



Trial Examination 2021

VCE Health and Human Development Units 3&4

Written Examination

Suggested Solutions

Question 1 (2 marks)

For example:

Incidence refers to the number or rate of new cases of a disease or condition in a population during a given time period, whereas prevalence is the total number or proportion of cases of a particular disease or condition in a population at a given time.

2 marks

One mark for a correct description of each of the indicators of health status (two required).

Note: For full marks, a response must include the period of measurement for each indicator.

Question 2 (3 marks)

For example:

Multilateral aid is aid provided through an international organisation such as World Bank, United Nations or World Health Organisation. Multilateral organisations receive donations from governments across the world and distribute funds to countries in need. Aid is used mostly to combat global issues, such as emergency aid following a major natural disaster, issues related to climate change and managing major disease outbreaks. Coordinating relief efforts immediately following a major disaster reduces the spread of disease and the impact of injuries, which promotes physical health and wellbeing at both a local and global level.

3 marks

One mark for a description of multilateral aid.

One mark for providing one example of work performed by multilateral aid organisations.

One mark for linking the example of work to a dimension of health and wellbeing globally.

Question 3 (3 marks)

For example:

Medicare is Australia's universal health insurance scheme that subsidises the cost of health services. Because this scheme enables access to health care regardless of income, individuals are more likely to seek medical care when symptoms first arise. Early diagnosis and treatment could reduce the severity of an illness or injury thereby increasing life expectancy and decreasing morbidity.

3 marks

One mark for explaining Medicare.

Two marks for linking affordable health care to improvement in at least one indicator of health status.

Question 4 (5 marks)

a. *For example:*

YLD is the number of years of life lost due to disability.

1 mark

One mark for explaining the correct meaning of YLD.

b. *For example, any two:*

- Overall, there are more age groups where females have a higher number of YLD than age groups where males have a higher number.
- Between the ages of 1 and 19 years, males have a higher number of YLD than females.
- From the age of 75 and above, females have a higher number of YLD than males.
- Between the ages of 40 and 64 years, females have a higher number of YLD than males.

2 marks

One mark for identifying each trend between age and YLD for males and females.

c. *For example, any two of the following reasons for the trends given in part b.:*

- *Overall, there are more age groups where females have a higher number of YLD than age groups where males have a higher number.*
Males report fewer cases of long-term mental and behavioural problems than females which may explain the overall higher number of age groups where females have higher YLD than males.
- *Between the ages of 1 and 19 years, males have a higher number of YLD than females.*
Males have higher injury rates than females, which may explain the higher YLD for males aged between 1 and 19 years.
- *From the age of 75 and above, females have a higher number of YLD than males.*
Higher levels of testosterone in males have been linked to higher levels of risk-taking behaviour. This could contribute to higher injury rates in males, which may explain the higher YLD for males aged between 1 and 19 years.
- *Between the ages of 40 and 64 years, females have a higher number of YLD than males.*
Females tend to have higher rates of osteoporosis and arthritis which tend to occur in older age, which may explain the higher YLD for females than males 75 years and above.

2 marks

One mark for each reason that relates to the trends identified in part b.

Question 5 (4 marks)

For example:

Equity: Equity relates to a sense of fairness and social justice where support is given to those who experience hardship in their lives. For example, when individuals from low socioeconomic status (SES) groups experience illness or disability, their health costs are subsidised by Medicare. By reducing or eliminating financial concerns related to healthcare, equity reduces stress and anxiety and therefore promotes mental health and wellbeing.

Education: Education grants access to health-related knowledge and skills. This access can empower individuals to adopt health-promoting behaviours such as participating in regular exercise and consuming a nutritious diet. Having the ability to take control of their health could improve an individual's confidence and self-esteem, therefore promoting mental health and wellbeing.

4 marks

For each prerequisite of health:

One mark for showing an understanding of the prerequisite.

One mark for explaining how the prerequisite could promote mental health and wellbeing.

Note: A response must reflect positive mental health and wellbeing for full marks.

