



2008 Health and Human Development GA 3: Examination

GENERAL COMMENTS

Generally the 2008 Health and Human Development paper was answered well, with most students able to write an answer for each question. There were fewer unanswered questions than in past years. Students did not do well with questions where they may have had to combine materials across dot points in the *VCE Health and Human Development Study Design*. Many students did not answer Questions 4b. and 5b. adequately.

Many students did not read each question carefully to ensure that they answered the question being asked. Some students highlighted the whole question instead of simply noting the key words that indicated what they were asked to answer. For example, in Question 5bii. and 5biii., many students highlighted environmental factors or lifestyle and behavioural factors but did not note that differences between metropolitan, regional and remote areas were required in the answer.

Students should use the number of lines provided and the marks allocated for each question as a guide to the depth and length of response required. Students must write their responses in pen rather than pencil, as pencil can be difficult for assessors to read.

SPECIFIC INFORMATION

Note: Student responses reproduced herein have not been corrected for grammar, spelling or factual information.

For each question, an outline answer (or answers) is provided. In some cases the answer given is not the only answer that could have been awarded marks.

Question 1a.

Marks	0	1	2	Average
%	21	34	45	1.3

Examples could have included:

- decreases in metabolism
- loss of skin elasticity leading to wrinkling of the skin
- decline in acuity of the senses, for example, vision and hearing
- loss of pigmentation in the hair resulting in the greying of hair
- decrease in bone density mass
- decrease in muscular strength, agility and endurance with a loss of size, shape and strength of muscles, which impacts on motor development and reflexes
- the proportion of body fat increases, muscle tone decreases, the heart muscle degenerates and fat and fibrous tissue becomes evident – this results in less efficient circulation.

Students needed to identify two examples (other than menopause) of physical development that typically occur in females during middle adulthood to be awarded two marks. Students were not awarded full marks for simply writing ‘wrinkles’.

Question 1b.

Marks	0	1	2	Average
%	22	47	31	1.1

Possible answers included:

- loss of ability to reproduce and the realisation that you are no longer able to bear children. This may bring with it a feeling of loss and of no longer being female, which could cause a sense of sadness, low mood and decreased self-esteem, reducing emotional health
- the freedom of not having to worry about getting pregnant may have a positive impact on emotional health
- not having to be concerned with menstruation may also bring about feelings of freedom and have a positive impact on emotional health.

Students needed to describe one example of how menopause impacts on emotional health or development. Students should have identified whether the example represented health or development to be awarded two marks. If students did not identify this, they were only awarded one mark.



The following student response received full marks.

Menopause may have a negative influence on the emotional development of a woman in middle adulthood. The physical changes that occur, ie loss in ovulation cycle, may have a negative impact upon the female's confidence levels (ie. Decreased confidence and self-esteem) as she may perceive it as a loss in youth. Due to changes in hormonal levels, the female may experience various mood swings, thus inhibiting her ability to properly express and convey her emotions, feelings and thoughts, which is a negative consequence upon her emotional development.

Question 1ci.

Marks	0	1	2	Average
%	16	40	44	1.3

Any two of:

- oestrogen
- progesterone
- follicle stimulating hormone
- luteinising hormone.

Question 1cii.

Marks	0	1	2	Average
%	36	40	24	0.9

As a result of the depletion of eggs in the ovaries and the ageing of the ovaries, levels of follicle stimulating hormone, oestrogen and progesterone in females fluctuate but then fall dramatically once menopause has occurred.

To be awarded two marks, students needed to outline the changes that occur in the levels of these hormones.

The following student answer received full marks.

During menopause there is a change in the levels of both oestrogen and progesterone. As menopause marks the end of a female's menstruation cycles, there is an increase in the level of progesterone released in the body that prevent the ovulation cycle from occurring. Oestrogen, the hormone responsible for the development of primary and secondary sexual characteristics, and thus menstruation, it is released in smaller quantities as the menstruation cycle stops during menopause.

Question 2a.

Marks	0	1	Average
%	20	80	0.8

Osteoporosis is a condition characterised by weakened bones that fracture easily or a reduction in bone density that means the bones fracture easily.

