healthy, mothers can go to work and earn an income for their families and the children can attend school. When children are educated, especially girls, the entire family has better health. Educated people feel more empowered to become involved in the life of their community and have greater control over the decisions they make about their own lives. This promotes human development.
- When people are healthy they can earn an income. This helps reduce the level of poverty so families can afford to buy healthy food, healthcare services, shelter and clothing, which improves all dimensions of health, contributes to a decent standard of living, and promotes human development. (4 marks)

5. World Vision's health work particularly targets pregnant women, mothers and children because:

- Children are particularly vulnerable to causes of ill health, such as malnutrition and disease, and these health issues can affect children their whole lives.
- When malnourished children become adults, they can have ongoing health problems and find it difficult to work to earn a higher income.
- Many of the health issues mothers and children living in poor communities face are preventable. (4 marks)

**Apply your knowledge**

6. Examples of the core interventions for the mother and how it promotes health and wellbeing and human development include:

	How it promotes health and wellbeing	How it promotes human development
<b>Core interventions for the mother</b>		
Adequate diet	<ul style="list-style-type: none"> <li>• An adequate diet provides sufficient iron, which reduces the risk of anaemia and complications during pregnancy. Well-nourished mothers are more likely to enjoy good health during pregnancy and will therefore be more likely to give birth to a healthy child. This promotes health and wellbeing.</li> </ul>	<ul style="list-style-type: none"> <li>• Good health due to good nutrition means mothers are able to continue working productively and can therefore earn an income. This helps reduce poverty and provides resources that can be used to access prenatal care to monitor the health of the mother and baby.</li> <li>• Good health promotes gender equality and increases the opportunity for women to start their own business and to participate in the decisions that</li> </ul>

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		affect their lives and their communities. This empowers women and promotes human development.
Healthy timing and spacing of pregnancy	<ul style="list-style-type: none"> <li>• Pregnancy during adolescence places greater demands on a girl's body, which is still in the stages of growth and is more likely to lead to birth complications and higher rates of maternal and child mortality.</li> <li>• A woman's body takes approximately two years to recover from a pregnancy.</li> <li>• Births that are spaced too closely together place additional demands on the mother's body and contribute to poor health and wellbeing.</li> <li>• Good health and wellbeing is more likely to be achieved when women give birth after the age of 21 and leave at least two years between each pregnancy.</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate timing of pregnancy means mothers remain healthy and are able to recover quickly from the birth and care for their child. They are able to work in the fields or set up their own business and generate an income. This provides resources to be able to afford food, water, shelter, clothing and healthcare and empowers women to make decisions that affect their lives and their communities.</li> <li>• Resources also provide for a decent standard of living and contribute to gender equality, all of which promote human development.</li> </ul>

(4 marks)

Examples of two core interventions for the child and how they promote health and wellbeing and human development include:

	How it promotes health and wellbeing	How it promotes human development
<b>Core interventions for the child</b>		
Full immunisation for age	<ul style="list-style-type: none"> <li>• Immunisation helps reduce the impact of infectious diseases such as measles, pertussis, TB and diphtheria, which are a major cause of burden of disease in children in low- and middle-income countries.</li> </ul>	<ul style="list-style-type: none"> <li>• When children are protected from infectious diseases, their mothers can tend the fields or undertaken paid work as they do not have to stay at home and look after sick children. Healthy children are also able to attend school. This frees mothers to earn an income that can be used to provide food, water, shelter, healthcare and education. This enables a decent standard of living to be achieved.</li> <li>• Healthy people are more likely to be educated, to participate in the decisions that affect their</li> </ul>

		lives, and to participate in community life. This promotes human development.
Hand washing with soap	<ul style="list-style-type: none"> <li>Reducing the chance of contracting diarrhoea and becoming infected with worms improves health and wellbeing.</li> <li>Diarrhoea leads to dehydration and is a major cause of death in children under five in middle and low-income countries. Using soap removes the bacteria that cause diarrhoea and prevents their ingestion.</li> <li>Worms are often transferred via the hands. Using soap removes worms and prevents the ill health that occurs when worm infestation occurs (e.g. malnutrition and anaemia).</li> </ul>	<ul style="list-style-type: none"> <li>When the risk of diarrhoea and worm infestation is reduced, mothers are able to go to work or tend the fields as they do not have to stay at home and look after sick children. This helps reduce poverty and provides an income that can be used to provide food, water, shelter, healthcare and education. This enables a decent standard of living to be achieved.</li> <li>Healthy people are more likely to be educated, to participate in the decisions that affect their lives, and to participate in community life. This promotes human development.</li> </ul>

7. The World Vision example would help overcome poverty and injustice by providing small loans for businesses and setting up savings groups. Helping people to implement a savings scheme increases the amount of money that can be accessed and provides a more regular source of income. With a regular income, families can afford food, clean water, shelter and healthcare, all of which improves physical health and wellbeing. Improved health and wellbeing means children can attend school and adults can go to work and earn an income which will help overcome poverty and injustice. (4 marks)

### 12.5 Exercise

#### Question 1

Source: VCE 2016, *Health and Human Development Exam*, Q.10.c (adapted); © VCAA

The program “covered a range of activities such as needle exchange, condom distribution, health education, counselling...”. These actions will improve physical health and wellbeing as the risk of HIV/aids infection is reduced. It also promotes mental health and wellbeing as “at risk” populations now have the resources to reduce infection, which will reduce anxiety and worry.

#### Question 2

Focus areas may include:

- humanitarian relief
- community development
- advocacy and education.

#### Question 3

The physical health and wellbeing of children, in particular, are vulnerable to respiratory infections caused by exposure to smoke from indoor wood-fired stoves.

By encouraging the use of clean fuel options, children will be exposed to less wood-fired smoke thus reducing respiratory infections.

**Question 4**

The physical health and wellbeing of people living in Buka Island should improve after the implementation of the program, as clean safe water will reduce the risk of diarrhoeal disease.

The community's social health and wellbeing should also improve as they will have more energy to interact with each other and not feel debilitated by illness due to poor water quality.

**Question 5**

The people of Bougainville can now install and repair water supplies to ensure improved health for their families.

This will improve their human development as good health enables the people of Bougainville to lead full and productive lives as their lives are not hampered by illness.

## **12.6 Red Cross and its role in promoting health and wellbeing and human development globally**

### **ANSWERS**

#### **Case study review: Everybody knows someone affected**

1. The areas of work of the Red Cross that are reflected in the case study are reducing the impact of disasters, Meeting humanitarian needs in crises and health and wellbeing, water, sanitation and hygiene.
2. The organisations that worked in partnership with the Samoan Red Cross are government agencies, the World Health Organisation, international medical teams and others. The advantages of working together are that the programs can bring combined expertise and prevents the risk of duplicating services and resources. Aid programs have greater likelihood of success and sustainability if they are supported by government agencies and multilateral organisations such as the World Health Organization.
3. The work of the Red Cross helped address the measles outbreak by raising community awareness about the disease and encouraged people to get vaccinated. They also provided practical and emotional support, distributed hygiene kits and provided hygiene education.
4. The work of the Red Cross would help promote health and wellbeing by working to reduce the number of people who contract measles which is of particular concern for children. This would promote physical health and wellbeing by preventing potential disability that can result from measles such as vision impairment, fever, malnutrition, and in some cases death. Mental health and wellbeing is promoted by reducing the level of anxiety and stress that is associated with children becoming ill with measles. Emotional health and wellbeing is promoted by reducing the level of grief that comes with losing family members to disease and illness. When children are ill, they are unable to attend school or to play with other children which impacts social health and wellbeing and mothers are not able to work due to having to care for sick children reducing their level of social health and wellbeing. Human development is also promoted as a healthier community is better able to enjoy good health and wellbeing and live a long and healthy life. Good health enables children to attend school and adults to work which helps reduce poverty and provides people with the knowledge and skills they need to make choices and participate in the decisions that affect their lives. Reducing the levels of disease and illness from measles contributes to families being able to access the resources they need to enjoy a decent standard of living, thus promoting human development.

## **12.6 Activities**

### **Australian Red Cross worksheet**

- a. The Australian Red Cross helps individuals and communities by:
  - providing disaster relief and recovery, such as helping people rebuild destroyed houses
  - empowering Aboriginal and Torres Strait Islander people
  - reconnecting families
  - providing a blood bank for blood supplies
  - providing breakfast clubs for children
  - making daily phone calls to people in need
  - supporting the homeless.
- b. One of the key strengths of the Red Cross is that, wherever people work in the world, there will be a Red Cross or Red Crescent Society in place to provide assistance.

### **Australian Red Cross water project in Myanmar worksheet**

- a. The Australian Red Cross worked with the local Myanmar Red Cross to deliver a community-based health and resilience project. The project focused on providing a clean water supply to the village. In addition, the local Red Cross volunteers were trained to deliver the program and educated the community on health-related information such as preventing diarrhoea, malaria and dengue fever; as well as education on water and sanitation, how to protect themselves from snake bite and what to do if bitten by a snake, and how to prevent infectious diseases.
- b. The lives of women were improved by having access to clean water as they were responsible for fetching water and often spent many hours walking long distances to collect it. The water collected was often not clean. With the extra time they now had, they were able to spend more time in their business. This helped provide more income for their families.
- c. The outcomes of the project will be sustained when the project workers finish because there are five local Red Cross Volunteers who have been trained and will provide a valuable resource to the community. The community set up a Village Committee that implemented a revolving fund. This enabled them to use the small grant provided by the Red Cross to generate a fundraising program so the work could continue once the aid workers left.
- d. The factors that contributed to the success of the project: the project focused on the community as a whole and worked with the community to identify what the people needed to become more resilient. This enables the community to be better prepared to respond and recover more quickly from any event or stress in the future. The project considered all their needs and chose a focus that was going to make the greatest difference to their resilience and health and wellbeing.

## **12.6 Exercise**

### **Test your knowledge**

1. The aim of the Red Cross is to improve the lives of vulnerable people in Australia and internationally by mobilising the power of humanity. (1 mark)
2. The Australian Red Cross focuses its work on the Asia-Pacific region because two-thirds of the world's population lives in this region, and it includes some of the most disaster-prone countries on Earth. (1 mark)
3. The Red Cross is known in other countries as National Red Cross and Red Crescent Society. (1 mark)
4. Neutrality is important to the Red Cross because doing its work requires the confidence of all parties. To achieve this, the Red Cross must carry out its work without taking sides during hostilities or engaging in controversies. (2 marks)

### **Apply your knowledge**

5. Three main areas in which the Red Cross works:

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- *Reducing the impact of disasters*
  - Red Cross helps communities identify disaster risks and take steps to reduce them.
  - It supports local humanitarian organisations to respond first with trained volunteers and emergency response plans.
  - It works towards longer-term recovery and resilience (e.g. repairing safe water facilities).
- *Meeting humanitarian needs in crises*
  - Where needed, the Red Cross contributes to emergency relief operations for major disasters and armed conflicts.
  - It provides hygiene kits and emergency relief supplies.
- *Health and wellbeing, water, sanitation and hygiene*
  - The Red Cross supports communities to identify practical solutions to illnesses and injuries such as first aid training or the prevention of infectious diseases.
  - It assists in providing safe drinking water, sanitation facilities and hygiene training.
  - It works with the most vulnerable including women, children and people with a disability to help them achieve safe and dignified lives.
  - It acts as a broker of knowledge and resources for its humanitarian partners around the world.

How each area promotes health and wellbeing and human development:

How it promotes health and wellbeing	How it promotes human development
<b>Reducing the impact of disasters</b>	
<ul style="list-style-type: none"> <li>● Preventing or reducing the impact of disasters can save lives and reduce suffering, which promotes all dimensions of health and wellbeing.</li> <li>● Reducing damage to towns and communities reduces the risks of poverty so families continue to be able to provide food, clothing, shelter and healthcare, which promote health and wellbeing.</li> </ul>	<ul style="list-style-type: none"> <li>● Reducing damage to towns and communities reduces damage to infrastructure such as water supplies, schools and roads.</li> <li>● This means children can continue to go to school and people can take their produce to markets. This builds knowledge and skills, and provides an income which contributes to a decent standard of living, empowering people to make decisions that affect their lives and allowing them to participate in social and community life.</li> </ul>
<b>Meeting humanitarian needs in crises</b>	
<ul style="list-style-type: none"> <li>● Meeting humanitarian needs helps keep people alive and helps them return to good physical health. When people's physical health and wellbeing is improved, so too is their social, emotional and mental health. Being cared for and looked after when sick or injured contributes to spiritual health and wellbeing by developing a sense of belonging and connection.</li> <li>● Providing hygiene kits and emergency relief supplies keeps people alive and helps promote physical health and wellbeing as well as emotional health and wellbeing.</li> </ul>	<ul style="list-style-type: none"> <li>● Keeping people alive when an emergency occurs is important for human development. It gives people the chance to rebuild their communities and re-create an environment where they can develop to their full potential and lead productive and creative lives. People's choices are expanded and new knowledge and skills are developed.</li> <li>● Recovering from disasters can empower communities and create opportunities for people to participate in social and community life.</li> </ul>

Health, water, sanitation and hygiene	
<ul style="list-style-type: none"> <li>These promote physical health and wellbeing by reducing illness and injuries and prolonging life. Safe drinking water and sanitation reduces the risks of water-borne diseases and illness and therefore promotes physical health and wellbeing.</li> <li>Working with the most vulnerable people promotes health and wellbeing as such people are often neglected in societies and so are less likely to have the necessities they need for good health and wellbeing.</li> </ul>	<ul style="list-style-type: none"> <li>Human development is promoted as the Red Cross works with communities and builds their knowledge and skills to empower them to become independent. This provides the conditions necessary for human development by enabling people to have control over the decisions that affect their lives.</li> <li>Ensuring that those who are the most vulnerable are supported to develop their skills and to live in dignity creates the conditions needed to promote human development.</li> </ul>

(10 marks)

6. The work of the Red Cross complements aid provided through Australia's aid program as they are able to focus on smaller community-based projects that are targeted to meet basic health needs and promote community development and participation. The Red Cross have strong connections to local communities and can access areas that bilateral aid doesn't reach. They also focus on areas that are aligned to DFAT's priorities such as health and education, gender equality and safe water and sanitation. (3 marks)

## 12.6 Exercise

### Question 1

The Red Cross was established at the start of World War I. The main task undertaken by Red Cross volunteers was to put together parcels of soap, toiletries, games and food to be given to sick and wounded soldiers.

### Question 2

The Red Cross works in three main areas: Reducing the impact of disasters, meeting humanitarian needs in crises, and health and wellbeing (water, sanitation and hygiene).

### Question 3

The Red Cross "are helping families with technical information on how to rebuild homes that are safer and more storm-proof". This would promote the mental health and wellbeing of families, as anxiety and stress levels would be reduced knowing that your home was 'storm-proof'.

The Red Cross also supplied clean water and sanitation facilities to the worst-hit villages. This would promote the physical health and wellbeing of the villagers, as incidence of diarrhoea and other illness will be reduced with access to safe water and sanitation.

### Question 4

The 'Healthy water for healthy lives' project provided a bio-sand filter to families in Cao Bang province, which enabled them to have access to clean and safe water. This promotes the physical health and wellbeing of families, particularly children as they are most vulnerable to water-borne diseases. Having safe water should reduce illness such as diarrhoea. Having access to safe water reduces the stress and anxiety of watching your children become ill, improving the mental health and wellbeing of parents in the Cao Bang province.

### Question 5

The ‘Healthy water for healthy lives’ project provided a bio-sand filter to families in Cao Bang province, which enabled them to have access to clean and safe water. Access to clean and safe water means that families will experience less illness due to water-borne diseases such as diarrhoea. This improves the human development of families in the province as healthy adults can earn an income to provide access to a decent standard of living and healthy children can attend school, which expands their choices and enhances their capabilities, enabling them to lead productive and creative lives.

## **12.7 Oxfam and its role in promoting health and wellbeing and human development globally**

### **ANSWERS**

#### **12.7 Activities**

##### **The work of Oxfam worksheet**

The areas that Oxfam has chosen to focus on are:

- advocate for a just and sustainable economies for people and planet
- empower women and girls
- help communities with the climate crisis
- work with First Nations towards justice, equality and self-determination.

##### **TREE/Oxfam partnership for WASH worksheet**

- a. The project focuses on the 0–4 age group because this is the age when children learn habits that will last them a lifetime.
- b. The curriculum that is developed and delivered as part of this project is important because it trains the educators in how to teach others, which includes parents as well as children.
- c. Ninety per cent of child deaths due to diarrhoea are directly related to contaminated water, lack of sanitation and inadequate hygiene.
- d. Hygiene practices included as part of this project:
  - Children are taught to use running water, and not to share one bucket of water, when washing their hands.
  - Children are taught to use soap when washing their hands
  - Children are taught not to dry their hands using towels but to shake them dry.
- e. It is important that projects like this one must first identify local needs because different communities have local needs that require individual solutions, and one project will not always be successful in all communities.

##### **Oxfam supporting women’s economic development in Vietnam worksheet**

- a. The Australian government focused on this region of Vietnam because it is one of the most remote areas of Vietnam where girls tend to leave school very early and work for their families.
- b. The program that has been implemented by Oxfam and funded by DFAT is for raising black pigs. Through the program, women were taught how to raise pigs, how to build a pigsty and how to feed the pigs properly. Each woman was also provided with her first breeding pig.
- c. Black pigs have many benefits. The meat is firmer and tastier. It also contains more fat than meat from white pigs, which means the black pigs can be sold for a higher price at the markets.
- d. 200 households have been assisted by this project.

#### **12.7 Exercise**

##### **Test your knowledge**

1. The purpose of Oxfam Australia is to help create lasting solutions to the injustice of poverty.

(1 mark)

2. Oxfam describes a just world as a world without poverty, where people can influence decisions that affect their lives, enjoy their rights and assume their responsibilities — a world in which everyone is valued and treated equally. (3 marks)
3. Examples of the types of activities Oxfam Australia is involved in:
  - *Long-term development projects* — Oxfam Australia works with partner organisations and communities to provide sustainable self-help development projects in 30 countries around the world. Oxfam also works within Australia, particularly to improve conditions for Indigenous Australians.
  - *Responding to emergencies* — working closely with other Oxfam organisations, Oxfam Australia responds to emergency situations around the world with humanitarian assistance, such as water and sanitation.
  - *Campaigning for a more just world* — Oxfam Australia campaigns seek to address the root causes of poverty and injustice.
  - *Involving the Australian community* — through events, fundraising activities and public campaigns, Oxfam Australia encourages Australians to be involved in the fight against poverty and injustice.
  - *Oxfam Australia shops* — sales of unique handicrafts from Swaziland, Peru, India and other countries support people who live with poverty and injustice.
  - *Ethical investment, banking and travel* — Oxfam Australia promotes economic and social justice by selling fair trade goods through its shops and supporting ethical banking and responsible travel. (8 marks)

**Apply your knowledge**

4.

Name of goal	Meaning	How it promotes health and wellbeing	How it promotes human development
Right to be heard: people claiming their right to a better life	When people have the power to claim their basic economic rights, they can escape poverty permanently. With their partners and with local communities, Oxfam helps people claim rights for themselves.	<ul style="list-style-type: none"> <li>This promotes spiritual health and wellbeing as people feel a part of, and connected to their community.</li> <li>It promotes health and wellbeing by removing poverty. People will have money to pay for food, water, clothing, shelter and healthcare, which will promote physical health and wellbeing.</li> <li>Escaping poverty will also improve emotional and mental health and wellbeing by removing the stress that is associated with not being able to access necessary resources due to poverty.</li> </ul>	<ul style="list-style-type: none"> <li>This contributes to improved human development as people are provided with the skills, knowledge and opportunity to participate in decisions that affect the life of their community. They have control over decisions which affect their lives and can make choices that enable them to lead productive and creative lives.</li> <li>Having the resources to purchase food, water, shelter and healthcare, people can achieve well-paid employment which enables a good standard of living.</li> </ul>
Advancing gender justice	Oxfam works to help women speak out and demand justice, and to assert their leadership. The right to gender justice underpins all of Oxfam's work.	<ul style="list-style-type: none"> <li>This promotes health and wellbeing as women are often the victims of violence and often have limited resources, so are more likely to miss out on food as they will feed family members before themselves.</li> <li>Gender equality leads to improved social, mental and emotional health and wellbeing as women and girls have an opportunity to be happy and enjoy life.</li> </ul>	<ul style="list-style-type: none"> <li>Human development is driven by empowered women when equality is achieved. Women can enjoy a decent standard of living and can participate in the lives of their community.</li> </ul>

***Topic 12: Australian aid and non-government organisations (NGOs)***

Saving lives, now and in the future	In times of disaster, Oxfam helps people by providing clean water, food and sanitation in disaster zones. It seeks to reduce the risk to poor people of future disasters by continuing to work with them after the crisis to develop long-term solutions and reduce poverty.	<ul style="list-style-type: none"> <li>• This promotes health and wellbeing by making sure people have the necessary food, water and sanitation to survive in times of crisis. This reduces the risks of infectious diseases, which promotes physical health and wellbeing.</li> <li>• Improved physical health and wellbeing provides people with hope, which promotes emotional health and wellbeing and reduces the risk of developing mental illnesses such as depression.</li> </ul>	<ul style="list-style-type: none"> <li>• Working to reduce the risks associated with future disasters promotes human development by helping people achieve a decent standard of living and live long and healthy lives.</li> </ul>
Sustainable food	Oxfam works to secure food supplies so that people always have enough to eat.	<ul style="list-style-type: none"> <li>• Food is essential for good health and wellbeing. By ensuring people have enough food to eat, malnutrition is reduced and this promotes physical health and wellbeing.</li> <li>• When people are well nourished, their emotional and social health is improved.</li> </ul>	<ul style="list-style-type: none"> <li>• Human development is promoted as people are healthy and can go to work and children can attend school. This improves knowledge and helps empower people by creating opportunities for them to participate in the life of their community and have control over the decisions that affect their lives.</li> </ul>
Fair sharing of natural resources	Oxfam lobbies governments, international organisations and corporations for fairer land policies and action on climate change.	<ul style="list-style-type: none"> <li>• Access to food can be affected by changes in climate as global warming and rising water levels flood homes and farms, forcing people to relocate. Rates of infectious diseases can also increase.</li> <li>• Fairer land policies and action on climate change improve health and wellbeing by helping reduce food insecurity and the incidence of disease.</li> </ul>	<ul style="list-style-type: none"> <li>• When people are ill, adults are unable to work and children cannot attend school. Lobbying for action on climate change means less illness and greater potential for human development. With knowledge and skills, people can gain employment, gender equality is more likely to occur, and people will feel more empowered to participate in decisions that affect their lives.</li> <li>• Educated people are more likely to become involved in social and community life.</li> </ul>

**Topic 12: Australian aid and non-government organisations (NGOs)**

<p><b>Financing for development and universal essential services</b></p> <p>Being able to access basic services such as health and education is important for health and wellbeing and human development. Oxfam lobbies to secure adequate funding to sustain basic services for poor people.</p>	<ul style="list-style-type: none"> <li>• Access to healthcare is essential for promoting health and wellbeing.</li> <li>• Women and children's health is dependent upon health checks being undertaken before, during and after birth.</li> <li>• Access to basic medicines ensures people can recover quickly from ill health.</li> <li>• Access to vaccinations promotes health and wellbeing and ensures that children are healthy enough to attend school, and that women can work and earn an income to escape from poverty.</li> </ul>	<ul style="list-style-type: none"> <li>• Human development is promoted as increased education and knowledge contributes to greater empowerment and the ability to contribute to social and political life within the community.</li> <li>• People can enjoy a decent standard of living and live a productive and creative life according to their needs and interests.</li> </ul>
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(15 marks)

5.