Question 6 (10 marks)a. *For example:*

Description of type of aid	Justification
Bilateral: aid provided by the government of one country to the government of another country.	As well as providing funds for the program, the Australian government has partnered with the Cambodian Department of Health for its implementation.
Non-Government Organisation (NGO): typically focused on small-scale, community-based projects reaching areas that official aid cannot access. Many rely on government funds and public donations to run programs.	Three NGOs are working in partnership with the government across eight provinces of Cambodia, meaning the government recognises the NGOs' expertise in reaching more isolated, smaller communities to effectively deliver the maternal health program.

4 marks

*For each type of aid:**One mark for correctly describing the type of aid represented in the program.**One mark for correctly justifying each choice by linking to information from the case study.*

b. education and health

1 mark

*One mark for correctly naming this priority.*c. *For example:*

Providing improvements in midwifery skills, accessibility of services and the proportion of women giving birth supervised in health facilities increases the chance women will survive childbirth and continue to live long, healthy and productive lives. With increased knowledge of pregnancy and neonatal danger signs, women are accessing knowledge that will expand their choices and capabilities.

2 marks

*One mark for each of two capabilities of human development linked to information in the case study.**Note: The response must relate to women. Other capabilities that could be linked to the case study include increased access to health and increased capacity for women to participate in decisions that affect their lives.*d. *For example:*

Discrimination is treating people differently based on personal traits such as race, gender, religion, sexual identity or political beliefs. Cambodian women from minority ethnic or religious groups may have previously been excluded from giving birth supervised in health facilities. Now these women would have access to skilled medical attention if complications such as haemorrhaging occurred during childbirth. Decreasing discrimination would therefore decrease maternal mortality rates in Cambodia.

3 marks

*One mark for a correct description of the meaning of discrimination.
One mark for one example of a health condition related to the case study.
One mark for a link to one indicator of health status.*

Question 7 (5 marks)

a. *For example:*

The Human Development Index (HDI) is used to measure and rank the level of social and economic development of countries. It is based on four indicators: Gross National Income (GNI) per capita, life expectancy at birth, mean years of schooling, and expected years of schooling.

3 marks

One mark for a general description of the HDI.

Two marks for naming the four indicators of the HDI.

b. *For example, any two of:*

- Because the HDI is based on averages, it does not reflect inequalities that may exist within a particular country. For example, it does not distinguish between population groups such as indigenous and non-indigenous.
- As the HDI focuses on only some aspects of human development, it does not capture the range and depth of human development. For example, it does not consider aspects of society such as gender equality, freedom of speech, empowerment, levels of discrimination and human security.
- Collecting data in some countries is difficult which may lead to inconsistencies in the reliability of data. There may be inconsistencies in definitions and in the methods used to measure components of the HDI.
- Because surveys are not carried out as part of HDI data collection, people's views on aspects of society that affect their lives are not represented in the HDI.

2 marks

One mark for each limitation outlined.

Question 8 (6 marks)

a. *For example:*

- Males in all age groups consume higher levels of sodium than females.
- All age groups, apart from females '51–70', females '71 and over' and males '71 and over', exceed the upper level of sodium intake.

2 marks

One mark for each of two correct conclusions.

b. Limit intake of foods containing saturated fat, added salt, added sugars and alcohol.

1 mark

One mark for identifying the correct guideline.

Note: A response can include three of the four nutrients but must include 'saturated fat' to gain a mark.

c. *For example:*

High sodium intake can cause excess fluid to be drawn out of the body's cells and into the blood stream increasing blood volume, therefore increasing blood pressure. High blood pressure is known to be a risk factor for the development of stroke, heart attack and chronic kidney disease, all of which can reduce life expectancy. These conditions can increase burden of disease through either increased YLL (years of life lost) or YLD (years lost due to disability).

3 marks

One mark for describing the effect of high sodium intake on blood volume and blood pressure.

One mark for linking a health condition caused by high blood pressure to an indicator of health status.

One mark for linking a health condition caused by high blood pressure to at least one indicator of burden of disease.

Note: Excessive sodium intake can also cause calcium to be excreted in the urine which can cause loss of bone density and osteoporosis.