No marks were given for responses such as 'weak bones'. Many students mixed up osteoporosis with osteoarthritis.

Question 2b.

Marks	0	1	2	3	4	Average
%	4	10	21	30	35	2.8

Similarities

- bone mass density increases from birth to about age 30 in both males and females
- bone mass density decreases in both males and females from age 30
- the pattern of the relationship between bone density and ageing is the same in males and females

Differences

- males have a higher bone mass density than females throughout the lifespan (or females have a lower bone density mass)
- the fracture zone begins at a lower age for females than for males
- there are differences in the age of risk of fracturing bones between females and males. In females, it is 65–80 years, and in males it is 85–100 years.

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Students needed to identify two similarities and two differences to be awarded full marks. Many students stated that the levels were the same for males and females rather than stating that the pattern was similar.

Question 2c.

Marks	0	1	2	Average
%	15	39	46	1.3

- Osteoporosis can lead to a reduction in mobility, which may mean an individual is less able to go out and mix socially or be involved in the activities they used to be. This may lead to depression, feelings of being a burden and a lack of confidence, therefore impacting on emotional health.
- Having osteoporosis may lead to an individual feeling worried or anxious about a breakage occurring and not being as active, which could reduce their self-esteem and confidence. This may have an impact on their emotional health.

To be awarded two marks students needed to outline one example of how osteoporosis might impact on emotional health of either males or females. Many students did not relate their answer to emotional health or show understanding of osteoporosis (part of a National Health Priority Area).

The following response gained full marks.

The impacts of osteoporosis, a diet related disease, may have negative influences over the emotional health of a female or a male. It may cause a lowered self esteem and feelings of insecurities an weakness due to the individual's overall fragility. Their decrease in body and bone strength may have the potential to lower their sense of self value as they are unable to engage in activities (ie. Exercise) like they formerly would. Furthermore, the loss of independence, and increased reliance upon others or walking aids, may further lower their confidence and may cause them to feel their life is pointless.

Question 2d.

Marks	0	1	2	3	4	5	Average
%	10	28	32	15	13	3	2

Students needed to discuss the role of nutrients as protective factors against osteoporosis. If students only mentioned the three essential nutrients of calcium, phosphorous and vitamin D, they were awarded two marks. If less than three nutrients were discussed, students were awarded one mark. Two marks were awarded for the explanation of the role of each of these nutrients in preventing osteoporosis and the remaining one mark was given for mentioning the importance of consuming a calcium-rich diet during childhood and adolescence.

Students who made reference to food sources rather than to nutrients were only awarded a maximum of two marks out of the five marks available, depending upon the level of detail.

This question was answered poorly despite the stem of the question being taken directly from the study design.

The following student response gained full marks.

Nutrition is essential in the prevention of many diet-related diseases. The nutritional uptake of individuals at a young age (especially during adolescence) will impact on the attainment of peak bone mass. If individuals have an adequate balance of nutrients for hard tissue development throughout the lifespan the onset of osteoporosis may be prevented. Nutrients essential for attaining peak bone mass and preventing degeneration of bone mass throughout the life span are calcium, Vitamin D, phosphorus and protein. Individuals must consume sufficient protein as it forms 85% of the matrix of bones onto which calcium and phosphorus are deposited in the process of ossification. Vitamin D is also essential in the absorption, utilisation and regulation of calcium.

Question 3

3ai.

Marks	0	1	Average
%	20	80	0.8

3aii.

Marks	0	1	2	Average
%	51	27	22	0.7



Students could have selected any of the following food groups together with any one of the associated nutrients to be awarded one mark for Question 3ai. Students were not awarded a mark for correctly naming the food group. If the food group selected was incorrect, then students received no marks for the remaining parts. For example, many students selected milk, yoghurt and cheese where there is no increase in serves. The remaining two marks were awarded for the justification of the increase in the nutrient during breastfeeding in Question 3aaii.