- a. The Oxfam goal reflected in the example is financing for development and universal essential services. (1 mark)
- b. How the program promotes health and wellbeing and human development.

How it promotes health and wellbeing	How it promotes human development
<ul style="list-style-type: none"> <li>• Protecting women's and girls' sexual and reproductive rights, less adolescents are likely to become pregnant. Pregnancy during adolescence increases the risk of a fistula and increases the chances of mothers and their babies dying in childbirth.</li> <li>• Protecting women's and girls' sexual and reproductive rights enables women to 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.</li> <li>• Protecting women's and girls' sexual and reproductive rights means that women are more likely to have access to antenatal care which helps reduce deaths from complications during pregnancy such as haemorrhage, infection, hypertension and obstructed labour. This promotes physical,</li> </ul>	<ul style="list-style-type: none"> <li>• Protecting women's and girls' sexual and reproductive rights, means that women are able to access contraception, which allows women to plan the number and spacing of children. This empowers women and gives them control over decisions that impact their lives.</li> <li>• Protecting girls' sexual and reproductive rights means girls have the opportunity to attend school and develop the skills needed to secure a well-paid job which enables them to make choices and is often associated with increased involvement in the social and political life of their communities.</li> <li>• Protecting women's and girls' sexual and reproductive rights, means women will be able to become more knowledgeable of what is required for a healthy pregnancy, and helps mothers and their children develop to their full potential and enjoy a long and healthy life.</li> </ul>

<p>emotional, mental and spiritual health and wellbeing.</p> <ul style="list-style-type: none"><li>• Giving birth in a health facility promotes the physical health and wellbeing of newborns by reducing death from asphyxia (lack of breathing) and infection.</li></ul>	
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(4 marks)

### 12.7 Exercise

#### Question 1

Oxfam is a secular, not-for-profit organization that was formed after a merger between Community Aid Abroad and Australian Freedom from Hunger Campaign.

#### Question 2

The focus of Oxfam's work is primarily to find practical, innovative ways to empower people to lift themselves out of poverty.

#### Question 3

As a result of the Oxfam project, Irene has sufficient income to now send her children to school and food security is not an issue. This promotes human development as adequate food will provide sufficient energy for both Irene and her family to participate in the life of their community. Being able to send her children to school expands their choices and enhances their capabilities.

#### Question 4

As a result of the project, Irene has been able to earn an income as a banana farmer and can send her children to school. This promotes the mental health and wellbeing of Irene and her family — the level of stress and anxiety is reduced as she can now provide for her family.

As a result of the project, Irene has sufficient income that food security is not an issue. This promotes the physical health and wellbeing of Irene and her family, as adequate food will provide sufficient energy for daily tasks. Adequate food will also assist in a well developed immune system.

#### Question 5

Through the Oxfam program, Recelia and other villagers now have an income to buy food and medicine, and pay school fees. This promotes physical health and wellbeing, as adequate food will provide sufficient energy for daily tasks. Having sufficient income for medicine and school fees promotes human development as it allows access to knowledge, health and a decent standard of living.

### 12.8 Topic 12 Key Skills

#### ANSWERS: PRACTISE THE KEY SKILL

1. The three types of aid are:

- *Emergency aid or humanitarian aid* — is the rapid assistance given to people or countries in immediate distress to relieve suffering during and after emergencies such as conflict, and natural disasters such as floods, tsunamis or earthquakes. It is designed to be short term and is usually needed to keep people alive. The purpose of this type of aid is to respond quickly and effectively to address the immediate health needs of the affected communities and, in this way, help improve short-term health and wellbeing.
- *Bilateral aid* — is aid provided by the government of one country to the government of another country. The purpose of bilateral aid is to reduce poverty and bring about long-term sustainable development by helping the governments of recipient countries strengthen their economic, political, health and education systems to eventually become self-sufficient.

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- *Multilateral aid* — is aid provided through an international organisation such as the World Bank, United Nations or World Health Organization. Multilateral aid combines donations from several countries and then distributes them to countries in need. The purpose of multilateral aid is to contribute to the achievement of equity in health and wellbeing and to promote human development.
- 2.
- a. The type of aid represented in the case study is bilateral aid.
  - b. The aid priority represented in the case study is infrastructure, trade facilitation and international competitiveness.
- The aid provided in this case study can be justified in terms of its capacity to promote health and wellbeing and improve human development. Providing ICT infrastructure creates opportunities for economic growth and for decent work and a regular income, which helps families escape from poverty and builds a strong economy. With a decent income, families have the money to buy food, water, shelter, health care and education. This reduces levels of malnutrition and prevents diseases such as diarrhoea which improves physical health and wellbeing. Having the resources to be able to send children to school and adults to work increases social health and wellbeing and improves mental health and wellbeing by reducing stress and anxiety levels.
- Being able to participate in global trade markets increases economic growth and reduces poverty by creating opportunities to buy and sell products and resources, which generates money for families, communities and governments. This money can be used by families to achieve a decent standard of living and by governments to invest further in providing infrastructure and health and welfare systems for the population, which increases human development. When individuals are more educated, they are more empowered and are more likely to participate in the economic, political and social life of their communities.
3. NGOs (non-government organisations) are non-profit organisations that work to promote health, wellbeing and human development while operating separately from the government. Examples of NGOs include Oxfam, World Vision and the Red Cross.
  4. NGOs are effective in complementing Australia's aid program because they are able to focus on smaller community-based projects that are targeted to meet basic health needs and promote community development and participation. NGOs have strong connections to local communities and can access areas that other types of aid doesn't reach.
  5. Tuberculosis is a contagious disease that affects the lungs. 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. TB is preventable with vaccinations and, if diagnosed early, can normally be treated and cured with appropriate drugs. However, due to incomplete treatment of TB, new strains are developing that are resistant to the current drugs used to treat and cure the disease. The program aims to address the issue of drug-resistant TB by providing education, counselling and support through a patient's treatment, to ensure the complete treatment cycle is undertaken. The program contributes to improved physical health and wellbeing by enabling people with the symptoms of TB to be treated effectively so they can return to good health. Resistant TB means sustained illness and a lack of ability to work or for children to attend school. Given the contagious nature of the disease, social interaction is limited which impact on social health and wellbeing. Illness due to a disease, such as TB, contributes to stress and anxiety and reduces mental health and wellbeing. The program will promote human development as it will enable people to return to good health, resume work and children attend school which will help develop the skills needed to gain work and to earn an income. This contributes to economic growth and provides the resources people need to be able to enjoy a decent standard of living. When people are healthy, they are more empowered to take control over the decisions that affect their life and have the capacity to live to their potential and lead a long and healthy life.

When people enjoy good health and wellbeing, are educated and gainfully employed, they are more likely to become involved in the political and social life of their community.

### **12.9 Topic 12 review**

#### **EXTENDED RESPONSE**

Answers to the extended response question will be marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected and synthesised
- Understanding of how Australia's aid program supports the achievement of two SDGs with reference to:
  - the SDGs,
  - Different types of aid
  - Key features of Australia's aid program

The following table shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used.

As outlined previously, the first step is to determine if the response best fits the 'not shown', 'low', 'medium' or 'high' band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a 'medium' score if these components have been completed to a high standard.

Once a determination of 'high', 'medium', 'low' or 'not shown' is made, a decision can be made as to where the response fits within the category.

Band	Mark range	Criteria			
		How the response has been structured	How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected and synthesised	Understanding of how Australia's aid program supports the achievement of two SDGs
High	7-8	Organises ideas to provide clarity of discussion.	Synthesises stimulus material to make multiple connections	Integrates discussion of own knowledge to make multiple connections	Discusses how Australia's aid program supports the achievement of two SDGs with detailed links to key features of Australia's aid and the different types of aid
Medium	6	Ideas are organised but may not read as well as stronger answers	Stimulus material is understood with relevant examples used to support the discussion	Concepts are discussed clearly with connections made to the question	Explains how Australia's aid program supports the achievement of two SDGs with links to some key features of Australia's aid and different types of aid
	5	Ideas are organised but there may be issues with how it is structured and may be a little difficult to follow.	Stimulus material is understood and examples from <b>all sources</b> have been used to support the discussion	Broad or general concepts are discussed	Outlines Australia's aid program and how it supports the achievement of two SDGs with reference to the key features of Australia's aid some of the different types of aid
	4	Ideas are loosely organised and sequenced	Simplistic connections are made between the stimulus material and the question	Broad or general statements are made that connect with some aspects of the question	Outlines Australia's aid program with some links to how it supports the achievement of two SDGs with reference to some of the key features of Australia's aid

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					and some of the different types of aid.
Low	3	Lacks coherent structure	Simplistic connections are made with at <b>least 2 sources</b> and the question	Statements are made with simplistic connections to the question	Outlines Australia's aid program with links to how it supports the achievement of one SDG with reference to some of the key features of Australia's aid and some of the different types of aid.
	2	Lacks coherent structure	Stimulus material is restated with connections made to the question	Information is stated with limited connections to the question	Broad statements about Australia's aid program with limited links to how it supports the achievement of at least one SDG with vague reference to some of the key features of Australia's aid and some of the different types of aid.
	1	Poorly structured and difficult to follow	Limited stimulus material is used and is copied with vague connections made to the question	Limited information is used with vague connections to the question	Limited information on Australia's aid program is provided with vague connections to the key features of Australia's aid and the different types of aid.
Not shown	0	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding	Insufficient evidence of understanding

## TIPS

Before you start writing your response, plan how you will approach this question and the order in which you will cover each of the required elements. You must use information in the stimulus material and your own knowledge.

Before writing, read the information in each source and use different coloured highlighters to identify relevant examples that connect Australia's aid program to the achievement of any of the SDGs. Select two SDGs that are well represented in the stimulus material as this will provide you with a range of examples to include in your response. Use your own knowledge of the features of Australia's aid program to either extend your explanation or to fill in any gaps that might be covered in the stimulus material.

Ensure you use the correct terminology when referring to the different types of aid provided by Australia's aid program and use examples from the stimulus material to show how the different types of aid helps countries achieve the two SDGs.

### An example of a high scoring response could be:

As shown in source 2, Australia spent \$4 billion dollars on foreign aid in 2020. Consistent with the key features of our aid program, much of this aid is provided to countries within the Indo-Pacific region. In 2020, this amounted to approximately \$2.64 billion. One feature of Australia's aid program is identified in source 3 as promoting Australia's national interest by contributing to sustainable economic growth and poverty reduction. An example that demonstrates this focus is evident in source 1 which outlines the program addressing gender equality and women's empowerment. The program is providing assistance that targets immediate and long-term needs to create sustainable economic growth. This program has helped women's small and medium enterprises in Southeast Asia to respond to the COVID-19 pandemic which in turn has contributed to improved economic growth. This is further supported by the information in source 3 which highlights that promoting gender equality significantly boosts per capita incomes which therefore helps reduce poverty.

Programs to address gender equality such as the one outlined in source 1 helps to achieve SDG 5: Gender equality. Support is being provided to women and girls affected by violence and help ensure women can participate in decision making and have equal opportunities for leadership. This helps enable human development-another key feature of Australia's aid program. Gender equality creates opportunities for women to have access to education, an income and therefore to resources such as housing, food, water and health care, all of which are essential for a decent standard of living. Education increases knowledge and this brings about greater capabilities and expands choices, all of which helps people live long and healthy lives.

As outlined in source 3, Australia's aid program helps partner countries improve governance, education and health which will assist in the achievement of SDG 3: Good health and wellbeing. The program outlined in source 1, highlights the importance of gender equality for reducing the spread of COVID-19, a communicable disease that is a feature of SDG 3. Actions taken to increase access to clean water and sanitation is also important for the reduction in communicable diseases and improved health and wellbeing. As stated in source 3, Australia's aid works to enhance productivity in agriculture, fisheries and water, all of which contribute to improved health and wellbeing and is important for ending preventable deaths of newborns and children under 5, all of which are a feature of SDG 3.

To achieve the objectives of our aid program, Australia provides different types of aid. They work with the government of partner countries to deliver bilateral aid which is often focused on improving governance, building infrastructure and developing policy, an example of which is evident in source 1 where through the Nabilan program, Australia worked with the government of Timor-Leste to help prevent the spread of COVID-19 in women's shelters. \$10 million was also provided to

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UN Women to deliver essential services and support. This is an example of multilateral aid where funding was provided to the United Nations. As shown in source 2, the government provided \$171 million to NGOs and volunteers in 2020. NGOs are an important part of our aid program as they often focus their efforts on small, community-based development projects. In times of crisis, our government provides humanitarian assistance or emergency aid. In responding to the COVID-19 crisis, Australia provided assistance to countries in the Indo-pacific region that targeted immediate needs.

Through our aid program, all Australians contribute to the provision of aid to low and middle-income countries, with a focus on the Indo-pacific region given the close proximity to Australia. Through the different types of aid, we target actions and programs that can address global issues, issues faced by individual countries and within countries, issues facing disadvantaged groups. Our aid program seeks to promote human development by working to reduce poverty in low-and middle-income countries and in doing so, helps achieve all SDGs

### **ANSWERS: EXAM QUESTIONS**

#### **Question 1**

Source: VCE 2014, *Health and Human Development Exam*, Q.11.a; © VCAA

Emergency aid is the rapid assistance given to people or countries in immediate distress to relieve suffering during and after human-caused emergencies such as wars, and natural disasters such as floods, tsunamis or earthquakes.

#### **Question 2**

Source: VCE 2013, *Health and Human Development*, Section A, Q.11.a; © VCAA

Types of aid may include:

- bilateral aid
- emergency aid.

#### **Question 3**

*Sulawesi earthquake and tsunami assistance*

a. The types of aid provided by DFAT to Sulawesi include:

- Emergency or humanitarian aid. This is immediate assistance given to people or countries in immediate distress to relieve suffering during and after emergencies such as conflict, and natural disasters such as floods, tsunamis or earthquakes. An example of this is the provision of safe drinking water and basic hygiene to those who had lost their houses or been displaced in Sulawesi as a result of the earthquake and tsunami.
  - Bilateral aid is assistance provided by the government of Australia to the government of Indonesia in this example.
  - Multilateral aid is assistance provided through an international organisation such as the United Nations. Multilateral aid combines donations from several countries and then distributes them to countries in need such as Central Sulawesi in Indonesia.
  - Aid provided by non-government organisations is also evident. Australia is working in partnership with NGOs to implement their humanitarian response in Sulawesi.
- b. Emergency or humanitarian aid is appropriate in this situation. This form of aid is designed to be short term and is needed to keep people alive. The purpose of this type of aid is to respond quickly and effectively to address the immediate health needs of the affected communities and, in this way, help improve short-term health and wellbeing. People in Central Sulawesi have been affected by a natural disaster and need immediate aid such as water, shelter and health care in order to stay alive.
- c. The DFAT priority represented in the case study is *Building resilience: humanitarian assistance, disaster risk reduction and social protection*

**Question 4**

*Australian overseas development assistance by investment priority*

- a. The priorities represented in the graph are:

*Infrastructure, trade facilitation and international competitiveness*

- Infrastructure includes the provision of a reliable energy supply, better roads and transport systems, clean water, accessible healthcare and telecommunications systems. Good infrastructure is important for people to gain access to markets to buy and sell goods. It facilitates trade because it enables people to transport their goods quickly and efficiently so they can be available for trading with other countries.
- An example of the work that DFAT has done is to fund infrastructure development such as roads and bridges to help people transport their good and services to markets to facilitate trading.

*Education and health*

- Education is one of the best investments that can be made to reduce poverty, improve health and wellbeing and promote human development. By being educated, people can gain the skills to enable them to contribute to the country's economy. When girls are educated, they are likely to marry later in life and have fewer children. Educated women more likely to send their own children to school, which leads to improved economic growth. Education for those with a disability is also important to reduce the level of disadvantage experienced by this group.
- The Australian government has focused on providing education opportunities by improving teacher training and the development of high-quality curriculum and learning programs in countries such as Indonesia, Laos, Timor Leste, the Philippines, Papua New Guinea and Pacific Island countries.
- To improve health, the Australian government is working to strengthen health systems in countries such as Papua New Guinea, Solomon Islands, Cambodia, and Timor Leste.

*Building resilience: humanitarian assistance, disaster risk reduction and social protection*

- This priority includes providing immediate assistance to save lives, alleviate suffering and maintain human dignity during and following the humanitarian crises, particularly the protection of the most vulnerable, including women, children and people with a disability.
- It includes helping countries develop resilience to disaster by putting in place effective planning and risk-management strategies. The Australian government provides humanitarian aid by working in partnership with the UN World Food Programme to deliver food to help address food insecurity across countries such as those in the African continent.
- It includes disaster risk reduction where the Australian government works to reduce the risks of disaster by working with the governments of Indonesia, Papua New Guinea and the Philippines to develop tools that model the impact of floods, earthquakes, volcanoes and tsunamis and to provide information for better risk-management structures.
- Social protection refers to programs that address risk, vulnerability, inequality and poverty through a system of transfers to people in cash or in kind. The transfers can take a variety of forms such as financial grants, food transfers, cash-for-work, and school-feeding. Social protection improves an individual's ability to cope and not resort to survival measures which can entrench poverty. Following a crisis, cash transfers, which are part of social protection programs, can provide resources to help people rebuild their life without being forced into poverty.

*Effective governance: policies, institutions and functioning economies*

- Well-functioning governments provide stability and maintain law and order by ensuring disputes among citizens are settled peacefully and fairly. They also deliver education and health services that build a skilled, productive and healthy workforce.
- To promote effective governance, the Australian government helped countries such as the Solomon Islands to improve budget processes, enabling them to meet debt obligations and increase income.

*Agriculture, fisheries and water*

*Topic 12: Australian aid and non-government organisations (NGOs)*

- These industries provide opportunities for improving economic development by exporting products to other countries. Women are often the farmers in developing countries and are responsible for the collection of water. By improving agricultural and water management practices, gender equality is more likely to be achieved.
  - The Australian government has assisted partner countries to better manage water resources, particularly in Myanmar, India and the Mekong region.
- b. The DFAT priority not reflected in the graph is *Gender equality and empowering women and girls*.
- Gender equality and empowering women and girls promotes health and wellbeing and human development.
  - Women are often the victims of violence and often have limited access to resources, so are more likely to miss out on food as they will feed family members before themselves. By achieving gender equality, physical health and wellbeing will be improved. The social, mental and emotional health and wellbeing of women and girls will also be improved as they have the opportunity to be treated equally and are more likely to feel happy and enjoy life.
  - Gender equality contributes to human development. Gender equality results in higher average incomes, greater levels of education and healthier families. Gender equality means girls have the same access to education as boys. Better educated women have fewer and healthier children and are more likely to send their children to school, leading to a more educated community. A more educated community means higher employment and greater economic growth. This leads to increased health and wellbeing at a community and national level. Improved health and wellbeing brings about greater opportunities for school and work, generating increased income and economic growth and therefore greater prosperity.