Question 9 (12 marks)

a. *For example, any two of:*

- **Sociocultural factor:** higher rates of food insecurity
Explanation: Indigenous Australians living outside major cities are more likely to experience food insecurity than non-Indigenous Australians. This is often caused by a shift from traditional foods to a western-influenced diet high in refined, energy-dense foods. This increases obesity which is a risk factor for type 2 diabetes.
- **Sociocultural factor:** lack of access to culturally appropriate health services
Explanation: Indigenous Australians are less likely to access health services that are not delivered in a culturally sensitive way. Less access to health services when compared to non-Indigenous population groups may prevent early detection and intervention strategies, which may contribute to higher rates of diabetes.
- **Sociocultural factor:** low SES
Explanation: Indigenous Australians are more likely to experience low SES when compared to non-Indigenous Australians, which could mean lower levels of education and health literacy. This could result in less knowledge of the risk factors, therefore leading to higher rates of diabetes.

4 marks

For each example (two required):

One mark for naming one sociocultural factor.

One mark for correctly linking the selected factor to higher rates of diabetes in Indigenous Australians.

Note: Reference to both Indigenous and non-Indigenous Australians must be made in a response for full marks to be awarded. Other relevant factors include higher rates of unemployment, higher rates of discrimination and social exclusion, early life experiences such as maternal alcohol misuse, and homelessness.

b. *For example, any two of:*

- **Action area:** create supportive environments
Explanation: The intention of this action area is to provide environments that are safe, stimulating, satisfying and enjoyable. Features of the program that reflect this include: using rugby league as the platform for the program; receiving a logo guernsey at the end of the program; events that promoted screening, early detection and follow up of chronic disease were hosted by Aboriginal Medical Services providers.
- **Action area:** develop personal skills
Explanation: This action area relates to participants gaining health-related knowledge and skills that enable them to take control of their own health. Events in the program included stalls where participants were provided with educational and risk factor resources.
- **Action area:** strengthen community action
Explanation: This action area relates to creating links between individuals and their community and groups within a community working together to achieve a common purpose. This program included partnerships with several organisations: Aboriginal Medical Services, Local Health Districts and Primary Health Networks as well as ambassadors from Country Rugby League at events.

6 marks

For each action area (two required):

One mark for correctly naming an action area of the Ottawa Charter for Health Promotion.

Two marks for a detailed description of how the selected action area is reflected in the case study or one mark for each of two relevant points.

c. *For example, any one of:*

- **Environmental factor:** housing – poor quality and overcrowded living conditions
Explanation: Indigenous Australians are more likely to live in structurally unsafe housing, which could include electrical problems and damaged walls, floors and roofing. These conditions may contribute to the higher injury death rates for the Indigenous population when compared to the non-Indigenous population.
- **Environmental factor:** lack of access to health services
Explanation: A large proportion of Indigenous Australians live in remote areas with greater distance from health services compared to non-Indigenous Australians. This may result in delayed or no medical treatment for injuries, which could lead to complications and a greater chance of injury-related deaths occurring in the Indigenous population.

2 marks

One mark for correctly naming one environmental factor.

One mark for correctly linking the selected factor to higher rates of injury deaths in the Indigenous population compared to the non-Indigenous population.

Note: Responses must refer to both Indigenous and non-Indigenous population groups for full marks. One other relevant factor is poor quality infrastructure, including roads.

Question 10 (4 marks)

For example, any two of:

- People and organisations could lobby governments and arrange public protests voicing the need to reduce reliance on coal-generated energy. This is a major cause of increased greenhouse gas emissions, which trap heat radiated from the Sun in Earth's atmosphere, resulting in a rise in average temperatures.
- People could use their purchasing power by supporting producers of environmentally friendly products that also act to raise awareness of the need to reduce carbon emissions. For example, the company Who Gives a Crap has saved thousands of trees by producing forest-friendly toilet paper. Trees act to absorb carbon dioxide from the atmosphere.
- People could either donate money or volunteer to assist in fund-raising for an NGO that is working in low- and middle-income countries to alleviate the impacts of climate change. For example, they may work towards introducing crops that are resilient to changes in weather patterns.

4 marks

For each example:

One mark for describing a type of social action.

One mark for a link made to either a cause or impact of climate change.

Note: A mark is not awarded for only naming a social action.