Food Group	Nutrient	Reasons for the increase for breastfeeding women
Breads, cereals, rice, pasta and noodles	Carbohydrates	Energy needs are high to cater for the increased BMR and the production of breast milk
	B Group vitamins – niacin, riboflavin, thiamine	As energy needs increase, there is a corresponding increase in the need for B vitamins, which assist in the breakdown of protein, fat and carbohydrates into energy
Vegetables and legumes	Vitamin A	There is an increased need for vitamin A as it is important for the development of bones and teeth in infants. It is also important for the growth of soft tissue, necessary for the development of cell membranes
	Folate	Folate is needed by the infant to meet the needs of an increasing blood supply and for the development of DNA, so it is important for the breastfeeding mother to increase the level of folate she consumes
	Protein	This increase is necessary for the manufacture of breast milk which is high in protein. There is also an increased need for protein due to the production of colostrum, the rich fluid that is high in antibodies
	Iodine	Iodine levels increase due to an increase in BMR
	Carbohydrates	Energy needs are high to cater for the increased BMR and the production of breast milk
	Calcium	High levels of calcium are provided by breast milk to meet the need for the growth of hard and soft tissue of the newborn. Calcium needs are high as it is a period of rapid growth
Fruit	Iron	Iron is needed for the development of haemoglobin for the increasing blood supply being developed by the growing infant
	Vitamin C	Vitamin C is important for the development of connective tissue and collagen, which are important for the growth of bones and teeth in the infant. It is also needed to efficiently transport the stored iron in the baby's liver around the body
Meat, fish, poultry, nuts and legumes	Water	Water makes up the greatest part of breast milk and as such there is an increased need
	Protein	This increase is necessary for the manufacture of breast milk which is high in protein. There is also an increased need for protein due to the production of colostrum, the rich fluid that is high in antibodies
	Zinc	Zinc is important for DNA synthesis and bone growth
	Iron	Iron is needed for the development of haemoglobin for the increasing blood supply being developed by the growing infant

Question 3b.

Marks	0	1	2	3	4	Average
%	12	26	31	15	15	2

Students were asked to describe the interrelationships of the major nutrients in the formation of blood or energy. Many students did not identify whether they were answering for blood or energy.

Blood

Students were awarded two marks for identifying at least four major nutrients required for blood formation and this must have included iron. Where students identified less than four major nutrients or did not include iron, they were awarded one mark. The remaining two marks were awarded for discussing how the four nutrients selected interrelated.

A good response would have followed the following pattern.

Blood is comprised of a number of components including red blood cells. Protein is an important part of the globin component of haemoglobin in blood. Iron is required to manufacture the haem component of haemoglobin which



transports oxygen in the blood to all cells and tissues. Vitamin C helps to increase the absorption of iron from the intestines and helps in the formation of cell walls in blood vessels. Folate is needed for the correct size and maturation of red blood cells, and Vitamin B12 ensures that red blood cells form correctly so that oxygen can be supplied to tissues. Water forms the major component of blood plasma and gives it the characteristic fluid properties.

Energy

Students were awarded two marks for identifying at least four of the most important nutrients required for energy release and must have included carbohydrates. Where students identified less than four nutrients, they were awarded one mark. Two marks were awarded for the discussion of how the nutrients interrelated. Students did not have to include all of the following nutrients, however, their response must have included carbohydrates and at least three additional nutrients to be awarded two marks.

Students could have chosen from the following nutrients:

- carbohydrate – the main or preferred energy source in the body
- fat – the most concentrated source of energy
- protein – a secondary source of energy mostly needed for growth, repair and maintenance of body tissues and cells
- B group vitamins (B1, B2, B3 and B6) – needed to form coenzymes which are required to break down carbohydrates, fat and protein into energy (release of energy)
- vitamin B1 (thiamine) – helps release energy from carbohydrates and is involved in the process of converting glucose into energy
- vitamin B2 (riboflavin) – important in the production and regulation of the hormone insulin. Also needed for the coenzymes that release energy from carbohydrates
- vitamin B3 (niacin) – necessary for the metabolism of carbohydrates, fat and protein
- vitamin B12 – required for the proper formation of red blood cells which carry oxygen to the cells for the production of energy
- iodine – controls the rate of metabolism (the rate at which the body releases and uses energy in cells)
- iron – needed to release energy as well as the transport of oxygen to cells
- water – the liquid medium that allows chemical reactions to occur and results in the release of energy in the body
- folate – required for the formation of red blood cells necessary for the carrying of oxygen to the cells.