**Question 5**

- a. Ways that NGOs such as Oxfam carry out their work include any two of the following:
- working with the community and other partners to implement long-term development projects designed to address the underlying causes of poverty
  - working closely with other organisations to respond to emergency situations around the world with humanitarian assistance, such as water and sanitation
  - raising awareness of the issues affecting those living in low- and middle-income countries in the Australian community through fundraising activities and public campaigns designed to encourage Australians to be involved in the fight against poverty and injustice.
- b. The advantages of aid provided by non-government organisations such as Oxfam:
- This type of aid tends to focus on smaller community-based projects that are targeted to meet basic health needs and promote community development and participation.
  - It brings strong connections to local communities.
  - It can access areas that other forms of aid don't or can't reach, such as in remote, fragile and conflict-affected areas.
  - It has comprehensive knowledge of poverty.
  - It can bring expertise and skills to aid programs.
- c. *How the program implemented in Northern Ghana could promote health and wellbeing:*
- This program would help ensure food security and address issues of hunger. Without food security people are at greater risk of being hungry and malnourished which is an underlying cause of deaths from diarrhoea, malaria, pneumonia and measles. Hunger and malnutrition weakens the immune system, and children become too weak to fight off disease. This program improves physical health and wellbeing. Having food security improves mental health and wellbeing as it reduces the level of anxiety and stress experienced when mothers are not sure how they will be able to feed their family. Spiritual health and wellbeing is also increased as the program helps build resilience and confidence. Energy efficient stoves would also improve physical health and wellbeing by reducing the level of indoor air pollution that arises from traditional fuels. This will reduce the level of respiratory diseases.
  - Hunger and malnutrition also contribute to deficiencies of iron, vitamin A, zinc and iodine. A deficiency of iron during pregnancy can lead to maternal death and impair the physical and

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cognitive development of children. Iron-deficiency anaemia contributes to maternal deaths. Serious iodine deficiency during pregnancy can result in stillbirth, spontaneous abortion, and congenital abnormalities such as cretinism, a form of mental impairment. By addressing hunger and malnutrition, this project helps eliminate these risks and thereby promotes health and wellbeing.

*How the program implemented in Northern Ghana could promote human development:*

- Food security reduces the risk of poverty as people have the energy and good health to be able to learn, work and earn an income. They will develop the knowledge and skills needed to get decent work, and are more likely to feel empowered and have control over the decisions that affect their lives.
- This project will help the villagers enjoy a decent standard of living and allow them to pursue their interests. Educated and empowered people are more likely to participate in the social and community life of their village, promoting human development.
- Energy efficient stoves means that women do not have to spend time collecting fire wood which means they have more time for other pursuits such as setting up a small business. This is also enabled through the provision of small loans. This provides women with an income, builds confidence and self-esteem, therefore improving emotional health and wellbeing and builds knowledge and skills that enable women to have more choices over the decisions that affect their life. This improves human development.

## Topic 13: Programs addressing the Sustainable Development Goals

### 13.2 Features of effective aid programs

#### ANSWERS

#### 13.2 Exercise

##### Test your knowledge

1. The outcomes of effective aid are to reduce poverty and inequality in low- and middle-income countries, to promote human rights, and to move towards a more equal and stable global system. (3 marks)
2. A set of shared principles were developed to reflect the essential features of effective aid programs because the provision of aid is complex and involves many different stakeholders. The implementation of programs needs good coordination and partnerships in place otherwise there is a risk that some countries may not receive any aid; others may receive aid that is not as effective as it could be; or the aid may duplicate programs that have already been implemented by other organisations. (2 marks)
3. The four features of effective aid programs are:
  - ownership
  - a focus on results
  - partnerships and collaboration
  - transparency and accountability. (4 marks)
4. It is important to consider the sociocultural and political aspects of a community when implementing an aid program because, to be effective, an aid program must be delivered in a socioculturally sensitive way that meets the needs of the community. This could include delivering messages in local languages and using visual aids (as many people in the community might be illiterate). (2 marks)
5. One example of a program being delivered in a socioculturally sensitive way is to recognise that males are more likely to attend school than females so, if an education program is to be implemented, it would be important to focus on encouraging families to send their daughters to school. The provision of separate male and female classes and separate toilet facilities could be possible solutions. (2 marks)
6. Partnerships could include the government of the recipient country, the government of the donor country, a multilateral aid agency, an NGO and the leaders in the local community. (2 marks)

##### Apply your knowledge

7. Tied aid must be spent on goods or services provided by the donor country. This reduces the effectiveness of aid and does not always meet the needs of the country to which the aid is being given. It can also impact a country's ability to become self-sufficient as its people are not building up their own resources. (3 marks)
8. 'How aid is delivered to low- and middle-income countries is just as important as why it is given'. This means that not all aid is beneficial. Emergency aid that is provided for too long can create dependency rather than acting to reduce poverty and inequality. Focusing on outcomes that do not address the needs of the community or the country can mean that resources are wasted as the aid has little impact. Failing to take into account the socio-cultural factors or not promoting ownership of a program by the community can mean that once funding for an aid program ceases, the program is unable to be sustained which does not contribute to poverty reduction or sustainable development. (4 marks)
9. It is often important to focus on women to ensure an aid program is effective. In many low- and middle-income countries, women often have lower social status than men, lower levels of

## Topic 13: Programs addressing the Sustainable Development Goals

education, less access to health services and less opportunity for well-paid employment. They are also 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 improve the health and wellbeing of all community members, and therefore increases the effectiveness of an aid program. (3 marks)

10. Transparency and accountability is important if an aid program is to be effective. Transparency ensures that funding provided to implement a program is used for its intended purpose and is not diverted to serve the needs of other stakeholders. Transparency also ensures that funding is not used for commercial gain at the expense of achieving the desired outcomes of the aid program. Accountability involves regular monitoring and assessment of progress against the aims and objectives of the program, which is then published and available to the community. This is important to ensure that the aid program being implemented is effective. (4 marks)

11. *Features of effective programs:*

- *Ownership* — for aid to be effective and sustainable, recipient countries must be involved in deciding the type of aid that will best meet their needs. This means that the program fits in with the longer term needs and plans of the country. Aid organisations or governments of other countries should not have control over decisions concerning the needs of other countries. Ownership also means that the program is implemented in an effective way as it will consider the sociocultural needs of the community when being implemented.
- *Partnerships and collaboration*— an effective program relies upon the involvement of all people and organisations involved. This could include the government, non-government organisations (NGOs), multilateral agencies such as the World Bank or UN and local communities. People from all these groups bring different strengths to a program which can be used to increase effectiveness. Partnerships with local communities and governments also mean that the design and implementation considers the social and cultural needs of the community. Partnerships develop knowledge and skills and therefore build the capacity of the recipient country to continue with the program once outside assistance finishes.
- *Focused on results* — it is important that the aid program aims to have a long-term impact on reducing poverty and inequality, and promoting health and wellbeing and human development. Aid should not be provided if it is tied to requirements for how it is spent. Aid programs should also focus on involving and educating women as they are responsible for most of the agricultural and domestic work, including looking after the children. Educating and empowering women brings benefits to the entire community; it helps reduce the level of poverty and improves health and wellbeing.
- *Transparency and accountability* — transparency means that all necessary information is made available to everyone who is involved in developing and implementing a program. Transparency ensures that the funding provided to implement a program is used for its intended purpose and is not diverted to meet the needs of other groups or individuals. Transparency also ensures that funding is not used by businesses to make a profit at the expense of health and wellbeing outcomes. Accountability means that progress against the aims and objectives of the program is regularly monitored and assessed, and the information is then published and made available to the community. (8 marks)

### 13.2 Exam questions

#### Question 1

Suitable answers include:

- Ownership — Programs need to be culturally sensitive and fit the long term needs and plans of the recipient country.
- Results focused — Programs need to focus on addressing poverty, reducing gender inequality and promoting health and wellbeing and human development.

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- Partnerships and collaboration — Government, non-government bodies and local communities need to work together to implement effective programs that use local resources to enable communities to build skills and knowledge.
- Transparency and accountability — Programs need to be monitored regularly, funding is used for its intended purpose and information is published and openly available.

### **Question 2**

- Results-focused — school absence due to illness has decreased by 35%, therefore improving physical health and wellbeing.
- Partnerships and collaboration — 45 primary schools were involved and community involvement in soap ownership increased from 74% to 90%.

### **Question 3**

Any one of: being culturally sensitive; appropriate for the needs of the country; the community is involved in decision-making process.

### **Question 4**

Any one of: focus on results, partnerships and collaboration or transparency and accountability.

### **Question 5**

- Ownership — The Helping Women Access Savings and Loans project is culturally sensitive as it used role play and songs to overcome different ethnic minority group language barriers when conducting training sessions.
- Focus on results — The project focuses on women (reducing gender inequality) and saw livestock yields increase up to 75% and women being able to save up to US\$20 per month. Both of which will help to reduce poverty and improve health and wellbeing and human development.

## **13.3 Aid programs addressing SDG 1 No poverty**

### **ANSWERS**

#### **Case study review: Goats bring stability and income to female farmers in Zambia**

1. Other than SDG 1, SDGs that could be achieved by this program are SDG 2: Zero hunger, SDG 3: Good health and wellbeing, SDG 4: Quality education, and SDG 5: Gender equality.
2. The program was implemented because the rise in more frequent and intense floods, recurrent droughts and other climate risks reduced yields for farmers which meant there was reduced income necessary to keep families alive. In addition, many rural farmers cannot obtain loans from mainstream banks and being poor are viewed as being high risk. For women, it is more difficult to get affordable credit. This program provided an alternative way for families to earn a sustainable income and have enough food to eat.
3. The purpose of the programme was to provide sustainable solutions to help boost productivity and adaptation to the effects of climate change.
4. *Features of effective aid that are evident in the program are:*
  - *Ownership* — the programme meets the needs of the community as it focuses on rural women who are socially and economically marginalized. It considered the sociocultural and political factors important for success and was implemented in a socioculturally sensitive way.
  - *Partnerships and collaboration* — this program is a partnership between the Ministry of Agriculture and Zambia Meteorological Department, the United Nations Development

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Program, the Food and Agricultural Organization and World Food Program. It was funded by the Global Climate Fund. However, it is owned and implemented by the local community.

- *Focused on results* — this program focused on marginalised groups, rural women; and educated them on how to rear goats which ensured the program was sustainable. It is working to eliminate poverty, bring about stability in income, reducing inequality and improving health and wellbeing and human development.
  - *Transparency and accountability* — the funding provided for the programme has been used to achieve the aims of the programme and there is evidence that the program has been monitored to ensure the ongoing success is occurring.
5. The programme promoted health and wellbeing and human development. Food security was achieved meaning families were no longer suffering from hunger and malnutrition. This increases physical health and wellbeing as hunger reduces the immune system and makes children in particular more prone to ill health and death due to diarrhoea, measles, respiratory infections and other communicable diseases. Food security also reduces the risk of nutrient deficiencies such as iron-deficiency anaemia and vitamin A deficiency. With food security mothers are much less anxious about how they will feed their children which increases mental health. The ability to work and gain an income increases emotional health as women are more confident and have greater self-esteem. The money earned through rearing goats enabled men to meet the needs of the family such as purchasing food, uniforms for the children to attend school, books and fees for education. Being able to participate in decision-making processes and the building of community spirit contributes to improved spiritual health as women develop a greater sense of connectedness and have greater resilience.
- The program also promoted human development. Women developed greater skills and knowledge through the training they provided on rearing goats, which provided them with a steady income to enjoy a decent standard of living. They became more empowered through the program and were able to participate in community life and decision making processes.
- Education enables people to make choices and to live their life according to how they choose rather than being controlled by men. This increases human development.

### 13.3 Exercise

#### Test your knowledge

1. Apart from SDG 1, other SDGs that may be achieved with this program include SDG 2: Zero hunger, SDG 3: Good health and wellbeing, SDG 4: Quality education, and SDG 5: Gender equality. (2 marks)
2. The target groups for this program included women, those who are poor and very poor, and unemployed youth. (2 marks)
3. The purpose of the program is to:
  - empower the rural poor, with a focus on women
  - create strong and sustainable village institutions that have an active role in shaping the future of the communities
  - improve the living conditions of the very poor and poor by increasing the income they receive from their produce
  - develop skills and generate employment opportunities for unemployed youth in poor and very poor households
  - provide grants directly to the community
  - build links with financial institutions
  - provide support to the village organisations
  - prevent malnutrition by providing nutrition information and agricultural knowledge.(3 marks)

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4. The program was funded by the World Bank and implemented in partnership with the Bangladeshi government and Social Development Foundation. (2 marks)
5. *How the program was implemented*
  - Funding was provided to the Social Development Foundation, which is an organisation set up by the government of Bangladesh to help those living in poverty.
  - Representatives of the Social Development Foundation travelled to selected rural areas and worked with the villagers to help them build and strengthen their communities and empower the poor.
  - Villagers could opt in to the program and could apply for funding for small infrastructure and livelihood support. By opting into the program, people were also provided with education about nutrition and agricultural production.
  - Women were the major focus of the program. They were supported to build their business opportunities and organise producer groups and cooperatives; taught business skills and marketing information; and provided with links to existing markets.
  - Community groups were provided with grants to establish income-generating opportunities, particularly for unemployed youth who were also provided with practical activities to develop their skills. (4 marks)

### Apply your knowledge

6. *How the program would help to end poverty*
  - The program would help to end poverty by providing financial support and working to increase the income that women receive from their produce as well as developing skills and generating employment for youth in poor and very poor households. Forty per cent of households involved in the program were able to increase their income by at least 30 per cent.
  - When women were provided with loans and the skills necessary to establish and expand their business, they were able to generate an income by selling their produce. With a steady income, the women were eligible to apply for a loan from the village credit union, which enabled further expansion of their business and increased income.
  - Greater marketing power was made possible by helping people organise producer groups and cooperatives. Increasing their business and marketing knowledge and being provided with links to existing markets, women could increase their incomes and afford to lease or purchase land, send their children to school and afford healthcare. Income-generating activities were also established for unemployed youth along with the relevant knowledge and skills needed to sustain employment. This also helped end poverty. (6 marks)
7. Each of the four elements of effective aid is evident in this program, suggesting it is a successful program.
  - *Ownership* — the Social Development Foundation was established by the Bangladeshi government to help improve the living conditions of the poor and very poor in selected rural villages. This meant that the program would be implemented in an appropriate sociocultural way. People living in the selected villages could opt in to the program if it met their needs. Members of the community were provided with support to establish producer groups and cooperatives that were then owned by the community. Youth and women were the target groups, and there was a focus on developing skills and knowledge as well as longer-term income-generating activities that would help ensure sustainability.
  - *Partnerships and collaboration* — this program is a partnership between the World Bank, the Bangladeshi government and Social Development Foundation.
  - *Focused on results* — this program was created to empower the rural poor, with a focus on women and unemployed youth. Its aim was to empower these groups by providing the skills and knowledge necessary for long-term employment and business development opportunities. In this way it is working to eliminate poverty, reduce inequality, and improve health and wellbeing and human development.

- Transparency and accountability — there was ongoing monitoring of the progress and impact of the program to ensure it was meeting its intended aims. (8 marks)
8. *How the program would promote health and wellbeing*
- Poverty is a major cause of death and illness from infectious diseases and a major cause of hunger and malnutrition. This program will reduce the burden associated with diseases such as pneumonia, diarrhoea, malaria and measles.
  - With a regular income, people are better able to afford healthcare, which improves physical health and wellbeing as diseases and illness can be diagnosed and treated. Access to healthcare increases levels of vaccination, further reducing deaths and disability from vaccine-preventable diseases and improving physical health and wellbeing.
  - The program also seeks to prevent malnutrition by providing nutrition information and agricultural knowledge. Preventing malnutrition would result in a reduction in diseases associated with micronutrient deficiencies, such as iron-deficiency anaemia, congenital abnormalities and cretinism from iodine deficiency, and blindness due to deficiencies of vitamin A. This improves physical health and wellbeing. Increased physical health and wellbeing brings about improved social, mental and emotional health and wellbeing.
  - Improved health and wellbeing provides opportunities to attend school, go to work and socialise with others. This promotes a positive self-esteem and a sense of achievement.
  - The focus on empowerment of the rural poor, particularly women, also promotes mental and emotional health and wellbeing. (4 marks)
9. *How the program would promote human development*
- The program would provide a regular income, educational opportunities, work prospects and the empowerment of women, all of which help the people in the village and their families enjoy a decent standard of living and a long and healthy life.
  - The program will help create the conditions that promote human development, including gender equality, human rights and the opportunity for people to acquire knowledge and develop to their full potential. Gender equality and the empowerment of women bring greater opportunities for women to participate in political and community life, and give them greater control over the decisions that affect their lives. (4 marks)

### 13.3 Exam questions

#### Question 1

The Sustainable Development Goals could include any of the following:

- SDG 13 — Action climate change
- SDG 5 — Gender equality
- SDG 1 — No poverty
- SDG 2 — Zero hunger.

#### Question 2

- Ownership — The Helping Women Access Savings and Loans project is culturally sensitive as it used role play and songs to overcome different ethnic minority group language barriers when conducting training sessions.
- Focus on results — The project focuses on women (reducing gender inequality) and saw livestock yields increase up to 75% and women being able to save up to US\$20 per month. Both of which will help to reduce poverty and improve health and wellbeing and human development.

#### Question 3

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- The Helping Women Access Savings and Loans, Vietnam project provided women in the poorest communities with loans and training to start businesses in agriculture.
- Training session and village meetings were held using role play, games and story-telling to overcome different ethnic minority group language barriers.

#### **Question 4**

- The program would help to end poverty by providing loans and working to increase the income that women receive from their produce as well as developing skills and generating employment in poor and very poor households.
- Women say their livestock yields are higher, at rates of up to 75 per cent. Women who grow rice are producing larger and better quality crops. This means women are able to save more money; most are saving up to US\$20 per month.
- With more food and money available, women can pay for their children's school fees and provide healthier meals for their families. This also helped end poverty.

#### **Question 5**

The project has taught women how to increase crop and stock yields, which has enabled them to increase their incomes. Earning an income and providing for the family has increased the self-confidence in women promoting the mental health and wellbeing of women. With more empowerment women have greater control over the decisions that impact on their lives which expands their choices and enhances their capabilities promoting their human development.

### **13.4 Aid programs addressing SDG 2 Zero hunger**

#### **ANSWERS**

##### **Case study review: Food security in Chad: the successful involvement of Refugees and Host communities in horticulture**

1. The SDG/s addressed by this program are SDG 1: No poverty and SDG 3: Good health and wellbeing,
2. The program was implemented because a solution was needed to provide refugees and returnees to Chad with an alternative source of food to large-scale farming in an area where there was a shortage of land and where large-scale farming was also affected by floods and droughts. It was also introduced because there was a dependence upon food aid being provided.
3. The program provided 16 metric tons of fruit and vegetable seeds, 255 metric tons of rice seeds, 6,250,000 cassava cuttings, 53,650 agricultural tools and horticultural training to the residents of the refugee camps in the Gore region to enable them to establish garden plots to grow their own food all year-round.
4. The program would assist in achieving SDG 2 as the garden plots are providing people with food all year round as well as money from the sale of their produce. In the past, food was very difficult to access between June and September which resulted in food shortages, particularly for children. This programme has addressed this. The markets are now regularly supplied with vegetables such as tomatoes, cabbage and maize and people have the money to be able to purchase the food for their family. The supply of produce has also seen a drop in the cost of purchasing food which means families are now able to afford food all year-round.
5. This program would improve health and wellbeing as it reduces the level of hunger and malnutrition, which would result in a reduction in diseases associated with micronutrient deficiencies, such as iron-deficiency anaemia, congenital abnormalities and cretinism from iodine deficiency, and blindness due to deficiencies of vitamin A. Hunger also reduces the effectiveness of the immune system and makes children in particular more prone to ill health and death due to diarrhoea, measles, respiratory infections and other communicable diseases.

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Families are now less anxious about how they will feed their family which improves mental health and wellbeing. Emotional health and wellbeing are also improved as the refugees are much happier, knowing they can access sufficient food to feed their families. The refugees felt proud of their horticultural achievements which improves self-esteem and confidence, promoting mental health and wellbeing and provides a greater sense of optimism. Spiritual health and wellbeing could also be promoted as the community is working together and there is a greater sense of connectedness.

The program could promote human development. Families developed greater skills and knowledge of horticultural practices and were able to provide foods for their families all year-round and money to buy food and other necessities. This enhances their capabilities and provides them with more choices and the capabilities to enjoy a decent standard of living. The programme provided the small-scale farmers with pride and confidence which enabled them to participate in decision making and have control over the decisions affecting their lives. This increases human development.

6. This program represents an effective aid program as it addresses the features of effective aid:
  - *Ownership* — the program worked with refugees and returnees in Chad to address the issue of lack of land to operate large-scale agriculture which was their familiar way of farming. By educating the community on how to grow their own food with smaller amounts of land, it enabled families to grow their own food, reduce their dependence upon food aid and provided a sustainable solution. This meant that the program was sustainable and socioculturally appropriate for the community. There was a focus on developing skills and knowledge and the provision of an income to help make it sustainable.
  - *Partnerships and collaboration* — this program was implemented by the Canadian government, with financing from the International Development Association, the World Bank, the Food and Agricultural Organization, the United Nations Children's Fund and the International Organization for Migration.
  - *Focused on results* — this program was created to provide a small-scale sustainable solution to the lack of space for farming and the lack of a sustainable food supply throughout the year. The program provided education in horticultural practices which empowered the farmers and was successful in reducing the level of hunger and poverty which improved nutrition, health and wellbeing and human development.
  - *Transparency and accountability* — there was ongoing monitoring of the progress and impact of the program to ensure it was meeting its intended aims and it was recognised that the results have been very encouraging but are still tenuous. In response, there is now a plan to finance an additional project to facilitate strengthening of the gains made while expanding access to basic social services.