Question 11 (6 marks)

a. *For example:*

With improved technology and a decrease in barriers to global trade, large multinational companies have vigorously promoted and marketed processed foods in low- and middle-income countries. This has caused a shift from more traditional nutrient-rich diets to consuming more energy-dense processed foods. If excess energy from the high levels of fats and sugar in these foods is not used by the body, it is stored as adipose tissue, thereby contributing to the rise in overweight and obesity levels in these countries.

2 marks

One mark for explaining how global marketing of processed foods has changed dietary patterns in low- and middle-income countries.

One mark for linking this dietary shift to a rise in overweight and obesity levels.

b. *For example, any two of the following advantages:*

- Obesity is a risk factor for several chronic diseases such as type 2 diabetes and heart disease. Digital technologies greatly increase the ability of individuals in low- and middle-income countries to access health services and information to help report and monitor concerns related to these conditions.
- Digital technologies assist in collecting health-related data. If governments of low- and middle-income countries have access to data on overweight and obesity rates, they have the capacity to implement strategies to raise awareness of the dangers of obesity.
- Digital technologies allow health professionals in low- and middle-income countries to develop online forums and communities that support the efforts of individuals to reduce excess body weight. Having access to reliable information on nutrition and weight-loss programs would empower individuals to take greater control of their health.
- Increased access to mobile phones in low- and middle-income countries gives individuals the capacity to connect with and provide support to family members experiencing obesity-related conditions. This may lead to improved social and emotional health and wellbeing of those affected.

For example, any two of the following disadvantages:

- It is possible that digital technologies are partly responsible for the shift from traditional diets to one high in saturated fats and sugars. Multinational companies would take advantage of the increased availability of digital technologies in low- and middle-income countries to advertise and market their foods.
- The rise in digital technologies has changed the nature of work in low- and middle-income countries, causing an increase in migration to urban areas. This would create a shift from readily available nutrient-rich foods to processed foods high in fats and sugar. This, along with more sedentary occupations, would cause an increase in excess body weight.
- Because of the increased use of digital technologies by children in low- and middle-income countries, they may spend time playing games on electronic devices rather than playing more active games outdoors. With less energy expended, children are more likely to gain excess body weight.

4 marks

One mark for explaining each advantage of the rise of digital technologies in relation to the rise in overweight and obesity levels in low- and middle-income countries.

One mark for explaining each disadvantage of the rise of digital technologies in relation to the rise in overweight and obesity levels in low- and middle-income countries.

Note: Each example must specifically refer to low- and middle-income countries.

Question 12 (10 marks)

For example:

Both Source 2 and 3 show how Australia's health status has changed over time and how this change reflects changes in public health policy and practice. 'Old' public health was introduced in the early 1900s as a response to high levels of infectious and respiratory diseases as shown in Source 2. In 1907, respiratory diseases were ranked second at 14.3% of total deaths and infectious diseases were third at 12.6%. 'Old' public health focused on changes to the physical environment including improvements to water and sanitation systems, and housing construction and regulations. Waterborne diseases such as cholera were prevalent at the time and respiratory diseases such as pneumonia and influenza were caused by poorly constructed and ventilated homes. A second intervention during the early to mid-1900s was mass vaccination programs preventing infectious diseases such as measles, rubella and diphtheria pertussis. This greatly reduced the under-five mortality rate as well as increasing overall life expectancy. In 2000, the percentage of infectious diseases had dropped dramatically to just 1.3% of total deaths. Respiratory diseases dropped to 8.9% which is not as significant but would still include diseases caused by tobacco smoking in 2000.

Source 2 shows circulatory diseases as the top-ranking cause of death in both 1907 and 2000 with a rise from 20% to 38.6%. The number of deaths per 100 000 population, as shown in Source 3, does not represent the percentage of deaths but it is significant that the number rose dramatically from approximately 400 in 1907 to 1000 (per 100 000) for males in 1970. The significant reduction in the percentage of infectious and respiratory diseases since 1907 may have raised the overall percentage of circulatory diseases in 2000 despite Source 3 showing a lower number per 100 000 population in 2000 than in 1907. A possible reason for the increase in circulatory disease (in both Source 2 and 3) and cancer, (Source 2), could be a shift in causes of death in Australia to those related to lifestyle risk factors such as poor diet (high in saturated fats and sugars) and lack of physical activity.