### 13.4 Exercise

#### Test your knowledge

1. Apart from SDG 2, other SDGs that may be achieved with this program include SDG 1: No poverty, SDG 3: Good health and wellbeing, SDG 4: Quality education, SDG 5: Gender equality, SDG 6 Clean water and sanitation, and SDG 13: Climate action. (2 marks)
2. The target groups for this program were male and female farmers living in rural areas in Burkina Faso. (2 marks)
3. The purpose of the program was to improve producers' capacity to increase the production and to ensure year-round availability of cereals and livestock products in rural areas. (2 marks)
4. The program was funded by the World Bank in partnership with the regional Chamber of Agriculture, which supervised the program. (2 marks)
5. *How the program was implemented:*
  - Funding was provided to improve food production and accessibility by enabling access to improved technology for crop production, improved seeds, fertiliser, manure and sustainable soil management.

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- Access to improved storage technologies was provided to reduce post-harvest losses.
- Improvements were made to existing agricultural information systems so farmers could make better production and marketing decisions and develop marketing cooperatives.
- Funding was provided for ongoing monitoring and evaluation of the program to ensure it was meeting its purpose.
- Male and female farmers were given the opportunity to undertake community work such as clearing and preparing lowland areas for rice farming. They worked to clear the land of rocks, turn over the soil, organise the plots and construct water retention systems. The work was overseen and supervised by the regional Chamber of Agriculture, local community leaders, and local authorities.
- Those who contributed the most to these community works were provided with cleared plots of land, expertise, training, improved seed varieties, and fertiliser for their rice crops. Female farmers contributed the most to the program, and more than 45 per cent of the prepared lowlands have been distributed to women. (4 marks)

#### Apply your knowledge

6. *How this program would help to achieve zero hunger:*
  - The program gradually increased productivity. 7820 hectares of land was cleared for rice production, providing 30 000 producers with income, 45 per cent of which were women. Rice production in Burkina Faso saw a significant boost in the form of an additional 15 000 tons of rice.
  - Through the use of new techniques and better inputs, farmers are learning how to retain more water in their fields and how to fertilise them.
  - The establishment of a warehouse receipt system and cooperative means that farmers can access credit. This enables them to invest in requirements for the next harvest season such as seeds and fertilisers, which helps ensure food security and zero hunger for these villagers. (4 marks)
7. The program addresses each of the four features of effective aid and would therefore be successful:
  - *Ownership* — male and female farmers were provided with the opportunity to undertake community work such as clearing and preparing lowland areas for rice farming. The work was overseen and supervised by the regional Chamber of Agriculture, local community leaders, and local authorities. This ensured the program was sustainable and socioculturally appropriate for the community. Women and men were the target groups, but women contributed most to the program. The women were taught new farming techniques, such as how to keep water in the fields and the best way to fertilise their crops. At the community level, a warehouse system was set up to allow farmers to use their harvest to access credit from financial institutions. The local warehouse was owned jointly by the microfinance institution and local farmer's association. This ensured the program was owned by the community and had a greater chance of being successful and sustainable.
  - *Partnerships and collaboration* — the program was a partnership between the World Bank, which funded the program, and the regional Chamber of Agriculture, which supervised the program.
  - *Focused on results* — this program focuses on the rural farmers, particularly women. Its aim was to improve producers' capacity to increase production and ensure year-round availability of cereals and livestock products in rural areas, thereby reducing food insecurity in these areas. Agricultural information systems were improved so farmers could make better production and marketing decisions and develop marketing cooperatives to provide access to credit. In this way, the program is working to eliminate hunger, reduce poverty and inequality, and improve nutrition, health and wellbeing and human development.

- Transparency and accountability — funding was provided for the equipment, technical assistance and training required for program implementation, and for monitoring and evaluation to ensure the program was meeting its purpose. (8 marks)
8. *How the program would promote health and wellbeing:*
- The program helps ensure that farmers have access to sufficient food. This promotes physical health and wellbeing by giving individuals enough energy to avoid malnutrition and complete daily tasks.
  - Some of the nutrients in food are needed to support immunity to disease. Therefore, food security improves physical health and wellbeing by reducing the risk of illness and disease.
  - Improved nutrition would see a reduction in the burden of disease associated with micronutrient deficiencies such as iron deficiency anaemia, congenital abnormalities and cretinism from iodine deficiency, and blindness due to deficiencies of vitamin A. Given the impact of iron deficiency anaemia on pregnant women, this would help reduce maternal mortality rates.
  - Well-nourished mothers are more likely to give birth to healthy babies. Babies who are well fed and adequately nourished have strong immune systems. They are less likely to suffer from diseases such as pneumonia, measles, malaria and diarrhoea. If they do contract these diseases, well-nourished children are more likely to recover. Children's growth would no longer be stunted due to malnutrition and hunger.
  - When people have access to the required quantity and quality of food, they can attend school or work. This provides opportunities to develop relationships, which promotes social health and wellbeing. A sense of pride and achievement at school or work also promotes emotional health and wellbeing.
  - This project allows women to own their own land and to feel that they are contributing to their community, which brings a sense of connectedness. This contributes to spiritual health and wellbeing. (4 marks)
9. *How the program would promote human development*
- When children have food, they are more likely to have energy to attend school, which increases their literacy and numeracy skills. Educated people have increased opportunities to earn a higher income and have greater access to the resources required to enjoy a decent standard of living such as access to fresh food, healthcare and water, clothing and shelter.
  - The Gross National Income (GNI) of a country is linked to food security. Burkina Faso is more likely to have a higher GNI if communities have food to eat and adults can work. By generating an income, adults can pay taxes that can be used by the government to invest in infrastructure that promotes health and wellbeing such as roads, water systems and healthcare.
  - This project works to achieve gender equality by empowering women so they can lead productive, creative lives in accord with their needs and interests. By allowing women to own their own plot of land, the project creates the conditions for human development. With equal rights, women are more likely to become involved in the lives of their communities. Giving women access to education and finance, control over other forms of property and greater security all contributes to improved human development. (4 marks)

#### 13.4 Exam questions

##### Question 1

The SDG being addressed in the program is SDG 2 — Zero Hunger.

##### Question 2

The purpose of the Scaling up Nutrition program is to diversify and improve household nutrition and critically reduce the number of deaths under five.

##### Question 3

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The Scaling Up Nutrition Program have established demonstration gardens where women learn solar-powered irrigation and crop diversification techniques. This will promote the mental health and wellbeing of the women participating in the program as the skills they have learnt will help improve food security for themselves and their families, decreasing levels of stress and anxiety.

### **Question 4**

**Partnerships and collaboration** — The Scaling Up Nutrition program is a partnership between Oxfam and the Catholic Development Commission of Malawi (CADECOM).

**Ownership** — The Scaling Up Nutrition program set up community groups where mothers teach each other about balanced diets, food hygiene, and community health. This reflects ownership as local people are involved in the implementation of the program

**Focused on results** — The Scaling Up Nutrition program aims to reduce the number of deaths of children under five by as much as 10 per cent.

### **Question 5**

The Growing is learning project is teaching farmers to grow nutrient rich, sustainable food to better feed themselves and their families. Improved food security promotes human development, as people will experience less malnutrition and hunger. This creates an environment where people can develop to their full potential and lead productive and creative lives according to their needs and interests as they have the energy and improved immunity to do so.

## **13.5 Aid programs addressing SDG 3 Good health and wellbeing**

### **ANSWERS**

#### **Case study review: Quality Health Services Move Closer to Rural Afghans in Samangan Province**

1. The SDG/s being addressed in this program are SDG 4: Quality education and SDG 5: Gender equality.
2. The program aimed to expand the scope, quality, and coverage of health services, particularly to vulnerable groups in the Hazrat Sultan District of Afghanistan. It provides a basic package of health services in the 7 health facilities. These health services include a hospital, comprehensive health centers and basic health centers. Facilities include outpatient services, midwifery, vaccination, laboratory, nutrition, and mental health treatment. The programme has also expanded the reach of health services by engaging the local population and raising awareness of health issues. The program was introduced because many people were unable to access health care due to the long distances associated with it. It was designed to provide greater access to health services for those living in the rural areas of Afghanistan.

#### *1. The program reflects the features of effective aid:*

**Ownership** — the program met the needs of the country as many people in the rural area of Samangan province had to travel long distances to access health care. The health councils include community members who help health care staff understand local health needs as well as involve the community in health center activities. This ensures that the services are delivered in a socioculturally appropriate way.

**Partnerships and collaboration** — The programme is implemented by the Ministry of Public Health, supported by the Afghanistan Reconstruction Trust Fund, managed by the World Bank, International Development Association and the Global Financing Facility. It is a multi-stakeholder partnership.

**Focused on results** — this program addresses the lack of access to health services in rural areas of Afghanistan which helps improve health and wellbeing and seeks to reach those who need assistance the most. It is also targeted towards meeting the health needs of vulnerable groups.

*Transparency and accountability* — funding was provided for the establishment of health care centers and implemented as part of multi-stakeholder programme. The programme is being monitored and another challenge facing the programme is the shortage of female health professionals. In response 48 female high school graduates have undergone Community Midwifery Education and Community Health Nursing Education programs and will join the health facilities close to where they live.

2. The program could promote health and wellbeing as providing access to health care will help promote physical health and wellbeing. People can receive treatment for illnesses which helps them return to good physical health and wellbeing. Children are able to be vaccinated against childhood diseases which helps prevent them from getting ill which improves physical health and wellbeing. When family members are sick due to diseases it contributes to stress and anxiety and reduces mental health and wellbeing. The provision of midwifery services helps ensure mothers and babies are delivered in a safe and hygienic environment which reduces maternal and child mortality which contributes to improved mental health and wellbeing as families are less likely to have to manage trauma and death of newborns and mothers. The provision of mental health services also helps promote mental health and wellbeing by providing psychological services to address mental health issues.

The program will promote human development as it will enable people to return to good health, resume work and allow children to attend school which helps develop the skills needed to gain work and earn an income. This contributes to economic growth and provides the resources people need to be able to enjoy a decent standard of living and have more choices. When people are healthy they are more empowered to take control over the decisions that affect their life and have the capacity to live to their potential and lead a long and healthy life. When people experience good health and wellbeing, are educated and gainfully employed, they are more likely to become involved in the political and social life of their community.

### **13.5 Exercise**

#### **Test your knowledge — 13.5.1: Sexual and reproductive health and wellbeing program in Cambodia**

1. Apart from SDG 3, other SDGs that may be achieved with this program are SDG 1: No poverty, and SDG 4: Quality education. (2 marks)
2. The target groups for the program were rural women of reproductive age in remote areas of Cambodia. (1 mark)
3. The purpose of the program was to improve access to sexual and reproductive health information in the most marginalised and isolated communities in the country. (2 marks)
4. The program was implemented by the United Nations Population Fund (UNFPA) in partnership with UNICEF and the health, education and women's affairs sectors of the Cambodian government. (2 marks)
5. *How the program was implemented*
  - District leaders were trained to conduct outreach information sessions on the sensitive topics associated with sexual and reproductive health.
  - Teams of village members and district leaders visit each family and encourage them to participate in the information sessions. They also organised health professionals to speak at the session about issues such as maintaining a healthy pregnancy, the benefits of family planning and the risks associated with early pregnancy.
  - They provide information on the types of contraception available, their benefits and side effects, as well as the type of food that should be eaten during pregnancy and the importance of visiting a health centre for antenatal care at least four times during pregnancy and why it is important to give birth in a health facility. (4 marks)

#### **Apply your knowledge**

6. *How the program would help to achieve SDG 3: Good health and wellbeing*

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- It is important for women to have access to contraception and ensure they access antenatal care to ensure the health and wellbeing of the mother and developing baby. Many deaths are due to complications during pregnancy and childbirth, and antenatal care helps ensure that these complications are identified early or are prevented. This helps achieve good health and wellbeing.
  - Knowledge of and access to contraception allows families to time and space their pregnancies, ensuring the mother's body has recovered adequately from previous pregnancies. This helps women achieve good health and wellbeing.
  - Contraception also enables a reduction in adolescent pregnancies; these can put the mother and baby at risk of dying or suffering long-term complications. Reducing this risk helps achieve good health and wellbeing. (6 marks)
7. Four features of effective aid are to some extent reflected in the program, suggesting that the program is likely to have been successful.
- *Ownership* — district leaders are trained to conduct outreach information sessions on the sensitive topics associated with sexual and reproductive health. Teams of village members and district leaders visit each family and encourage them to participate in the information sessions. They also organised health professionals to speak at the session. This helps ensure that the program is delivered in a socioculturally appropriate way.
  - *Partnerships and collaboration* — a range of partnerships are in place that would help ensure the skills and resources of each one can be used to ensure the program is effective. The program was implemented by the United Nations Population Fund (UNFPA) in partnership with UNICEF and the health, education and women's affairs sectors of the Cambodian government.
  - *Focused on results* — lack of knowledge about sexual and reproductive health is common in remote communities. This leads to poorer maternal health, less use of family planning and higher rates of adolescent pregnancy. Rural women are less likely than urban women to receive information about family planning from the media, and teens in rural areas are more likely to become pregnant. Over a quarter of girls aged 15–19 years in Preah Vihear Province in Cambodia are pregnant or have had children. This shows that the program is addressing a need within the community, and will promote health and wellbeing and human development as well as addressing poverty and reducing inequality.
  - *Transparency and accountability* — this program was funded by the United Nations Population Fund and other key stakeholders. While it would appear that the project outcomes were communicated to the community, there is no evidence that the program has been evaluated to ensure its aims were met. This may affect the sustainability and effectiveness of the program. (8 marks)
8. *How the program promotes health and wellbeing*
- Accessing antenatal care during pregnancy and giving birth in a health facility helps reduce deaths from complications during pregnancy such as haemorrhage, infection, hypertension and obstructed labour. It also helps reduce obstetric fistula, which is a condition that arises due to complications caused by obstructed labour. The condition can lead to the continuous leakage of urine or faeces and causes loneliness and shame. Due to the hygienic environment, giving birth in a health facility reduces the risk of fistula and infection during childbirth. This promotes physical, emotional, mental and spiritual health and wellbeing.
  - Reducing maternal and child deaths also promotes social and emotional health and wellbeing by removing the grief that is experienced when a mother or baby dies.
  - Having access to contraceptives and family planning services allows couples to time and space their children, which promotes physical health and wellbeing.
  - Pregnancy during adolescence increases the risk of maternal and child death as girls are still developing and their bodies are less able to cope with the demands of pregnancy and childbirth. Still births and newborn deaths are much higher among adolescent mothers, both

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- of which contribute to grief and loss. Reducing the number of adolescents becoming pregnant therefore promotes physical and emotional health and wellbeing.
- Giving birth in a health facility promotes the physical health and wellbeing of newborns by reducing death from asphyxia (lack of breathing) and infection. (4 marks)
9. *How the program promotes human development*
- By providing access to contraception, the program allows women and families to plan the number and spacing of children. This empowers women and gives them control over decisions that impact their lives.
  - By providing couples with knowledge of what is required for a healthy pregnancy, the program helps mothers and their children develop to their full potential and enjoy a long and healthy life. (4 marks)

### 13.5 Exercise

#### Test your knowledge — 13.5.2: Evidence Action: Deworm the World program

1. Apart from SDG 3, other SDGs that may be achieved with this program include SDG 1: No poverty and, SDG 4: Quality education. (2 marks)
2. The target groups for the Deworm the World program are school-aged and preschool-aged children living in poor and very poor countries. (2 marks)
3. The purpose of the Deworm the World program is to ensure that all at-risk children have access to medication that prevents and treats worm infestation and enables them to enjoy improved health and wellbeing, increased access to education and better livelihoods. (2 marks)
4. Partnerships involved in this program are Evidence Action, a non-government organisation based in the United States, and governments of countries where children are most at risk, particularly local ministries of education and health. (2 marks)
5. *How the program was implemented*
  - Once the government agrees to implement a deworming program, Evidence Action works with local ministries of education and health to design a program that is jointly owned, carefully planned and budgeted, and implemented effectively.
  - Evidence Action works with communications experts to design locally appropriate awareness campaigns to communicate information about the program to local communities to ensure parents are supportive of the program.
  - Evidence Action works with governments to help them obtain the necessary medication through global pharmaceutical donation programs, which helps minimise the costs.
  - Evidence Action designs monitoring systems to measure effectiveness in achieving intended program objectives. It also conducts independent monitoring to validate program results and evaluate the impact of programs in reducing worm prevalence and intensity. (4 marks)

#### Apply your knowledge

6. *How the program would help to achieve SDG 3: Good health and wellbeing*
  - Eliminating worm infestations in children improves physical health and wellbeing by reducing the level of sickness and fatigue that occurs when children are infected.
  - The program will help reduce the level of anaemia and malnutrition in children, which promotes physical health and wellbeing. This increases the likelihood of children attending school and building relationships with other children and the teachers, which increases their social health and wellbeing.
  - When children are healthy and have lots of energy, they are happier, which increases their mental and emotional health and wellbeing. (4 marks)
7. Four features of effective aid are reflected in the program, suggesting that the program is likely to have been successful.
  - *Ownership* — the program is implemented only when there is agreement by the local government. Evidence Action works with local ministries of education and health to design a program that is jointly owned, carefully planned and budgeted, and implemented

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effectively. It works with communications experts to design locally appropriate awareness campaigns to communicate information about the program to local communities to ensure parents are supportive of the program. This means the program is owned by the community and implemented in a socioculturally appropriate way and meets the needs of the community.

- *Partnerships and collaboration* — a range of partnerships are in place which would help ensure the skills and resources of each one can be used to ensure the program is effective. The program involves partnerships between Evidence Action, the local government and local ministries of education and health.
- *Focused on results* — worm infestations pose a serious threat to health and wellbeing in many of the world's poorest countries. They interfere with the body's ability to absorb nutrients and can lead to anaemia, malnutrition and reduced mental and physical development. Children are often too sick or fatigued to attend school or, if they do attend, have great difficulty concentrating. An infected child is estimated to be 20 per cent less likely to be enrolled in school than a non-infected child and is also 13 per cent less likely to be literate. There are estimated to be 870 million children at risk of parasitic worm infestations worldwide. The Deworm the World program aims to ensure that all at-risk children have access to medication that prevents and treats worm infestation, thereby improving health and wellbeing and human development and reducing poverty.
- *Transparency and accountability* — Evidence Action work with governments to help them obtain the necessary medication through global pharmaceutical donation programs, which helps minimise the costs. It designs monitoring systems to measure effectiveness in achieving intended program objectives, and also conducts independent monitoring to validate program results and evaluate the impact of programs in reducing worm prevalence and intensity. (8 marks)

### 8. *How the program promotes health and wellbeing:*

- Eliminating worm infestations in children improves physical health and wellbeing by reducing the level of sickness, fatigue, anaemia and malnutrition that occurs when children are infected. This increases the likelihood of children attending school and building relationships with other children and the teachers, which increases their social health and wellbeing as well as mental health and wellbeing.
- When children are healthy and have lots of energy, they are happier, and this increases their emotional health and wellbeing.
- When children are educated, they are more likely to participate in the life of their community. This brings about a sense of belonging which also promotes spiritual health and wellbeing. (4 marks)

### 9. *How the program promotes human development:*

- Children can attend school and gain knowledge, which increases their opportunity to gain employment or develop the skills needed to eventually run a business.
- A healthy population means a stronger economy as people can work to earn an income and purchase goods and services. This increases productivity and generates additional income for the country, providing resources for investing in infrastructure such as roads, water supplies and healthcare. This creates an environment where people can live to their full potential and enjoy a long and healthy life.
- When people are healthy they are more confident and are more likely to participate in political and community life. (4 marks)

### **Test your knowledge — 13.5.3: Tobacco Control program in the Philippines**

1. Apart from SDG 3, other SDGs that may be achieved with this program are SDG 1: No poverty, SDG 4: Quality education, and SDG 2: Zero hunger. (3 marks)

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2. The target groups for this program are all people who live in the Philippines. The program targets both those who smoke, encouraging and supporting them to quit, as well as current non-smokers, aiming to prevent them from taking up the habit. (2 marks)
3. The purpose of the program is to strengthen the country's capacity for tobacco control; run sustainable tobacco control programs that protect people from exposure to tobacco and tobacco smoke; prevent premature deaths from smoking-related diseases; and save lives. (2 marks)
4. The partnerships involved in the program are the WHO, which provided funding through the Bloomberg Initiative, and many government departments within the Philippines government. These include the Department of Education; Department of Social Welfare and Development; Land Transportation and Franchising Regulatory Board; Land Transportation Office; Philippines Ports Authority; Civil Aviation Authority of the Philippines; Department of Tourism; Tourism Infrastructure and Enterprise Zone Authority; and the Philippines Society of Mechanical Engineering. (3 marks)
5. *How the program was implemented:*
  - The program was implemented by using several initiatives known as MPOWER:  
**Monitor** tobacco use and prevention policies  
**Protect** people from tobacco smoke  
**Offer** people help to quit tobacco use  
**Warn** people about the dangers of tobacco  
**Enforce** bans on tobacco advertising, promotion and sponsorship  
**Raise** taxes on tobacco.
  - The WHO is contributing to the implementation of MPOWER measures in the Philippines by encouraging the government to increase tobacco prices and taxes; providing technical and financial support to develop appropriate policies; supporting actions to enhance tobacco control; promoting prevention and cessation interventions; and initiating collaboration with non-government organisations and the media to help promote tobacco control.
  - The WHO is working with the Philippines government to monitor tobacco consumption and undertake large-scale surveys of the population. The data collected provides a basis for future public health research and contributes to effective monitoring and control of tobacco consumption. (6 marks)

### Apply your knowledge

6. *How the program would help to achieve SDG 3: Good health and wellbeing*
  - The program would reduce the burden of disease associated with cardiovascular disease, cancer and respiratory diseases in the Philippines.
  - It would contribute to reduced levels of respiratory diseases suffered by children because of passive smoking.
  - A reduction in tobacco smoking could also reduce the level of poverty in the Philippines. This helps achieve good health and wellbeing by increasing the money that is available for families to spend on food, water and healthcare. (4 marks)
7. Four features of effective aid are reflected in the program, suggesting the program is likely to have been successful.
  - *Ownership* — the WHO is working with the Philippines government to help introduce a range of tobacco-related initiatives. These initiatives are being developed by the Philippines government, which then has ownership over what the strategies include and how they are implemented. This helps ensure that the program is delivered to the Philippines community in a socioculturally appropriate way.
  - *Partnerships and collaboration* — funding is provided by the WHO Bloomberg Initiative, and many government departments within the Philippines government. These include the Department of Education; Department of Social Welfare and Development; Land Transportation and Franchising Regulatory Board; Land Transportation Office; Philippines

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Ports Authority; Civil Aviation Authority of the Philippines; Department of Tourism; Tourism Infrastructure and Enterprise Zone Authority; and the Philippines Society of Mechanical Engineering. This ensures the expertise of each of these organisations can be used to ensure the program is effective.

- *Focused on results* — the Philippines has a high burden of tobacco-related disease: 35 per cent of men, 6.4 per cent of women and 20.6 per cent of the Philippines' population overall are daily tobacco smokers. Since 2008, the WHO has worked with various government offices, agencies and societies to promote policies that provide for smoke-free environments, develop smoke-free legislation, and implement a National Action Plan and Strategy for Tobacco Control. Legislation is now in place making it mandatory for cigarette packets to have a graphic health warning covering 50 per cent of the front and back panels of cigarette packs. By reducing demand for tobacco products in these ways, the program is promoting health and wellbeing and helping reduce poverty
  - *Transparency and accountability* — the WHO is working with the Philippines government to monitor tobacco consumption and undertake large-scale surveys of the population. The data collected provides a basis for future public health research and contributes to effective monitoring and control of tobacco consumption. (8 marks)
8. *How the program promotes health and wellbeing*
- The program works to reduce the number of people who smoke. This will reduce the number of people who suffer from cardiovascular disease, cancer and respiratory diseases, and therefore improve physical health and wellbeing.
  - A reduction in tobacco smoking would promote the physical health and wellbeing of children by reducing the risk of developing respiratory diseases due to passive smoking.
  - When people experience good physically health and wellbeing, they are more likely to enjoy good emotional and mental health and wellbeing because they are happier, more resilient and better able to cope with changes in their environment. Healthy children and adults can attend school and work and develop relationships, which promotes social health and wellbeing.
  - A reduction in tobacco smoking could provide more resources to spend on food, water and healthcare, all of which are important for promoting health and wellbeing. (4 marks)
9. *How the program promotes human development*
- Reducing the levels of smoking in the Philippines will help people enjoy a long and healthy life, and achieve a decent standard of living. By promoting health and wellbeing, the program would also promote human development.
  - A smoke-free environment is important for individuals to develop to their full potential and have a greater chance of leading productive and creative lives. Healthy people are more likely to feel empowered and to participate in political and community life.
  - Children will be able to attend school and adults to work, which improves literacy and economic development. (4 marks)

### 13.5 Exam questions

#### Question 1

Agriculture, fisheries and water

Education and health

#### Question 2

SDG 6: Clean water and sanitation

SDG 4: Quality education

SDG 1: End poverty

**Question 3**

Through providing safe water supplies and being able to repair them, the physical health and wellbeing of people in East Timor will improve. There will be a lower incidence of diarrhoeal diseases and worm infestations, and of deaths caused by these conditions, particularly in children, if the people of East Timor have the skills to build and repair their own water supplies.

**Question 4**

Acquiring the skills to build safe water supplies and repair them when they break down will improve human development as the people of East Timor will have fewer illnesses and therefore will have more energy to participate in the life of their community. Being well enough to work and go to school will increase choices and enhance capabilities.

**Question 5**

The project provides income-earning capacity to the villages and a sustainable food supply. This will improve the physical health and wellbeing of the villagers as the program provides a source of food that should help reduce hunger and nutrient-related diseases. Also, an adequate food supply will improve resistance to other diseases and provide a source of income to purchase medicines to further reduce disease within the community.

### **13.6 Aid programs addressing SDG 4 Quality education**

#### **ANSWERS**

##### **Case study review: Improving health and education services in refugee-hosting communities in Ethiopia**

1. In addition to SDG 4, the SDG/s addressed in this program are SDG 3: Good health and wellbeing, and SDG 5: Gender equality.
2. The program was introduced because many of the refugees from South Sudan, Sudan, and Eritrea have gone to Ethiopia, where they are living in camps and the large number of refugees are putting a strain on health and educational services. There are significant gender disparities in the host communities which is why the project focused on women, women-led households, and youths. These groups are disproportionately affected by the impact that forced displacement has on access to health and education.
3. The program is improving education and health in communities by increasing capacity and improving accessibility, particularly for women and girls. Existing poor quality and dilapidated schools were being upgraded with large and well-ventilated classrooms with proper furniture, trained teachers and leaders were provided to schools to improve enrolment and attendance and improved learning environments. Health facilities were more conveniently located to provide prenatal and postnatal care and children were able to be vaccinated. Health facilities were also upgraded with trained health care workers, improved equipment, power and refrigeration.
4. *How the program promoted health and wellbeing:*
  - The program is providing access to schools with improved facilities and teachers. With a focus on providing education to girls, women-led households and youth, who have traditionally not had access to education, literacy and numeracy skills will increase. This will help girls, women and young people to develop the knowledge and skills necessary to gain a job and earn an income which will help address poverty. They will be able to afford food, clothing and shelter which will reduce the risk of disease and promote physical health and wellbeing.
  - Improved access to health care, in particular vaccination for children and better antenatal and prenatal care will improve physical health and wellbeing as children will have immunity

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to infectious diseases. Access to health care is also important for reducing the risk of illness and disease. Being able to treat illnesses once they develop is important for improving physical health and wellbeing.

- Improved access to health care services helps promote mental health and wellbeing by reducing levels of anxiety and stress associated with being ill and having to deal with the trauma of death of family members.
- The program improves social health and wellbeing as it provides opportunities for children to attend school and build relationships with other children and teachers.
- Improved education and access to health care also helps build a sense of community belonging, which promotes spiritual health and wellbeing.

*How the program would promote human development:*

- With a focus on building the education levels of women and girls, gender equality is being developed which is a foundation for improved human development. Women and girls are able to become more empowered and are more likely to become involved in decisions relating to their lives and that of their community
  - Better educated people have more choices and can develop greater capabilities which helps people develop to their full potential and are more able to lead productive lives
  - With improved education the children, women and youth are developing skills that will help them increase their income and eliminate poverty. This will help families enjoy a decent standard of living and provide them with more choices over the decisions that affect their lives and the lives of their families.
5. The program includes all of the criteria necessary for an effective aid program.
- *Ownership* — the program focuses on improving education and health in the host communities, particularly for women and girls due to the significant gender disparities in the host communities and the fact that women and girls are disproportionately affected by the impact of forced displacement. To ensure the program meets the needs of the community, an implementation team did a snapshot assessment of how the communities were faring. This also enabled the team to decide whether the project design needed adjustment to be more effective.
  - *Partnerships and collaboration* —to support the refugee-hosting communities in Ethiopia, the World Bank financed the Ethiopia Development Response to Displacement Impacts Project (DRDIP) which focuses on providing social services and economic opportunities to communities in the states of Somali, Gambella, Tigray, Afar and Benishangul-Gumuz. Whilst the case study does not specify, it could be assumed that it worked with the governments of these Somalian states.
  - *Focused on results* — the program is addressing an area of need which has been validated by the outcomes of the snapshot assessment of the community prior to the beginning of the program to ensure it was focusing on what was needed. The program has focused on women and girls and youth, due to the significant gender disparities in the host communities. At least 60 percent of household heads had never participated in any informal or formal schooling, a quarter of school-age children had never attended school. There was also a decline in the proportion of children that were attending higher grades. This would suggest that the program focused on what was needed.
  - *Transparency and accountability* — the program is being monitored and evaluated, which helps ensure the effectiveness of the program. A mid-term review was undertaken on 86 schools and 31 health centers to determine whether the program was meeting its aims. This indicates accountability and transparency.

### 13.6 Exercise

#### Test your knowledge

1. Apart from SDG 4, other SDGs that may be achieved with the way we live literacy program in Zambia include SDG 1: No poverty, SDG 3 Good health and wellbeing, and SDG 5: Gender equality. (3 marks)
2. The target groups for the program are children and their parents and caregivers. (2 marks)
3. The purpose of the program is to develop mother-tongue reading materials and promote parental engagement in reading using mobile phone technology in Eastern Province, Zambia. It also aims to illustrate story booklets so they can be distributed to schools to provide children with new reading materials. (2 marks)
4. The program is implemented by Creative Associates International in partnership with the local community and radio station Breeze FM, and is funded by USAID, World Vision and the Australian government as part of a larger program known as All Children Reading: A Grand Challenge for Development. (3 marks)
5. *How the program was implemented*
  - Digital Short Message Service (SMS) and Interactive Voice Response (IVR) messaging was used to regularly share local language stories with the children and their families using their personal mobile device.
  - The program encouraged community members to provide stories each week. Literacy specialists then adapted the local stories so they were age-appropriate and at a level that could be understood by the children. The stories were then sent by SMS to parents' phones so children could practise reading at home.
  - Children and their caregivers gathered together to read the short stories on their mobile phones. As each of the three-story segments was received on the device, the students wrote it down in their exercise books.
  - For further understanding, and to encourage parents to engage with their children, each story segment was followed by a reading comprehension question that parents could ask their children. The questions were provided through SMS, with a recorded version of the story made available to assist illiterate parents.
  - The local radio station raised community awareness about the literacy program and helped generate the collection of local stories. People could submit their stories online, via text, or by dropping stories off at the radio station. The radio station read then read the local stories on the air as part of contests. Listeners called in and voted for their favourite story, building interest in generating more stories for children's literature. (6 marks)

#### Apply your knowledge

6. *How the program would help to achieve SDG 4: Quality education*
  - It helps girls and boys to have equal access to education.
  - It provides education to the parents who are involved in reading and sharing the stories with their children.
  - It is available to children with a disability and those who are disadvantaged.
  - It focuses on building literacy skills and uses literacy specialists to ensure the stories are of high quality and age appropriate.
  - It provides a way to overcome the challenges of not having sufficient numbers of qualified teachers to ensure all children have access to education. (4 marks)
7. The program includes each of the criteria necessary for an effective aid program.
  - *Ownership* — the program relies on the local community to provide stories in the mother tongue. It partners with the local community and radio station, which ensures the program is delivered in a way that is socioculturally appropriate. Community involvement and interest is also fostered by listeners calling in to the radio station and voting for their favourite story. Parents can engage with their children by asking reading comprehension questions that also

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come by SMS. A recorded version of the story is available to assist illiterate parents. The program has built a sense of community belonging, which is important in ensuring the program will be effective.

- *Partnerships and collaboration* — the program is implemented by Creative Associates International in partnership with the local community and radio station Breeze FM, and is funded by USAID, World Vision and the Australian government. This ensures that the skills and expertise of these groups can be used to achieve sustainable results.
  - *Focused on results* — the program is addressing the problems of insufficient numbers of trained teachers in Zambia; lack of variety of reading materials for children; and low literacy levels across Africa. More than 200 stories have been collected and shared. In the future, the stories can be reused for other education programs, helping ensure sustainability. In the first 12 months of the program it was found that parents, grandparents and other extended family members in all participating households reported reading the mobile stories with their children at least once a week, and 78 per cent said they read every SMS message when it was received three times a week. All caregivers reported that the project helped their children's learning process, and many household members actively participated in the reading activity.
  - *Transparency and accountability* — to evaluate the effectiveness of the program, the University of Chicago collected results through an Early Grade Reading Assessment (EGRA), household survey and learner questionnaires. (8 marks)
8. *How the program would promote health and wellbeing*
- Educated individuals are more likely to be employed in higher paid positions, thereby earning an income to improve their standard of living. With more income, families have increased access to the quantity and quality of food required for growth and repair of body tissues, and for increased immunity, thereby reducing the risk of disease and promoting physical health and wellbeing.
  - Greater income means families can afford other resources, such as clean water and healthcare, which are important for reducing the risk of illness and disease. Being able to treat illnesses once they develop is important for improving physical health and wellbeing.
  - Educated individuals can read and understand health-related information, which enables them to not only prevent illnesses from occurring but also to seek the required medical assistance. They are also more likely to understand medical instructions, ensuring that medications are taken in the required dosage. This promotes physical health and wellbeing.
  - By attending schools or groups where education programs are conducted, individuals become socially connected, which promotes social health and wellbeing.
  - The literacy program in Zambia was also effective in building a sense of community belonging, which promotes spiritual and mental health and wellbeing. (4 marks)
9. *How the program would promote human development*
- Healthy individuals can work and earn an income, and are more likely to be involved in their communities. This is important for promoting human development.
  - The program helped to build literacy skills and also preserve culture, bringing families together and encouraging participation by all community members.
  - At the national level, educating individuals results in a more skilled workforce, which contributes to a country's level of income. A country with a higher income can implement programs and develop infrastructure projects that promote health and wellbeing and human development. This can be achieved through creating an environment in which people can develop to their full potential and lead creative, productive lives in accord with their needs and interests.
  - Educated individuals have more choices, greater access to knowledge, and more opportunities to achieve a decent standard of living and participate in the lives of their communities and the decisions that affect their lives. Educated parents are more likely to

educate their own children, which is important for ensuring that improvements in health and wellbeing and human development are continued in the future. (4 marks)

### **13.6 Exam questions**

#### **Question 1**

An example from the above program that reflects this key feature is that last year 176 students, with JRS scholarships, began studying in Thai schools.

#### **Question 2**

The key partners involved in the program are Caritas and Jesuit Refugee Service, along with the Burmese community.

#### **Question 3**

SDG4 — Quality Education. Eliminating disparity in education and vocational training, including people with disabilities is one of the key focuses of this SDG. The Maryknoll Deaf development program is working with deaf people and providing education and vocational training through teaching sign language and providing training in literacy and income generating skills.

#### **Question 4**

The Maryknoll Deaf Development Program teaches participants sign language, and provides training in literacy and income-generating skills. Learning new skills increases self-esteem and confidence levels, which will promote the mental health and wellbeing of the participants.

#### **Question 5**

The Maryknoll Deaf Development Program teaches participants sign language, and provides training in literacy and income-generating skills. Training in literacy and income generating skills increases the chances of employment of participants. This will promote human development as the participants now have the ability to enhance their capabilities and expand their choices in relation to the things they can be and do.

## **13.7 Aid programs addressing SDG 5 Gender equality**

### **ANSWERS**

#### **Case study review: Sahel: Women Entrepreneurs are Ready for the Uncertainties of Pastoral Life**

1. Other than SDG 5, other SDGs being achieved by this program include: SDG 1: No poverty, SDG 3: Good health and wellbeing, SDG 4: Quality education.
2. The program was introduced to provide women with skills and an income. It was designed to address climate, security, and population challenges that have made them increasingly vulnerable. 40% of 20 million livestock herders live in extreme poverty, no longer able to earn a decent living from livestock. It was essential to diversify their incomes to preserve and improve their way of life.
3. The program provided training to women within the community, who travelled to Goghe, more than 200 km away to learn how to use the previously discarded hides of slaughtered animals to generate income. The women received full room and board for two months where they learnt how to tan the hides and make new items from the tanned hides. They were also provided with a management course, equipment and funds to purchase hides and some funds to launch their own business. The program targets young people and women in particular and supports them until they begin to produce high-quality products and become independent.
4. *The program promotes health and wellbeing by:*
  - Mental health and wellbeing is promoted as the women gained pride and confidence in their achievements and their ability to contribute to the household finances.

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- Fatimetou and her four friends have trained other women and have set up small businesses which promotes social health and wellbeing.
- As a result of the training program women have been able to set up small businesses and earn an income which is being used to send the children to school. This will promote social health and wellbeing.
- Social health and wellbeing is also promoted as the women have found new social status in a job once reserved for blacksmiths.
- Being able to earn an income means there is money available to buy essentials such food, clothing and health care which improves physical health and wellbeing.
- Emotional health and wellbeing is promoted as she experiences pride and a sense of achievement when she sees the results of her work and it makes her feel good.
- Spiritual health and wellbeing is promoted as the women work together with the profits pooled to keep everyone motivated. This helps build a sense of connectedness.

*The program promotes human development by:*

- Building management skills and becoming a leader within the community. Prior to the program women were did not contribute to the household finances. This program changed the lives of the women, gave them status and allowed them to participate in decision-making in their home and community. This program has empowered women and allowed them to have greater choice in the decisions that affect their life.
- The program is contributing to gender equality which is essential if women are to lead healthy and productive lives where they have the capabilities to take control over the decisions that impact their lives.
- The women are now respected in their community which enables them to participate in the social and political lives of their community. They are also developing the skills needed to expand their business and build a factory to enable them to sell their products around the world.
- The women are able to develop the knowledge and skills that enable them to lead a decent standard of living and to share the knowledge so the whole community benefits.

5. Features of effective aid evident in the program are:

- *Ownership* — the program is training women in local communities to build their skills to develop a business and become leaders within their own community. Once trained the women are sharing what they learned with other members of their communities and providing information and leadership. This helps ensure the program meets the needs of the community.
- *Partnerships and collaboration* — the program was implemented by the Ministries of Livestock and Employment and Professional Training, received funding from the World Bank through the International Development Association and was coordinated by the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS).
- *Focused on results* — Before the program was implemented, surveys of households were conducted to identify the activities that they would like to develop and the skills needed to take up those activities. The program targeted young people and women in particular and supported them until they begin to produce high-quality products and become independent. It addresses the need for women in particular to be educated and to establish businesses that helps address poverty. The program has been successful in developing the knowledge and skills of the women who are now trained and are sharing their expertise with others in the community. The success of the business and the plans to extend the business in the future means the program has the capacity to promote health and wellbeing and human development and to reduce the level of poverty.
- *Transparency and accountability* - It is evident that the funding was used for its intended purpose as their small business is thriving and developing new products and the women are hoping to expand their business and sell their products around the world.

### 13.7 Exercise

#### Test your knowledge

1. Apart from SDG 5, other SDGs that may be achieved with this program are SDG 1: No poverty, SDG 3: Good health and wellbeing, and SDG 13: Climate action. (3 marks)
2. The target groups for the program were women in their mid-to late 40s who live in remote villages that lack access to electricity and lighting. (2 marks)
3. The purpose of the program is to empower rural women, particularly those who are illiterate or semi-literate, by providing the necessary training to install and maintain solar panels that provide access to solar-powered electricity in remote and isolated parts of India. The program has expanded and is now being implemented in low-income countries in Africa, the Middle East, Asia and South America. (3 marks)
4. There are many partners involved in the program. Funding is provided by a range of donor organisations, including the United Nations Development Program, the Indian government, international aid agencies, and private and corporate foundations. The program also partners with local and national organisations. (3 marks)
5. *How the program was implemented*
  - A team from the Barefoot College and the Village Energy and Environment Committee (VEEC) look for rural communities where they believe solar energy will make a substantial difference. They establish a relationship with village elders who help ensure there is community support. The program is based on the belief that the village community needs to manage, control and own the solar generators as well as repair and maintain them.
  - The community chooses two women in their mid to late 40s who will travel to Tilonia in India to live for six to nine months to become trained as solar engineers. Here the women are taught by listening, memorising and being shown how to handle sophisticated charge controllers and inverters; install solar panels and link them to batteries; build solar lanterns; and establish a local electronic workshop where they can carry out all repairs to the solar power system themselves.
  - The Barefoot College provides each village with up to \$50 000 in solar equipment for 120 households. Once the course is finished, the women return to their villages where they install the solar lamp kits and are paid a monthly salary for fixing and repairing them. A committee headed by four women and three men from the village remain in charge of the equipment. (6 marks)

#### Apply your knowledge

6. *How the program would help to achieve SDG 5: Gender equality*
  - It recognises the important role that women can play in communities.
  - It provides illiterate adult women with training and education, as well as a means of earning an income.
  - It gives women opportunities to become leaders in their community, allowing them to participate in decision making at a political, social and economic level.
  - It provides access to resources and finances, and empowers women. As a result, women are treated with greater respect and their skills are valued by the community. (4 marks)
7. This program reflects the four features of effective aid and would therefore be a successful program.
  - *Ownership* — the program is based on community ownership.
    - When establishing the program, a team from the Barefoot College and the Village Energy and Environment Committee (VEEC) travel to the community where they establish a relationship with village elders who help ensure there is community support.
    - The program is based on the belief that the village community needs to manage, control and own the solar generators as well as repair and maintain them. The program will only be implemented in villages that make a commitment to do this. When the VEEC team

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come to the village, all members come together so they can understand the benefits of having solar power and how the program will operate.