'New' public health began in the 1970s to address the risk factors behind the rise in cardiovascular diseases and cancers. This social model of health focused on preventing disease through changes to the physical, political, and sociocultural environments in which people live and work. To promote healthy eating in Australia, population-based food selection models such as the Healthy Eating Pyramid (Source 1) were introduced. This model is based on the government's Australian Dietary Guidelines which also provides an alternative model, the Australian Guide to Healthy Eating. Both models are simple visual guides to the proportions of foods that should be eaten daily. To reduce the dietary intake of saturated fats which can lead to atherosclerosis, heart attacks and stroke, the Healthy Eating Pyramid promotes: eating small amounts of healthy fats and lean meats; reducing added salt, which is a risk factor for hypertension, a cause of stroke; and reducing added sugar which can cause obesity, a risk factor for circulatory disease, if the excess energy it provides is not used.

10 marks

Marks for this question are awarded holistically using the following points as a guide:

- Up to two marks for how well the response has been structured.
- Up to two marks for how well the stimulus material has been understood, connected and synthesised.
- Up to three marks for an understanding of how policy and practice relating to 'old' and 'new' public health may have contributed to improvements in Australia's health status over time.
- Up to three marks for an understanding of the role of initiatives to promote healthy eating in bringing about improvements in Australia's health status.

Note: For a response to be awarded full marks, consideration should be made of how clearly and coherently it is structured. Examples from all three sources should be included.

Question 13 (10 marks)

a. *For example, any two of:*

- Universal health coverage includes access to affordable essential medicines and vaccines. If children are vaccinated against deadly diseases such as measles and pertussis they would continue to thrive through childhood.
- Universal health coverage includes reducing the cost of health services so people can access health care without experiencing financial hardship. If new mothers can afford access to neonatal care, common causes of child mortality such as malnutrition and diarrhoea can be prevented.
- Universal health coverage includes having well-trained health workers such as birth attendants. If complications occur during childbirth, prompt medical action can save the lives of both the mother and the newborn.

4 marks

For each answer:

*One mark for outlining one component of universal health coverage.
One mark for linking the component of universal health coverage to reduced under-five mortality rates.*

b. *For example:*

If governments across the world, through the water and sanitation sector, achieve universal and equitable access to safe and affordable drinking water (SDG 6), there would be a major reduction in maternal and child mortality and communicable diseases (SDG 3). Collaborative action is needed to ensure healthcare facilities in low-income countries especially have access to safe water and sanitation to reduce the transmission of infections during childbirth and to prevent dehydration due to diarrhoeal diseases. This would reduce maternal and child mortality rates globally. Women remaining in good health after giving birth can continue to take care of their family and possibly return to work, allowing access to health and a decent standard of living.

6 marks

One mark for one example of collaboration between sectors in society.

One mark for outlining one key feature of SDG 6.

Two marks for a link and an example of improved health and wellbeing globally that reflects a key feature of SDG 3.

Two marks for a link and at least one example of improved human development globally.

Question 14 (13 marks)

a. SDG 4: Quality education

1 mark

One mark for accurately identifying SDG 4.

Note: The full name of SDG 4 must be included.

b. *For example:*

The purpose of the program is to improve literacy levels of children in Mali, as reading assessments in this country indicated that at least 70% of primary school children were unable to read at grade level.

2 marks

One mark for correctly outlining the purpose of the project.

One mark for linking the purpose to information provided in the case study.

c. *For example, any two of:*

- The partnership between the government of Mali, USAID, World Vision, the Australian government, technology companies, local library staff, and community members who produce reading material relevant to the local people, represents a feature of an effective program. The combined skills and knowledge of these groups strengthen and support the success of the project, especially the involvement of community members in its implementation.
- The project involves local people during all stages of its implementation. By developing reading material in the local language, training local library staff to lead reading activities and including parents in the program, the local people would gain a sense of ownership of the program. This feature supports the success of the project in both the short and longer term.
- The focus of the project is to improve reading and literacy levels of children in Mali. Therefore, to be effective, the project must succeed in the short term and continue to succeed after aid organisation workers leave the communities. To achieve this result, the project involves and trains local people giving the community a sense of ownership. It also uses multiple approaches, for example digital audio, texts, and interactive reading activities, involving parents and families in reading activities.