- Once the women engineers are trained, the ongoing cost of providing the service must be paid for by the community. The community themselves decide how much they can contribute each month for the maintenance and repair of the equipment.
  - The community chooses two women in their mid to late 40s who will travel to Tilonia in India to live for six to nine months to become trained as solar engineers. Once the course is finished, the women return to their villages where they install the solar lamp kits and are paid a monthly salary for fixing and repairing them. A committee headed by four women and three men from the village remain in charge of the equipment.
  - *Partnerships and collaboration* — the program is funded by a range of donor organisations, including the United Nations Development Program, the Indian government, international aid agencies and private and corporate foundations. They program also partners with local and national organisations.
  - *Focused on results* — there is no access to electricity in many remote villages in low-income countries.
    - Women have to purchase expensive kerosene, wax candles or batteries to provide some form of lighting. Without electricity and lighting, evenings become more dangerous for women and children, who are at greater risk of violence. Income-generating activities are restricted and children are unable to read or study at night. The use of kerosene and wax candles can result in fires, and the use of kerosene for lighting and cooking contributes to indoor air pollution and the associated illnesses such as lower respiratory infections.
    - The Barefoot College has trained hundreds of semi-literate and illiterate women, many of them grandmothers from the poorest countries, to be solar engineers. They have all gone back home to install solar panels and batteries, maintain and repair them and change life in their remote villages.
    - An estimated 10 000 women students have passed through the college's doors, while previous students from the college are running more than 800 night schools across India. The program is meeting the needs of communities, and is important for promoting health and wellbeing and human development, and addressing poverty.
  - *Transparency and accountability* — the Barefoot College provides training and solar equipment. Once the course is finished, the women return to their villages where they install the solar lamp kits and are paid a monthly salary for fixing and repairing them. A committee headed by four women and three men from the village remain in charge of the equipment. Once the women engineers are trained, the ongoing cost of providing the service must be paid for by the community. The community themselves decide how much they can contribute each month for the maintenance and repair of the equipment. Therefore, the program has transparency and accountability. (8 marks)
8. *How the program promotes health and wellbeing*
- The program has provided communities with a clean source of energy for lighting. The solar energy sources replace kerosene and wax candles, which produced indoor air pollution and contributed to lower respiratory diseases for all family members, particularly children, who are more vulnerable to the pollutants. Using solar energy therefore promotes physical health and wellbeing.
  - Providing communities with lighting promotes emotional and mental health and wellbeing, because women and children feel safer at night and less vulnerable to violence.
  - Women who are traditionally discouraged from gaining an education or being employed are provided with the knowledge and skills to contribute to their community and earn an income doing so. This promotes emotional and mental health and wellbeing because it brings a sense of pride to the women involved.

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- The program also promotes social health and wellbeing as new relationships are developed during the time that women are involved in training.
  - The program brings strong connections to the community and builds a sense of pride and ownership, which promotes spiritual health and wellbeing. (4 marks)
9. *How the program promotes human development*
- It improves the quality of life for the women and for those living in the community. The women have more freedom and greater opportunities to make choices about factors affecting their lives. Improved health and wellbeing contributes to an improved standard of living and a chance to live a long and healthy life.
  - It helps develop knowledge and addresses the basic human right of gender equality.
  - It gives women a greater connection to their community and the ability to participate in its political and social life. This helps them develop to their full potential and lead productive and creative lives. (4 marks)

### **13.7 Exam questions**

#### **Question 1**

The SDG being addressed is SDG 5 — Gender equality.

#### **Question 2**

The purpose of the Afghan Women's Network's Young Women's Leadership Program is to increase opportunities for Afghan women in rural and urban areas to influence and contribute to decision making in their communities, to build a network of young women leaders in Afghanistan and to strengthen women's networks across Afghanistan.

#### **Question 3**

The Afghan Women's Network's Young Women's Leadership Program aims to increase opportunities for Afghan women in rural and urban areas to influence and contribute to decision making in their communities. This promotes human development as the women participating in the program are empowered and have the skills to take control over the decisions that affect their lives. Through contributing to their community they are actively participating in the life of their community and now have the capacity to lead productive and creative lives.

#### **Question 4**

A suitable justification could be:

SDG 5 Gender Equality - Ending all forms of violence against women and girls is a key focus of SDG 5 Gender Equality. The safe bus project in Port Moresby is endeavouring to do this by providing a safe and non-threatening transport alternative for women through its women only bus service.

#### **Question 5**

The safe bus project provides a women's only bus. This promotes the emotional health and wellbeing of women bus travellers as they can now relax and feel safe while travelling without the fear of harassment or violence from men. It also reduces stress and anxiety levels promoting mental health and wellbeing.

### **13.8 Aid programs addressing SDG 6 Clean water and sanitation**

#### **ANSWERS**

##### **Case study review: Providing Sustainable Sanitation and Water services to Low-income Communities in Nairobi**

1. In addition to achieving SDG 6, other SDGs being addressed in this program are SDG 1: no poverty, SDG 3: Good health and wellbeing SDG 4: Quality education and SDG 5: Gender equality.

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2. The program was implemented because only 40% of Nairobi was connected to a sewerage system and with the growth of the city, more poor urban dwellers have been pushed into low-income settlements, where there is little or no water or sanitation. In some areas, women and children often had to walk long distances to get a small amount of daily water.
3. The purpose of the program was to provide greater water and sanitation access for people in urban settlements, increase the amount of safely disposed faecal sludge, reduce water contamination and improve the overall environmental health risk. The program sought to provide support in the form of subsidies for the financing of the infrastructure needed for household water and sanitation and its connection to trunk sewers and mainline water supplies. The program also provided funding for monitoring the use of the services, and technical assistance. The technical assistance focused on activities such as supporting community engagement, helping Nairobi City Water and Sewerage Company access a commercial loan and the implementation of social marketing and hygiene promotion activities.
4. The program reflects the features of effective aid. These include:
  - *Ownership* — the program provided funding to support community engagement, implement social marketing and hygiene promotion. It addressed the needs of the Nairobi residents who wanted increased access to water, sanitation and hygiene. This meant it was owned by the local community and was developed to meet the needs of the community as 84,940 people in Nairobi's informal settlements were provided with access to improved water sources, and 137,243 people were connected to the sewerage network. The project also resulted in many environmental and public health benefits, such as less drainage from pit latrines flowing into the streets and decreased open defecation.
  - *Focused on results* — the program addresses an area of need, providing access to water and sanitation services for the poor living in urban settlements. It provided sustainable access to water and sanitation through the building of infrastructure and education. It gave people the opportunity to improve their living conditions and quality of life. There were considerable benefits for women who often had to walk long distances to collect small amounts of water. The program helped reduce poverty and inequality which are the outcomes of an effective aid program.
  - *Partnerships and collaboration* — the program involved many partnerships and the strengths of each one were used effectively. The World Bank worked in partnership with the Nairobi City Water and Sewerage Company (NCWSC), Athi Water Services Board (AWSB) and Kenya Informal Settlements Improvement Project (KISIP).
  - *Transparency and accountability* — the program is being monitored and evaluated, with the outcomes of the program published to demonstrate the funding was used to address the aims of the program.
5. *How the program promotes health and wellbeing*
  - The program has provided communities with access to water and sanitation which helps improve their living conditions. The provision of safe water and sanitation was also supported with education and there were reported reductions in the cases of cholera which improves physical health and wellbeing.
  - Social health and wellbeing would also be promoted as the community participated in the program and with better health, all members of the community would be able to enjoy good health and wellbeing which would facilitate the capacity of children to attend school and for parents to work and earn an income.
  - Mental health and wellbeing would have also been promoted as one of the greatest impacts was the provision of clean water and toilets which was described by the Kenyan women as providing a lot of dignity.

### *How the program promotes human development*

- The program improved the quality of life for the community and empowered women. Empowering women gives them greater freedom to make choices about factors affecting

their lives. Freeing women up from having to walk long distances means they can better use their time to earn an income and help reduce levels of poverty.

- The program helped awareness of the importance of environmental protection and developed the skills associated with building infrastructure and technical knowledge. This helped build the capacity of community members to become involved in the political and economic lives of their community.

### 13.8 Exercise

#### Test your knowledge

1. Apart from SDG 6, other SDGs that may be achieved with this program include SDG 1: No poverty, SDG 3: Good health and wellbeing, and SDG 4: Quality education. (3 marks)
2. The target groups for the program were the communities living in Zabzugu, which is one of the poorest communities in Ghana. (1 mark)
3. The purpose of the program was to provide sustainable access to 20 litres of clean drinking water per person per day to ten communities in Zabzugu, thereby reducing the prevalence of diseases in the community caused by drinking unsafe water. (2 marks)
4. The program was a partnership with the Ghana government, funded by the We Are Water Foundation and supported by World Vision. (2 marks)
5. *How the program was implemented*
  - Careful planning and community participation was put in place to ensure the wells were situated in areas of greatest need; mapping and research techniques were used to locate the best water sources before building the wells; the quality and flow of the water was tested to ensure the water was high quality; and hand pumps were installed as well as protection for the wells to avoid contamination of the water.
  - To ensure the ongoing maintenance and upkeep of the wells, a water committee was established within each community who were provided with the necessary training and tools necessary for the maintenance and upkeep of the wells, and two technicians were trained and provided with the tools needed to be able to carry out repairs.
  - A system was established within the community to raise the funds needed for the ongoing repair and maintenance of the hand pump. (6 marks)

#### Apply your knowledge

6. *How the program would help to achieve SDG 6: Clean water and sanitation*
  - This program aims to provide sustainable access to safe and affordable drinking water and sanitation services to the people in Zabzugu, which is one of the poorest regions in Ghana where 85.3 per cent of people live in poverty. Many people living in this region have access only to nearby streams for their water, which is also used to water livestock and wash clothes. This program has provided 6300 people with access to clean water.
  - The program helps to achieve sustainable clean water and sanitation by supporting the participation of local community members in determining the placement of wells and to establish a water committee in each community, the members of which are provided with training and the necessary tools to maintain the wells.
  - Contamination of the water supply is also reduced by installing hand pumps and other protection measures around each well. (4 marks)
7. Each of the four features of effective aid is evident in the program, suggesting the program is likely to have been successful
  - *Ownership* — the program was included in the Ghana government's development program for the Zabzugu area. There was community participation in determining where the wells were placed in terms of greatest need, and a water committee was established within each community who were trained and provided with the tools necessary for the maintenance and upkeep of the wells. Two technicians were trained and provided with the tools needed to carry out the necessary repairs. A system was also established within the community to

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raise the funds needed for ongoing repair and maintenance of the hand pumps. In this way, the program was implemented in a socioculturally appropriate way.

- *Partnerships and collaboration* — the program is funded by the We Are Water Foundation and supported by World Vision working with the Ghana government.
- *Focused on results* — Zabzugu is one of the poorest regions in Ghana, with only 38.3 per cent of the population having access to clean drinking water and suitable toilets. When there is a well, it often does not have enough water to provide members of the community with the 20 litres of water they need each day to be healthy. Other communities have to access water from nearby streams which do not provide clean water, and women and children often have to walk long distances to collect water. This is responsible for high levels of infant mortality, with 50 out of every 1000 newborn infants dying before the age of one, and 71 per cent of children under the age of five suffering chronic malnutrition. This program is seeking to address a genuine need within the country and has the potential to reduce the level of poverty, address inequality and promote health and wellbeing.
- *Transparency and accountability* — in the first phase of the program, 3000 people benefited from access to safe water; in the second phase, an additional 3300 people were provided with access to clean water in a further nine communities. A system was also established within the community to raise the funds needed for the ongoing repair and maintenance of the hand pump. Therefore, the program has transparency and accountability. (8 marks)

### 8. How the program promotes health and wellbeing

- Providing clean water is essential for the prevention of a range of diseases, such as diarrhoea and cholera, and improves physical health and wellbeing and reduces under-five mortality rates. Children will be better nourished and better able to attend school.
- Parents will have improved physical health and wellbeing, and be able to undertake work and provide an income for their family.
- The time spent by the population, usually women and children, collecting water will be dramatically reduced, which means children are able to attend school and women are able to work to earn an income. This promotes social health and wellbeing and brings about a sense of pride and self-esteem, which promotes emotional and mental health and wellbeing.
- When people are free from water-related diseases and able to interact with others, they are more likely to engage in activities within their villages. This is important for building positive relationships with members of the community, which promotes spiritual health and wellbeing. (4 marks)

### 9. How the program promotes human development

- When individuals feel connected to their community, they are more likely to uphold the rules, laws and values of those communities. The program empowers people to participate in the social and political life of their community, and have greater control over the decisions that affect their lives. This is important for creating an environment in which human development can be promoted.
- The program provides people with education. Educated individuals have an increased capacity to earn a higher income, which improves their access to resources, such as medications, food and other resources, that are required to improve physical health and wellbeing. This is important for human development, as it provides opportunities for people to enjoy a decent standard of living and develop to their full potential. Life expectancy is increased and individuals have a greater chance of living a productive and creative life in accord with their needs and interests. (4 marks)

## 13.8 Exam questions

### Question 1

The SDG being addressed in the above program is SDG 6 — Clean water and sanitation.

### Question 2

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The main purpose is to educate children and their families on the importance of safe water and hygiene to prevent water borne disease.

### **Question 3**

45 public primary schools were supplied with clay pots for safe water storage. This will promote physical health and wellbeing of the children and staff at the 45 schools, as safe drinking water should see a decrease in diarrhoeal disease caused by contaminated water.

Trained staff formed safe water clubs with students, who were encouraged to share the information with their parents. This will promote the social health and wellbeing of both children and adults as they are spending time together, interacting and communicating effectively.

### **Question 4**

The safe water and hygiene program trained staff to teach the importance of good hand washing techniques to children who were encouraged to share this skill with their families. Good hygiene practices should see a decrease in diseases such as diarrhoea. Being free from illness such as diarrhoea enables parents to have the energy to work and children to attend school consistently. This promotes human development as work enables parents to have a decent standard of living and attending school allows children to enhance their capabilities and expand their choices, allowing them to lead productive and creative lives.

### **Question 5**

The Community Managed Water, Sanitation and Hygiene program in Bangladesh

The program partners include Caritas Australia , Caritas Bangladesh, Australian Aid and local communities that have been highly affected by water arsenic contamination. The purpose of the program is to reach people who live a long way from community wells to ensure they have safe access to arsenic free water. The program runs workshops, courtyard meetings and training sessions on the importance of using arsenic free tube-wells for collecting water, as well as hygiene practices such as hand washing. The program also assists in the construction of free tube wells.

## **13.9 Aid programs addressing SDG 13 Climate action**

### **ANSWERS**

#### **Case study review: Giving vulnerable Bangladeshis the resources to cope with climate change**

1. In addition to SDG 13: Climate action, other SDGs being addressed in this program are SDG 1: No poverty, SDG 2: Zero hunger, SDG 3: Good health and wellbeing, SDG 4: Quality education, SDG 5: Gender equality and SDG 6: Clean water and sanitation.
2. The program was implemented because climate change has increased the vulnerability of Bangladesh to natural disasters such as frequent cyclones and extreme weather and storm surges. This has resulted in families losing everything-including children. They have lost homes, communal assets and livelihoods. Rising sea levels have also resulted in an increase in the salinity of water supplies making them unsafe to drink and for stock. Whilst those who could afford to leave the area have, it is the poorest who have had to remain and are most adversely affected.
3. The purpose of the program was to work with those living in eight coastal communities to provide them with more resilient, sustainable livelihoods and allow them to grow food, increase their incomes and reduce pressure on the forests. Families were taught how to cultivate saline tolerant rice, build floating vegetable gardens, and grow fruit and pulses. They were also trained in live-stock rearing, such as raising ducks, establishing fisheries, including cage aquaculture and crab fattening. Innovative ecosystem-based farming models were implemented in 28 hectares of

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degraded forest land. The program also saw the excavation of 2.9 kilometres of canals and renovated sluice gates to regulate drainage and protect agricultural fields from saline water. Restoring and nurturing mangrove forests, which helps protect against climate disasters was a core component of the program.

4. This program meets the criteria for effective aid.

- *Ownership* — the program took a community-led approach working with nature to improve jobs and food security and reduce disaster risk. More than 2,000 families were taught how to cultivate of saline-tolerant rice, build floating vegetable gardens, and grow fruit and pulses and more than 2,500 households were trained in livestock-rearing. Women were a targeted group and they have now become members of Forest Resource Protection Groups who manage and protect mangroves. This helps ensure that the program is sustainable and socioculturally appropriate for each community.
- *Partnerships and collaboration* — this program is a partnership between the United Nations Development Program, the Global Environment Facility-Least Developed Countries Fund and Bangladesh's Forest Department. This means the expertise of these groups were able to be used to support the program.
- *Focused on results* — this program was implemented to meet the needs of the poor who were living in eight coastal communities that were increasingly being devastated by the impact of climate change which had increased the intensity and severity of natural disasters. They continued to lose everything with hundreds of millions of lives at risk. As a result of the program, safe drinking water has been provided by building ponds that are protected from tidal sea water, six raised earthen platforms were built which provide shelter for up to 15,000 livestock during disasters so families in these communities do not lose their livestock. They have also restored and nurtured mangrove forests, which protect against climate disasters, cultivated more than 572,000 seedlings of 12 climate-resilient species and the diversity of species in 650 hectares has been increased. The program has been successful in providing sustainable solutions to the impact of climate change. 600 people, mostly women, have also been trained to become members of Forest Resource Protection Groups to manage and protect mangroves. This has led to the empowerment of women, all of which have met the needs of the community and focused on the most vulnerable in the community.
- *Transparency and accountability* — there was ongoing monitoring of the progress and impact of the program to ensure it was meeting its intended aims. The outcomes of the project were document and published and an assessment plan was developed to determine the effectiveness of the diversification of species.

5. How the program promotes health and wellbeing

- Clean water, free of saline is essential for the prevention of many diseases suffered by these communities such as diarrhoea, dysentery and jaundice. With the impacts of climate change, families were losing housing, livestock and any other means of providing food. The program has provided food for families which reduces the level of malnutrition and diseases, particularly of children, all of which promotes physical health and wellbeing.
- Reducing the impacts of climate change which prevented children from attending school for many days, means children can continue to go to school which promotes social health and wellbeing. With an education, people are more able to develop skills, get employment and earn an income which improves social health and wellbeing. This program resulted in women establishing and becoming members of the Forest Resource Protection Groups which contributes to improved social health and wellbeing as well as bringing about a sense of pride and achievement which increase emotional health and wellbeing.
- With the program providing opportunities for communities to be involved in the solution to their problems, positive relationships are developed amongst the community and promotes

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social health and wellbeing. In addition, the program develops a sense of connection with the community which promotes spiritual health and wellbeing.

- By reducing the losses that are associated with the impacts of climate change, emotional and mental health and wellbeing will be promoted as it will decrease the levels of grief and depression associated with losing one's loved ones, their home and their livelihood.

### *How the program promotes human development*

- When people feel connected to their community, they are more likely to participate in the social and political life of their community and have greater control over the decisions that affect their lives. This promotes human development.
- The outcomes of the program improved access to safe water and sanitation, a more reliable food supply and education and skills all of which contribute to the resources needed for a decent standard of living and what is required to live a long and healthy life.
- With children being able to attend school on a more regular basis and communities being trained in agricultural practice and forest and mangrove protection, opportunities are provided for people to develop to their full potential. When this occurs, people are more likely to have a greater chance of living a productive and creative life and can make decisions that allow them to meet their needs and interests.
- The empowerment of women and their involvement is also important for gender equality, a condition that is essential for human development to occur.

### **13.9 Exercise**

#### **Test your knowledge**

1. Apart from SDG 13, other SDGs that may be achieved with this program include SDG 1: No poverty, SDG 2: Zero hunger, SDG 3: Good health and wellbeing, SDG 4: Quality education, and SDG 6: Clean water and sanitation. (4 marks)
2. The target groups for the program were communities living in North Tarawa, a remote island which is part of Kiribati. (1 mark)
3. The purpose of the program was to help Kiribati better prepare and withstand the effects of climate change and ensure sustainable water supplies in response to the impacts of climate change. (2 marks)
4. The partnerships involved in the program were the governments of Australia, Japan and Kiribati; the Global Environment Facility; and the World Bank Global Facility for Disaster Reduction and Recovery. (2 marks)
5. *How the program was implemented*
  - Implementation occurred in three phases:
    - The first phase focused on supporting education programs to raise awareness of the impacts of climate change and incorporating climate change into government policies.
    - The second phase of the program focused on mangrove planting and constructing seawalls to address coastal erosion.
    - The third phase focused on developing rainwater collection systems (rainwater tanks). All of these are designed to help the Kiribati people better prepare and withstand climate-related impacts in the future.
  - Consultation with local authorities and community members was undertaken to design the systems to be used, decide on the most appropriate buildings and locations, and to establish operation and maintenance committees to be responsible for the systems and their maintenance. The water goes straight to the tanks where it is stored and shared among the people, who also decide on how the water will be rationed during times of drought.
  - Key coastal areas of Kiribati are being protected through locally managed adaptation plans, identifying vulnerable areas or infrastructure and mapping out ways to maintain or protect them from climate-related events. (6 marks)

### Apply your knowledge

6. *How the program acts on climate change*

- It strengthens the resilience and capacity of Kiribati to adapt to climate-related hazards and natural disasters, in particular, water shortages arising from rising sea levels, king tides and droughts.
- It integrates climate-change measures into Kiribati's national policies, improves education and awareness raising and the capacity of people to take actions that reduce environmental degradation. It did this in the first phase by supporting education programs to raise awareness of the impacts of climate change and incorporating climate change into government policies. The second phase of the program focused on mangrove planting and the construction of seawalls to address coastal erosion, and the third phase focused on developing rainwater collection systems (rainwater tanks). All these measures are designed to help the Kiribati people better prepare for and withstand climate-related impacts in the future. (4 marks)

7. The program includes each of the four features of effective aid which would indicate it is likely to be a successful program.

- *Ownership* — the World Bank has been working with the Kiribati government to implement each phase of the program so it meets the broader government priorities. Consultation with local authorities and community members was undertaken to design the systems to be used, decide on the most appropriate buildings and locations and to establish operation and maintenance committees, which are responsible for the systems and their maintenance. The water goes straight to the tanks where it is stored and shared among the people, who also decide on how the water will be rationed during times of drought. In this way, the program has a high level of ownership which is important for it to be implemented in a socioculturally appropriate way that meets the needs of the community.
- *Partnerships and collaboration* — the program is supported by the governments of Australia, Japan and Kiribati; the Global Environment Facility; and the World Bank Global Facility for Disaster Reduction and Recovery.
- *Focused on results* — with most of the population and infrastructure in Kiribati located on the coast, damage and coastal erosion from high tides, storm surges and strong winds is an increasing issue. King tides wash over entire islands, causing flooding and contaminating drinking water. Prolonged droughts can cause extreme water shortage, affecting agricultural supplies and peoples' health and wellbeing. Infant mortality in Kiribati is the highest in the Pacific Islands at 43 deaths per thousand live births, with diarrhoea contributing to most of these deaths. The program will benefit over 100 000 people living in Kiribati by addressing a genuine need within the country, and has the potential to reduce the level of poverty, address inequality and promote health and wellbeing.
- *Transparency and accountability* — the program has been implemented in an open and transparent way. The funding has been used with community consultation to ensure that information is provided to everyone involved. The funding has not been used for commercial gain but used to address a genuine need in Kiribati. While there is no information about how the program was monitored, it is anticipated that over 100 000 people will benefit. (8 marks)

8. *How the program promotes health and wellbeing*

- Clean water is essential for the prevention of many diseases, such as diarrhoea, which is the leading cause of infant deaths in Kiribati. A clean and adequate water supply promotes physical health and wellbeing. When children have good physical health and wellbeing, they can attend school.
- With clean water, parents will have improved physical health and wellbeing. This enables them to work and provide an income for their family. Attending school and being able to work promotes social health and wellbeing and brings about a sense of pride and self-esteem, which promotes emotional and mental health and wellbeing.

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- This program provides opportunities for communities to be involved in the design and implementation of the program, which builds positive relationships with members of the community and promotes social and spiritual health and wellbeing.
  - Through the building of sea walls and other action taken to stop erosion of the coastal areas, flooding will be reduced and people's livelihoods are more likely to be protected. As sea levels rise, the islands are more likely to be able to withstand the impact. Fewer homes and farming areas will be lost, which will improve all dimensions of health and wellbeing, particularly emotional and mental health and wellbeing because the grief and depression associated with losing one's home and livelihood are reduced. (4 marks)
9. *How the program promotes human development*
- When people feel connected to their community, they are more likely to participate in the social and political life of their community and have greater control over the decisions that affect their lives. This promotes human development.
  - The program not only focuses on the provision of clean water and sanitation but also includes education on the maintenance of these resources. Educated individuals have increased capacity to earn a higher income, which improves their access to resources such as medications and food that are required to improve physical health and wellbeing. This is important for human development because it provides opportunities for people to enjoy a decent standard of living and develop to their full potential. Life expectancy is increased and individuals have a greater chance of living a productive and creative life in accord with their needs and interests. (4 marks)

### **13.9 Exam questions**

#### **Question 1**

The SDG being addressed in the case study is SDG 13 – Climate action.

#### **Question 2**

The partnerships involved in the above program were Caritas Australia and Yayasan Mitra Tani Mandiri (YMTM).

#### **Question 3**

The purpose of the program is to train local farmers in sustainable farming methods to reduce the impact of climate change.

#### **Question 4**

The Sustainable Agriculture Program provided Vinsen with the skills to farm more sustainably; he now lives without fear of food insecurity. Food security promotes human development. Adequate nutrition from a reliable food supply improves immunity to disease, which allows Vinsen the potential to lead a productive and creative life. With reduced hunger, Vinsen has more energy to work and earn an income. This allows Vinsen access to a decent standard of living and access to health care.

#### **Question 5**

The Green Charcoal Project

The purpose of the program was to promote more efficient charcoal making technologies that enable local communities in Uganda to save the environment while still earning and income from biomass fuels.

The program was implemented by introducing local communities to the use of alternate kilns, which generated good quality charcoal using less wood, enabling the communities to earn more while cutting down fewer trees. The project also promoted the growing of woodlots so that charcoal

producers were able to cut their own trees and save the naturally occurring forests. Replanting of natural forests was also encouraged.

### 13.10 Taking social action

#### ANSWERS

##### Case study review: Citizens of the Great Barrier Reef: going beyond our backyard to protect the reef

1. Social media can be an effective way to undertake social action because it can engage not only people who are living locally, but also those in distant places. Social media provides opportunities to engage more people across the globe to take meaningful action. People are able to form and maintain attachments to special places no matter where they are in the world. Social media provide a new way to foster a sense of community among people far and wide. In this sense, “community” doesn’t have to be local; individuals with common interests and identities can share a sense of community globally. Indeed, this is a key ingredient for collective action. This was evident in the 451-day tree sit where activist Miranda Gibson co-ordinated an online action campaign. She was able to engage a global audience through blogging, live streaming and posting videos and photos from 60 metres above the forest floor in a remote part of Tasmania.
2. Slacktivism refers to people taking online actions that require little effort, such as joining a Facebook group. It makes them feel good about contributing to a cause but can stop them from taking further action that has real on-the-ground impacts. Therefore, it is not really an effective way to undertake social action as it makes no change to the current situation.
3. The Fight for our Reef initiative is seeking ‘real action’. This means they are not just looking for Facebook likes but are promoting the achievement of six actions. These include: reducing consumption of four disposable products, eliminating food wastage, and financially supporting crown-of-thorns starfish control. Signed-up citizens are given an “impact score”, based on undertaking these actions and recruiting others, and can compare their progress to others around the world. In this way, social media is being used to take action that makes a difference.
4. The range of options for taking social action identified in the article include lobbying national governments, international organisations (such as the World Heritage Committee), or transnational corporations (to prioritise corporate social responsibility, for example). Other meaningful actions that can be undertaken remotely include supporting relevant NGOs and reducing individual consumption.
5. *How this example of social action could promote health and wellbeing*
  - The program promotes health and wellbeing by aiming to stop the destruction of the Great Barrier Reef in terms of reduced water quality, over fishing of the fish reefs and the coral bleaching caused by climate change. Destruction of the Barrier Reef will reduce the availability of fish which is a valuable source of nutrition which could contribute to food insecurity. The Barrier Reef is important ecosystem that will have global impact if action is not taken to preserve its marine life.
  - It promotes emotional health and wellbeing because as people feel good about taking action to make a difference and feel they are contributing to their world. They are also able to develop strong emotional bonds with the Barrier Reef.
  - It promotes spiritual health and wellbeing as it can create strong sense of community among people who are living far and wide and creates a sense of attachment.
  - It promotes social health and wellbeing by building a sense of community and creating opportunities to develop social connections with others across the world.

##### Case study review: Share the love: Valentine’s Day

1. *The examples of social action evident in the case study are:*

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- showing support for a social change campaign by signing online petitions, being involved in online competitions and other social media activities
  - 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.
2. *Why these forms of social action are effective in bringing about change*
    - Showing support for a social change campaign — can be a powerful way to show the leaders of countries that people around the world are watching and following, and that the issue is not hidden.
    - Finding out more about social issues and implementing an awareness campaign locally or through social media outlets — helps to increase the level of understanding of social issues and allows people, as a community, to exert public pressure and advocate for change.
    - Using purchasing power to bring about change focuses on changing people's purchasing habits rather than their behaviour, and using purchasing power to bring about change. If enough consumers begin purchasing Fairtrade products, retailers are more likely to stock and sell these products.
  3. *How this social action can promote health and wellbeing*
    - Physical health and wellbeing — social action raises awareness and encourages the governments to regulate cocoa production so that all farmers are paid a fair wage and child labour is prohibited. Paying fair wages means families have money for food, clothing, healthcare and education which means they are better nourished which improves physical health and wellbeing.
    - Prohibiting child labour means children are not exposed to unsafe working conditions and long hours which contributes to exhaustion and a greater risk of being injured. By prohibiting child labour children's physical health and wellbeing is promoted.
    - Children are not forced into cocoa farming, are able to attend school and develop healthy relationships. This promotes social health and wellbeing.
    - Mental and emotional health and wellbeing — when workers are treated with respect and are paid fairly for their work, they feel that their contributions are valued which increases their self-esteem and promotes mental health and wellbeing.
    - Paying cocoa farmers a fair price means they are less likely to live in poverty. This will help reduce the levels of stress and anxiety as families will not have to worry about how they will feed their family and afford to send their children to school. This will increase mental health and wellbeing.
    - Being paid fairly can help farmers develop positive meaning and purpose in life which can promote spiritual health and wellbeing.

### 13.10 Activity

1. **Who Gives a Crap** worksheet
  - a. He was looking for a scaleable social business, based on something everyone could buy. He was also influenced by seeing development projects in Asia and Africa and how they spent 30 per cent of their time competing for funding. He wanted to set up a model that was based on a different funding pool.
  - b. Using the first amount of crowd funded money, he made a mistake in the production line, meaning the first batch had imperfectly perforated paper. Customer complaints brought the error to light and it was overcome by firstly apologising and being honest, and then fixing the production line problem.
  - c. Start with what you are the most passionate about and what motivates you, and figure out how to make that your career. Then you'll want to get out of bed feeling great every day.

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- d. The social enterprise has been very successful, with every roll of toilet paper sold providing someone with access to a toilet for about one week.
2. One of the goals included in the SDG in Action App is Goal 1: No poverty. The resources that are provided in relation to goal 1 include a description of the goal and what it hopes to achieve; case studies, facts and figures relating to the goal; the targets that are included as part of the goal; and actions that people can become part of. It also provides a virtual space where people can design a social action event and invite others to join. (3 marks)
3. The World's Largest Lesson, which is included in the SDG in Action App, is a collaborative education project to support the achievement of the SDGs. It is designed as a resource to ensure all children, nationally and internationally, know about the SDGs and can contribute to their achievement. Teachers, education departments and partner organisations contribute lesson ideas based around the SDGs that can be used in any classroom around the world. The lessons are easily located, include all the resources needed to implement them in any classroom, and help raise awareness of each of the goals. They provide ideas about what can be done to help achieve the SDGs and, in this way, the resource is useful in bringing about change. (4 marks)
4. Once you have checked out the number of Fairtrade products that are stocked, you could encourage supermarkets to increase their range of products by writing postcards and letters requesting they sell these products. You could organise an awareness raising activity in your community, school or workplace and encourage others to use their collective power to lobby supermarkets. You could also write to local food outlets and ask them to stock fair trade products and write a letter to the editor of the local newspaper justifying why supermarkets should stock Fairtrade products. (3 marks)

### **13.10 Exercise**

#### **Test your knowledge**

1. Taking social action means doing something to help create positive change by influencing the actions of others. (2 marks)
2. Taking social action is effective in bringing about change because, by working together, groups can exercise greater power through their numbers. By uniting and advocating for change, they can make a difference. Social action can be used to influence the decisions of those who have the power to make changes, or actions can be taken to directly address a problem and effect change. (2 marks)
3. Reasons why people take social action include the following:
  - to help those who are less fortunate than themselves (social action raises awareness of their situation)
  - to ensure that the needs of all people are represented, particularly those who are often ignored such as minority groups, those with low income or those with a disability
  - to eliminate discrimination
  - to prevent harm and damage to the community or the environment (e.g. by advocating against large-scale development of fragile environmental areas)
  - to preserve something of historical or social value. (4 marks)
4. Different ways that people can take social action include the following:
  - Volunteer their time to assist in raising funds or become part of a volunteer program designed to help improve the lives of others and their communities (e.g. volunteering to collect money as part of the Red Shield Appeal for the Red Cross)
  - Donate money to non-government organisations (e.g. World Vision, Oxfam, Tabitha Foundation, Red Cross) 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

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- Support a social change campaign by signing online petitions or becoming 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 around the world are watching and following, and that the issue is not hidden.
  - 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 non-government organisations provide online shopping where the profits from selling goods are 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. (6 marks)
5. Using purchasing power to bring about social change means changing people's purchasing habits rather than their behaviour to bring about change. An example is Who Gives a Crap and Fair Trade. (2 marks)
6. Two social enterprises are Who Gives a Crap and Fair Trade.
- *Who Gives a Crap*— sells environmentally friendly toilet paper and donates 50 per cent of the profits to non-profit organisations working to deliver sanitation and hygiene projects in low-income countries. In its first two years it had provided access to toilets for almost 70 000 people. Since its establishment in 2012, Who Gives a Crap has donated \$428 500 to help fund hygiene and sanitation projects, saved 30 797 trees as a result of using forest-friendly paper products and saved 740 million litres of water by making the products using eco-friendly materials. By using environmentally cleaner processes to manufacture the products, the initiative has also avoided 5922 tonnes of greenhouse gases being emitted into the environment.
  - *Fairtrade* — aims 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. 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. Farmers and workers are therefore guaranteed a fair price for their produce, which helps protect them from changes in world market prices. 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 healthcare, education and training. Producer groups also reinvest their Fairtrade premium back into their farms and businesses. They buy capital, such as trucks and machinery, and provide organic farming education for their members. (4 marks)
7. The SDG in Action App has been developed to provide information on each of the goals and the targets; provide videos to help explain each goal; provide facts and figures; push out news items and provide ideas about how people can achieve the goals; and to create an action and invite others to participate. People can choose the goals that are important to them and automatically receive notifications about them and find actions and events they can join to support the goals. (2 marks)

**Apply your knowledge**

8. It has been stated that 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. This is true because it sets up long-term and stable trade relationships that are likely to be sustainable and contribute to increased economic growth which not only benefits producers, but contributes to the reduction in the levels of poverty within low-income countries. Buying products from producers at a fair price also promotes ethical practices that empower those in low-income countries and help ensure sustainability. On the other hand, when aid is provided, there is a danger that the program may not be sustainable once the charity or aid agency leaves. (4 marks)
9. Example: gender equality. Social action that could be taken to bring about change and improve health and wellbeing could be:
  - Donate money to a non-government organisation (e.g. World Vision, Oxfam, Red Cross) to support a program they might be running to achieve gender equality. This helps women to become educated and to start a small business.
  - Conduct a fundraising event in the school or community to support a project that is being implemented in a low-or middle-income country to achieve gender equality. This will help raise awareness as well as raising funds to support the project.
  - Get online and support a social change campaign to achieve gender equality by signing online petitions, becoming involved in online competitions or contributing to other social media activities. Community support at a global level can provide a strong message to governments that change is needed and women should be given the same opportunities as men.
  - Use your purchasing power to buy products that support actions to promote social change. Many non-government organisations provide online shopping which supports enterprises run by women and where the profits from selling goods are given back to the communities to support women and girls and help achieve gender equality. (6 marks)

**13.10 Exam questions**

**Question 1**

Social change actions could include any of the following:

- volunteer time to raise funds
- donate money to an NGO
- conduct fundraising events
- support social change campaigns
- research social issues
- purchase products that promote social change
- lobby governments
- organise boycotts
- implement a social enterprise activity.

**Question 2**

Reasons could include any of the following:

- to raise awareness of the impact of poverty on individuals and communities
- to be the voice for people who are marginalised such as minority groups, those with low income or those with a disability
- to eliminate discrimination
- to preserve something of historical or social value
- to prevent exploitation and harm of people or the environment.

**Question 3**

The Don't Palm Us Off campaign is an example of a 'support social change campaign'.

**Question 4**

This is an image of the FairTrade logo. It is an example of purchasing products that promote social change.

**Question 5**

- lobbying the federal government to provide more assistance to Myanmar to address the problem of children suffering and dying as a result of malnutrition
- donating money to a non-government organisation such as World Vision who may be able to work with small communities in Myanmar to help address food security issues.

**13.11 Topic 13 Key skills**

**ANSWERS: PRACTISE THE KEY SKILL**

1. The SDG/s being addressed in the program include SDG 1: No poverty, SDG 2: Zero hunger, SDG 3: Good health and wellbeing, and SDG 13: Climate action.
2. *Effectiveness of the program in Niger*
  - a. The purpose of the program is to improve food security in Niger and drive sustainable economic growth across the continent by advancing climate-smart agriculture and help address the constraints that inhibit the productivity and resilience of its crop–livestock sector.
  - b. The program reflects each of the key features of effective aid and would therefore be a successful program.
    - *Ownership* — the World Bank is working with the government of Niger to deliver climate smart agriculture, mainly increased productivity, enhanced resilience and reduced greenhouse gas emissions. This program is aligned with the government of Niger's Nigeriens Nourish Nigeriens (3N) Initiative. It is therefore meeting the needs of the community and will be implemented in a socioculturally appropriate way.
    - *Partnerships and collaboration* — the World Bank is working in partnership with the Niger government to implement the project.
    - *Focused on results* — this program is aligned to Niger's 3N initiative, which is a national strategy to spur sustainable agricultural development and increase food and nutritional security. Climate change has already affected Niger's food security, as well as the more than 80 per cent of Nigeriens who depend on agriculture for their livelihoods. Without action, Niger's agriculture sector will continue to be vulnerable to climate shocks, especially drought. The program is addressing a genuine need within the country and has the potential to reduce the level of poverty, address inequality and promote health and wellbeing.
    - *Transparency and accountability* — the program has been implemented in an open and transparent way. The funding has been used to implement the program rather than being used for commercial gain. While there is no information about how the program was monitored, it is anticipated that it 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. The project is also expected to expand the use of agroforestry and conservation agriculture techniques. It will promote the reclamation of degraded agro-pastoral land, livestock and other high potential value chains while improving smallholder's access to markets.
3. *How the program promotes health and wellbeing and human development*

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- Food security is important to reduce the levels of hunger and malnutrition, which are major contributors to child mortality. Hunger weakens the immune system, leaving children too weak to fight off disease. Children suffering from hunger are more likely to suffer from diseases such as pneumonia, measles, malaria and diarrhoea, and are at greater risk of dying from these conditions. Micronutrients, especially iron, vitamin A, zinc and iodine are important for good health. A deficiency of iron during pregnancy can lead to maternal death and impair children's physical and cognitive development. Iodine deficiency during pregnancy can result in stillbirth, spontaneous abortion, and congenital abnormalities such as cretinism, a form of mental impairment. Reducing hunger will therefore promote physical health and wellbeing.
  - When people are healthy, they can attend school or work and interact with others in the workplace, which promotes social health and development. Healthier people tend to be happy, which promotes emotional health. Healthier people are also more likely to experience a sense of connection to the community and are more resilient, which promotes spiritual and mental health and wellbeing.
  - Reducing hunger and malnutrition promotes human development. 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.
4. a. Two examples of social action that could be taken to reduce obstetric fistula in low-income countries such as Africa could be selected from the following:
- People could donate money to a non-government organisation working to make a difference in this area. There are many non-government organisations working in the countries where fistula is most prevalent. Non-government organisations such as World Vision, Oxfam or Caritas could use the funds to raise awareness and educate women about the importance of accessing prenatal care and delivering their babies with the support of a birth attendant. Where there is no access to healthcare, the non-government organisations could work with the community to establish healthcare facilities. This would help to prevent and treat women with fistula.
  - People could conduct fundraising events in the school or community to support a project designed to help prevent fistula among women in Africa and to help fund access to treatment for those who are living with the condition. This would also raise awareness of the situation that exists which can be used to create political pressure on decision makers to take action. This could be undertaken with the support of a non-government organisation that has the ability to work in communities and take action that is socioculturally appropriate.
  - People could provide support for a social change campaign by signing online petitions, signing up on Facebook, and becoming 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 around the world are watching and following, and that the issue is not hidden. This can help to create political pressure for governments to take action.
  - Find out more about social issues and implement an awareness campaign locally or through social media outlets. This can raise awareness which helps build political will and can help to put pressure on governments to take action to address the problem.
  - 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. This could be done through a workplace or school, and

could use social media to gain community support. This helps to raise awareness and possibly raise funds to support action to prevent and treat women with fistula.

b. *How social action addressing fistula could promote health and wellbeing*

- Fistula is a hole in the birth canal caused by prolonged labour without access to medical help, usually a Caesarean section. It leaves the mother with chronic incontinence and other medical issues; the baby is usually stillborn. By taking social action to prevent and treat fistula, medical problems such as kidney disease, ulcerations and nerve damage in the legs will be prevented. This promotes the physical health and wellbeing of mothers.
- Fistula leads to leaking urine and faeces, which leads to social exclusion from family, friends and neighbours. By taking social action to prevent and treat fistula, social health and wellbeing will be improved.
- Emotional health and wellbeing will be improved by eliminating the humiliation that comes with fistula.
- Mental health and wellbeing will be improved by preventing the grief and trauma that is associated with giving birth to a baby who is stillborn.
- The disconnection from the community that women experience with fistula will be removed, which will build community connection and a sense of purpose that will promote spiritual health and wellbeing.