4 marks

For each example:

One mark for describing one key feature of effective aid.

One mark for linking the feature to information in the case study.

Note: A mark is not allocated for simply naming the key feature.

Transparency, the fourth feature of effective aid, is not clearly represented in this project.

d. *For example:*

Health and wellbeing: Involving and training community members and incorporating locally sourced stories as part of the project brings the local people together with a sense of common purpose and belonging, thereby enhancing spiritual health and wellbeing. The project could also enhance social health and wellbeing as it increases opportunities for children, family, and community members to interact during reading activities in local libraries and in their homes.

Human development: The project aims to improve the reading ability of children but extends to include their parents and other family members, giving them access to knowledge and enhancing their ability to read and understand information related to all aspects of life. Improved literacy levels could, now and in the future, allow individuals to better manage their health and improve their employment prospects, thereby giving them a sense of control over their lives.

4 marks

Health and wellbeing:

Two marks for linking two dimensions of health and wellbeing to information in the case study.

Note: The meaning of each dimension must be included for full marks.

Human development:

Two marks for linking two capabilities of human development to information in the case study.

e. *For example:*

By developing reading skills in children and families, the project enhances employment opportunities in the future. With access to better paid work, people can afford nutritious food, improving energy levels as well as increasing immunity to disease. This acts as a resource nationally for Mali with a more productive workforce, increasing average incomes and economic growth.

2 marks

One mark for describing how the project could improve one dimension of health and wellbeing.

One mark for outlining how the improvement in health and wellbeing could benefit Mali as a resource nationally.

Question 15 (4 marks)

a. *For example:*

The National Disability Insurance Scheme (NDIS) is a national insurance scheme that funds services and support for Australians with a permanent and significant disability, as well as their families and carers. The NDIS assists people with a disability to access mainstream services and support, access community services and support and maintain informal support arrangements.

2 marks

Two marks for two key points describing the NDIS.

b. *For example, any one of:*

- The NDIS could support Mitch to live more independently through providing a support worker to guide him through the transition into independent living. For example, the support worker could help Mitch develop an individualised plan to support his daily living needs.
- The NDIS could assist Mitch by providing transport to services in the community that he needs or wishes to access. For example, he may need transport to regular medical check-ups or to participate in community social activities or events.
- Mitch may require the assistance of a day carer to help with shopping, banking or other daily tasks. The NDIS provides this assistance as part of reasonable and necessary funded support.

1 mark

One mark for one example of a service or support provided by the NDIS that would suit Mitch's situation.

c. *For example, any one of:*

- Mitch may not have the cooking skills or the facilities in the shared accommodation to allow him to follow recipes designed to help reduce excess body weight.
- Mitch may have taste preferences that include foods high in fats and sugars which would make it difficult for him to switch to foods that he would find less appealing.
- Mitch may be strongly influenced by advertising and marketing of energy-dense foods on television and other forms of media. This would prevent him from choosing more nutritious foods low in fats and sugars.

1 mark

One mark for outlining one challenge to bringing about dietary change that Mitch may encounter.

Question 16 (3 marks)

For example, any three of:

- **Economic sustainability:** renovating and extending the market house following Cyclone Harold meant the 3000 vendors could resume trading just one week after the cyclone. This reduced the likelihood that these vendors and their families would fall into poverty due to loss of trade after the cyclone.
- **Social sustainability:** the vendors at the market house damaged by the cyclone were primarily women. By renovating and extending it within a week, these women could resume trading and earning an income. This supports the livelihoods of women and their ongoing participation in the community.
- **Environmental sustainability:** by providing technical guidance leading to improved agriculture and fisheries practices, the local farmers would learn the importance of maintaining a balanced ecosystem to food production for both current and future generations.
- **Economic sustainability:** By improving agriculture and fisheries practices and building cash and export crop markets, the farmers are given a greater capacity to trade their produce and contribute to economic growth. If these practices are passed on to the next generation, greater economic stability could also be achieved.

3 marks

*For each contribution to sustainability (three required):
One mark for explaining how the example from the program could contribute to achieving one dimension of sustainability: economic, social or environmental.*

Note: The same dimension can be used more than once. The name of a dimension is not required.