### **13.12 Topic 13 review**

#### **ANSWERS: EXTENDED RESPONSE**

##### **TIPS**

The Health and Human Development examination may include up to five sources of information for you to interpret, analyse and link to address the question being asked.

Use the same strategies regardless of the number of sources by highlighting information relevant to each of the components of the question. When writing your response, you can address each of the components of the question in any order you wish as long as your response is organised, clearly written and concise.

In this example, read the information provided in each source and identify relevant links to the achievement of any of the SDGs. From this, select two SDGs that are best represented across a range of sources that connect to clean water and sanitation. This will give you more examples to use in your response. Use the examples you have identified to help you explain how the two SDGs you have selected would be achieved through collaborative actions taken to provide clean water and sanitation.

Demonstrate your understanding of effective aid by explaining the features and connecting them to the source material provided. You are required to justify the importance of focusing on safe water and sanitation through aid programs. This can be achieved through connections to health and wellbeing and human development. Use examples from the source material to connect your discussion to the improvement in each dimension of health and wellbeing.

Finally, think about the connection between your justification of the importance of focusing on clean water and sanitation and the need for communities to take social action. Show your understanding of the meaning of social action through your discussion and explain different ways the community can take social action. Use the example in the source material to discuss how social action could be effective in bringing about social change.

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Answers to the extended response question will be marked holistically based on the interplay between:

- How the response has been structured
- How well the stimulus material has been understood, connected and synthesised
- How well broader understanding has been connected and synthesised
- Understanding of effective aid programs and justification of why programs that focus on providing clean water and sanitation in schools should be a priority for the international community, taking into consideration:
  - The relationship between the achievement of at least two other SDGs;
  - Features of effective aid programs that must be considered when implementing such programs
  - The contribution to health and wellbeing and human development;
  - Ways in which individuals can engage with the community to take social action to bring about change.

The table that follows shows how answers may reflect the mark allocation. Note that not all answers will fit these descriptors perfectly, so discretion must be used.

As outlined previously, the first step is to determine if the response best fits the ‘not shown’, ‘low’, ‘medium’ or ‘high’ band. This is based on the average performance over all criteria. Some students will focus on one or two criteria and most of their response will relate to these concepts at the expense of other components of the question. If this is the case, students can still be awarded a ‘medium’ score if these components have been completed to a high standard.

Once a determination of ‘high’, ‘medium’, ‘low’ or ‘not shown’ is made, a decision can be made as to where the response fits within the category.

This question has five different sources of information and a mark allocation of 10 marks which warrants more detail and greater complexity.

#### **Sample response**

The information in source 3 shows that access to basic water and sanitation services in schools in least developed countries in 2020 is low and does vary according to primary and secondary school settings. 58% of secondary schools and 46% of primary schools had access to basic sanitation services and 67% of secondary schools and 51 percent of primary schools had access to basic water services. Of greater concern was that 14% of secondary schools and 24% of primary schools had no sanitation services and 30% of secondary schools and 39% of primary schools had no access to water services.

Source 4 highlights that water is a human right and source 2 identifies that the lack of safe, separate and private sanitation and washing facilities in schools is one of the main factors preventing girls from attending school and is responsible for ongoing school closures.

Therefore, providing clean water and sanitation in schools is important if we are to achieve SDG 4: Quality education which aims to ensure all children complete primary and secondary education. Source 1 tells us that 3.4 million children spend more than 30 minutes each day collecting water for household use and that girls are more likely than boys to have the responsibility for the fetching of water. Reducing the time to fetch water by half, increases girls’ school attendance by around 7%. Therefore, providing water and sanitation facilities in schools and in households, will allow more girls

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to attend school and gain and education. SDG 4 also focuses on ensuring youth and adults have literacy and numeracy skills and the building and upgrading of education facilities. The provision of water and sanitation services which will encourage children to attend and remain in school is therefore critical in achieving many of the features of SDG 4.

Clean water and sanitation also underpins the achievement of SDG 3: good health and wellbeing. Providing clean water and sanitation in schools will help end the epidemic of communicable diseases, one of which is water-borne diseases. Students will have clean water to drink and sanitation services will ensure that water supplies are not contaminated by human waste. Clean water and sanitation is essential for hygiene which helps reduce diseases such as cholera and dysentery and death from diarrhoea and dehydration. This will improve physical health and wellbeing.

With improved physical health and wellbeing, children will be able to attend school, develop knowledge and skills that will enable them to gain employment and earn an income. This will help reduce poverty but also contribute to the economic growth of their community and country which may help provide the necessary resources to invest in universal health care and important infrastructure such as water and sanitation and the building of education facilities, again helping to achieve the targets associated with SDG 3 and SDG 4.

Given the importance of providing clean water and sanitation to every school globally, and the current low levels of water and sanitation services in schools in 2020, the global community can play a key role by undertaking social action. Social action as evident in source 4 can be successful in bringing about change. Initiating or getting involved in demonstration, rallies and marches can raise awareness in the international community of situations that exist. There are a range of ways that people can get involved. Often those living in high-income countries lack awareness of the situation faced by families and communities in low- and middle-income countries in issues such as lack of access to safe water and sanitation. Other ways that individuals can take social action include implementing an awareness campaign in their own school or through social media. This may also include raising funds for water and sanitation projects. People can also develop an enterprise activity to raise awareness and funds such as the ‘Who gives a crap’ enterprise. This provides people with an easy option to support social projects such as safe water and sanitation through their purchasing behaviour, which means some of the cost of the purchase is transferred back to support community projects in low-income countries. People can also take social action by donating money to organisations or campaigns.

One such example is the Water Project that is outlined in source 5. For around \$34 per student, the project has the capacity to work with local well drillers to build wells at schools and other central locations to enable children to stay in school and women to gain a voice in their community. By making the process of collecting water more time-efficient, the project aims to give children (especially girls) a chance to get back into the classroom to break the cycle of poverty. As source 5 points out, people can be part of the solution to end the gender gap in classrooms across the developing world and help children stay in school.

Whilst there are many examples of projects implemented in low- and middle-income countries, it is important that these projects are implemented effectively. In 2011, an international forum with representatives from many countries and organizations, came together to develop a framework for effective aid as a guide to ensure that programs implemented would be effective. These features are evident in water and sanitation program implemented in Eswatini in South Africa. This program is outlined in source 2.

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The World Bank is working with a number of local communities and the government to implement a project to expand water and sanitation services. These partnerships are important if an aid program is to be effective as the combined skills and expertise can be harnessed for the best possible outcome. Effective aid programs implemented into low-income countries must have ownership by the country. People must be given the opportunity to be involved in the planning and delivery to ensure it meets the needs of the community and is delivered in a way that is socio culturally sensitive. Without this feature, a program is at risk of not being sustainable. This feature is evident in the program in Eswatini where a cross section of stakeholders and affected communities: women, men, youth, and people with special needs were consulted and their views were integrated into the project design. In this process, women identified the issues associated with the collection of water and the impact this has on children's ability to attend school. It was also identified that clean water and sanitation would contribute to socio economic development, would help people live dignified lives and be healthy. The project will create jobs and all of the operators would be women who would then receive training including basic numeracy and accounting. This demonstrates that the program was focused on results and would contribute to the achievement of SDG 3 and SDG 4. It is therefore not difficult to justify that focusing on clean water and sanitation in schools should be a priority for the international community. Not only will these programs assist in meeting the SDGs, but overall health and wellbeing and human development will be improved. Physical health and wellbeing can only be achieved with access to clean water and sanitation. Water-borne diseases such as cholera and diarrhoea depletes energy levels and immune systems and leaves the body susceptible to a range of other diseases. The stress placed on a child's body by having to carry water for long distances can also impact on bone health. Clean water and sanitation will allow children and adults to be healthy, to attend school and work where healthy relationships can develop which promotes social health and wellbeing. When families and communities experience good physical health and wellbeing, there is greater optimism, positive self-esteem and less stress and anxiety which contributes to improved mental health. This in turn promotes spiritual health by creating a sense of belonging and connectedness and a sense of purpose.

Good health and wellbeing and the chance to enjoy a decent standard of living promotes human development. Clean water and sanitation services in schools and communities allows people to lead a dignified life, promotes education and knowledge which expands people choices and opportunities. Educated girls are more likely to feel empowered which means they can participate in the decisions affecting their community.

Programs focusing on clean water and sanitation in schools can therefore change lives, change communities and improve global health and wellbeing.

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Band	Mark range	Criteria						
					Justification of program			
		How the response has been structured	How well the stimulus material has been understood, connected and synthesised	How well broader understanding has been connected and synthesised	Understanding of the relationship between the achievement of two SDGs	Understanding of the features of effective aid	Understanding of the contribution to health and wellbeing and human development	Understanding of how individuals can engage with the community to take social action to bring about change
High	9-10	Organises ideas to provide clarity of discussion.	Synthesises stimulus material to make multiple connections	Integrates discussion of own knowledge to make multiple connections	Discusses two SDGs and makes comprehensive connections to clean water and sanitation programs in schools	Discusses features of effective aid and makes comprehensive connections to clean water and sanitation programs	Justifies clean water and sanitation programs by providing detailed links to health and wellbeing and human development	Discusses ways in which individuals can take social action to bring about change in relation to water and sanitation programs
Medium	7-8	Ideas are organised but may not read as well as stronger answers	Stimulus material is understood with relevant examples used to support the discussion	Concepts are discussed clearly with connections made to the question	Discusses two SDGs and makes connections to clean water and sanitation programs in schools	Discusses features of effective aid and makes specific connections to clean water and sanitation programs	Justifies clean water and sanitation programs by providing links to health and wellbeing and human development	Discusses ways in which individuals can take social action with some links to clean water and sanitation programs
	5-6	Ideas are organised but there may be	Stimulus material is understood	Broad or general	Explains two SDGs and makes general	Explains some of the features of effective aid	Explains how clean water and sanitation	Explains ways in which individuals can

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		issues with how it is structured and may be a little difficult to follow.	and examples from all sources have been used to support the discussion	concepts are discussed	connections to clean water and sanitation programs in schools	and makes broad and general connections to clean water and sanitation programs	programs can contribute to health and wellbeing and human development	take social action with some links to clean water and sanitation programs
	4	Ideas are loosely organised and sequenced	Simplistic connections are made between the stimulus material and the question	Broad or general statements are made that connect with some aspects of the question	General statements are made about two SDGs that are connected with clean water and sanitation programs	Outlines some features of effective aid and makes connections to clean water and sanitation programs	Broad statements are made that link clean water and sanitation programs to health and wellbeing and human development	Outlines ways in which individuals can take social action to bring about change
Low	3	Lacks coherent structure	Simplistic connections are made with at least 2 sources and the question	Statements are made with simplistic connections to the question	General statements are made about one SDG relevant to clean water and sanitation programs in schools and a second SDG is identified	Broad statements are made about the features of effective aid with simplistic connections made to clean water and sanitation programs	Broad statements are made that link clean water and sanitation programs to health and wellbeing or human development	Broad statements are made about ways in which individuals can take social action
	2	Lacks coherent structure	Stimulus material is restated with connections	Information is stated with limited connections to the question	General statements are made about one SDG relevant to	General statements are made about some of the	Identifies one or more links to health and wellbeing and	General statements are made about some of the ways in which

## *Topic 13: Programs addressing the Sustainable Development Goals*

## ANSWERS: EXAM QUESTIONS

### Question 1

Source: VCE 2019, Health and Human Development Exam, Q.11; © VCAA

One example of social action that people could take to address climate change is to implement a social awareness campaign in their local communities or schools. By providing information and teaching people what they can each do to reduce their impact on the environment, and the role they can play in reducing their carbon footprint, it may lead to a change in behaviour such as riding their bike to school rather than being driven in the car. This can then lead to a reduced reliance on fossil fuels, thereby addressing climate change.

Award 1 mark for identifying an example of social action.

Award 2 marks for justifying why this example of social action could be effective in addressing climate change.

#### VCAA Examination Report note:

While many students were able to identify an example of social action, most did not go on to justify this in relation to why it could be effective in addressing climate change. Responses also had to link to climate change, not to the impacts of climate change. For example, although raising money for drought-stricken farmers is an example of social action, it is not addressing climate change itself, but rather its impacts.

The following is an example of a high-scoring response.

*An individual could use their purchasing power to support an action that promotes social change. For example, they might buy clothes from a company because it minimises its greenhouse emissions during the manufacturing process. This might mean other companies lose business, and decide to minimise their greenhouse emissions to get their business back. This means that greenhouse gas emissions are reduced, therefore addressing climate change.*

*Examples of other social actions include:*

- *lobby a member of parliament to take action on climate change*
- *donate to or fundraise for a non-government organisation working to address climate change*
- *volunteer for an organisation working to address climate change, such as by planting trees*
- *participate in public campaigns such as Earth Hour*
- *organise a demonstration or protest that works to influence decision makers in the community*
- *use social media such as Twitter to share information about climate change*
- *create an online petition that collects signatures to persuade companies to reduce their carbon footprint.*

### Question 2

Source: VCE 2018, Health and Human Development Exam, Q.11.b; © VCAA

An example of a social action may be to lobby governments. This could be in the form of writing letters or emails to politicians. Through letter writing and emails expressing concern for the amount of junk food ads displayed during children TV viewing times, politicians may be encouraged to pass laws limiting advertising of junk food. This may reduce children's exposure to junk food advertising, leading to a decrease in consumption of foods high in kilojoules, reducing childhood obesity rates.

Another example of social action could be for people to use their purchasing powers to only purchase foods and drinks that are lower in kilojoules. For example, people could choose to only buy soft drinks that are sugar free, reducing the amount of kilojoules consumed. Manufacturers are more likely to make changes to a product if they perceive consumer disinterest; this may assist in the reduction of sugary drinks sold and subsequent childhood obesity rates.

**VCAA Examination Report note:**

This question was not well answered by many students. Common errors related to the provision of examples that were not relevant to addressing childhood obesity or were broad without being linked to how they might be effective in reducing childhood obesity.

Possible responses included:

- People could show support for a social change campaign by signing online petitions that advocate for an increase in the cost of sugary drinks or changes to advertising practices on television or other ways to reduce the exposure of sugary drinks to children and adolescents. Gathering community support can be a powerful way to show the government and manufacturers that this issue is important.
- People could find out more about the effects of sugary drinks on children and adolescents and raise awareness at schools, in the community or through social media outlets. They could use these avenues to gain support and lobby governments and drink manufacturers to take action to reduce the availability of sugary drinks to children and adolescents. Collective action is often effective in bringing about changes in policy.

Other examples of social action that could have been described/justified included:

- People could use their purchasing power.
- Students could implement a social enterprise activity.
- People could lobby governments or decision makers about the types of foods sold at sporting events.
- People could volunteer time to provide coaching and sporting activities.

**Question 3**

- a. Social action is about doing something to help create positive change and can be done at an individual or group level.
- b. The type of social action undertaken by the Lao PDR flash mob was to show support for a social change campaign by using theatre and storytelling to get the message across as well as implementing an awareness campaign using social media outlets.
- c. Two reasons to justify why the flash mob was taking social action to raise awareness of SDG 13 include:
  1. A lack of action on climate change has the potential to undo a lot of the progress made over last 10–15 years, particularly in relation to the reductions in poverty, access to safe water and food security.
  2. Climate change is expected to bring about an increase in:
- infectious diseases due to increased humidity and heat from droughts, flood and heat waves, causing diseases such as malaria, dengue fever and other neglected tropical diseases
- increased allergies and asthma due to an increase in air pollution and pollen seasons
- an increase in deaths from cardiovascular and respiratory disease, particularly among elderly people due to higher levels of ozone and pollutants in the air.
- increased hunger and malnutrition due to drought and flooding
- d. *How this example of social action could promote health and wellbeing*

- It helps to prevent further effects of climate change and reduces the risk of increased diseases such as infectious diseases, allergies and asthma, cardiovascular disease and hunger and malnutrition. These diseases all affect physical health and wellbeing by affecting the functioning of body systems. When people are free from these diseases, they are able to go to school and work as well as play and interact with others, which promotes social health and wellbeing.
- When people have good physical health and wellbeing, they are more likely to be happy and enjoy life. This contributes to good self-esteem, which promotes emotional health and mental health and wellbeing.
- It encourages people to become more involved in their community. This helps build connectedness and a sense of purpose, which promotes spiritual health and wellbeing.

**Question 4**

- a. Two examples of social action that could be taken to reduce the level of child malnutrition in Afghanistan include:
- Donate money to non-government organisations to support projects that have been introduced in Afghanistan to reduce child malnutrition.
  - Conduct fundraising events in the school or community to raise awareness of the situation that is being faced in Afghanistan and then donate the funds to support a social change project.
  - Show support for actions being taken to reduce malnutrition by starting a petition, joining others in signing online petitions, and using social media activities to support actions and to raise awareness.
  - Find out more about malnutrition in Afghanistan and implement an awareness campaign locally or through social media outlets.
  - Use your purchasing power to buy products that are certified by Fairtrade, which works to ensure small-scale farmers are provided with a fair price that helps reduce poverty and therefore helps reduce child malnutrition. Support non-government organisations that might provide online shopping where the profits from selling goods are given back to communities in countries such as Afghanistan.
- b. Taking social action is important because it is effective in bringing about change. By working together, groups can exercise greater power because of their numbers. By uniting and advocating for change, people can make a difference. Social action can be used to influence the decisions of those who have the power to make changes, or actions can be taken to directly address a problem and effect change.
- c. *How social action could promote health and wellbeing*
- Adequate food is needed for the correct functioning of the body. It provides the energy needed to complete daily tasks, reduces the risk of malnutrition and helps build immunity to disease. By improving food security, social action helps to reduce levels of maternal mortality, infant mortality and child malnutrition. This improves physical health and wellbeing.
  - Food security would also see a reduction in the burden of disease associated with micronutrient deficiencies such as iron deficiency anaemia, cretinism from iodine deficiency, and blindness due to deficiencies of vitamin A. Given the impact of iron deficiency anaemia on pregnant women, this would help reduce maternal mortality rates.
  - Well-nourished mothers are more likely to give birth to healthy babies. Babies who are well fed and adequately nourished have strong immune systems. They are less likely to suffer from diseases such as pneumonia, measles, malaria and diarrhoea. If they do contract these diseases, well-nourished children are more likely to recover.
  - When people have access to the required quantity and quality of food, they can attend school or work. This provides opportunities to develop relationships, which promotes social health and wellbeing. A sense of pride and achievement at school or work also promotes emotional health and wellbeing.

- When people are physically healthy, they are more likely to participate in community life. This helps promote spiritual health and wellbeing by developing a sense of belonging and purpose.

**Question 5**

- a. The SDGs that are addressed in this program are SDG 1: No poverty, SDG 2: Zero hunger, SDG 3: Good health and wellbeing, SDG 4: Quality education, SDG 5: Gender equality, SDG 6: Clean water and sanitation, and SDG 13: Climate action.
- b. The purpose of the program is to strengthen agricultural communities in Mali and empower women to overcome the social and economic consequences of climate change.
- c. *How the program in Mali reflects the two features of effective aid*
  - *Ownership* — the program is being implemented in conjunction with the Mali government. It aims to empower women in the local community to address the impact of climate change on food security and water availability. This indicates that the program will meet the needs of the country and will be owned by the community. This ensures that it will be implemented in a way that meets the sociocultural needs of the community.
  - *Partnerships and collaboration* — the Mali National Directorate of Agriculture has partnered with the United Nations Development Program (UNDP) and the local women's cooperative.
  - *Focused on results* — this program is designed to have a long-term impact on reducing poverty and inequality, and promoting health and wellbeing and human development. It focuses on involving and educating women to ensure sustainability by overcoming the problems associated with a lack of food and water that has occurred as a result of climate change.
  - *Transparency and accountability* — the program has used the funding provided to meet its intended purpose. The funding has not been diverted to meet the needs of other groups or individuals, or used by businesses to make a profit at the expense of health and wellbeing outcomes. The outcomes of the program are widely available.
- d. *How the program promotes health and wellbeing*
  - Poverty is a major cause of hunger and malnutrition. It is also a major contributor to high rates of death and illness from infectious diseases (e.g. pneumonia, diarrhoea, malaria, measles) and diseases associated with micronutrient deficiencies such as iron-deficiency anaemia and vitamin A deficiency. By helping women to implement alternative sources of income, the program helps to reduce poverty and therefore improves physical health and wellbeing.
  - The program provides access to water by installing a well that runs on solar energy. This has allowed the women to grow vegetables which they can use to contribute to the cooperative's supply as well as feed their family, thereby reducing malnutrition and improving physical health and wellbeing.
  - With a regular income, women can better afford healthcare for their children. When diseases and illness can be diagnosed and treated, physical health and wellbeing improves.
  - Increased physical health and wellbeing brings about improved social, mental and emotional health and wellbeing. Improved health and wellbeing provides opportunities to attend school, go to work and interact with others. This promotes positive self-esteem and a sense of achievement.
  - The focus on the empowerment of women promotes emotional health and wellbeing.
- e. *How the program promotes human development*
  - The women are empowered with the skills to generate alternative sources of income, which reduces the level of poverty.
  - Having access to water and sufficient food increases life expectancy and improves the standard of living for all people in the community. This promotes human development.
  - The women are provided with training and knowledge, which is important in promoting human development. By promoting gender equality, the program also helps all members of the community to develop to their full potential
  - When women are empowered, they are more likely to have control over the decisions that affect their lives and to participate in community life. This promotes human development.