The following student response was awarded full marks.

Carbohydrates are the body's preferred source of energy however fats and proteins are also used to supply energy for bodily processes and exercise. The chemical reactions to break down food fuels to energy requires the presence of oxygen which is transported in red blood cells via haemoglobin. Iron is essential in the formation of haemoglobin to carry oxygen to cells. Vitamin C assists in iron absorption from the intestines. Vitamin B (niacin, riboflavin, thiamine) coenzymes essential for conversion of food to usable form of energy.

Question 3c.

Marks	0	1	2	Average
%	41	45	14	0.8

To be awarded two marks students had to provide one example of a strength and a weakness associated with breastfeeding women using the Australian Guide to Healthy Eating.

Examples could have included the following.

Advantages	Disadvantages
<ul style="list-style-type: none"> • encourages the eating of a wide variety of foods including extras which are an enjoyable part of a diet • allows for personal preferences in relation to breads, cereals and vegetables • fruits and vegetables are separated to recognise the importance of both of these food groups • follows the dietary guidelines of eating less saturated fat, salt, sugar and drinking less alcohol 	<ul style="list-style-type: none"> • some knowledge of what makes a serving size and what foods belong in which food group is needed • it is difficult to determine the number of extras servings as you need to know the kilojoule value of the foods • poorer food choices can still be made, such as full fat dairy products, white breads and cereals and processed fruits in syrup • it is difficult to categorise some mixed foods such as



<ul style="list-style-type: none"> • groups foods together and can easily include foods from a range of cultural origins • includes water as an important addition • it is visual and includes pictures of foods • allows for cheaper options, so meets the needs of women from all socio-economic levels 	<p>pizza, soups and casseroles</p>
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Many students showed little understanding of the Australian Guide to Healthy Eating. It was evident that many students did not recognise the material presented from it in the previous question as they wrote that the guide did not provide for breastfeeding women.

Question 4a.

Marks	0	1	2	Average
%	28	34	39	1.1

Examples students could have selected from included the following.

Physical health/development

- Suva's family is healthy and well-nourished. This means that the children in particular are better able to receive the nutrients needed for the growth of soft and hard tissue that will enable them to achieve their genetic potential.
- Being healthy and well-nourished will mean that the children will have plenty of energy to play and be active, which will contribute to the development of their motor skills.
- Adequate food will ensure that all members of the family will have a good height to weight ratio and will not be underweight.
- Adequate micronutrients, particularly iron, will ensure that all family members, particularly the girls, do not suffer from diseases such as anaemia.
- Being well-nourished will reduce the risks associated with developing diseases such as osteoporosis later in life.
- Being well-nourished and healthy will ensure that the immune system is functioning well, which will reduce the risk of diseases and illness.
- Having safe water and sanitation will mean the risk of contracting life-threatening illnesses such as diarrhoea and other water borne diseases will be greatly reduced.
- Being healthy and well educated, Suva's children (particularly the girls) will be less likely to marry young and have children while still developing. This will improve the health and development of the girls as pregnancy at a young age places considerable demands on the girl's body and increases the risks for the developing baby.

Social health/development

- Enrolling in the Building Resources Across Communities (BRAC) program with other women would mean that Suva would be interacting with others and developing social skills such as communication and leadership skills. She has learnt new behaviours associated with her new role as a businesswoman.
- Moving out of poverty and being able to attend school will mean the children are able to interact with a wide range of people and develop their communication skills, learn new behaviours and experience the ability to find work and undertake new roles.

Emotional health/development

- Being able to bring her family out of poverty has made Suva a proud and self-reliant woman, which has contributed to an increase in her self-esteem and self-confidence.
- She has become empowered and feels as though she is able to control her own life and make decisions about her family's future which increases her self-esteem.

Intellectual development

- Suva has been shown how to manage a loan and start up a business. This would increase her intellectual development.
- The children are now able to attend school, which will increase their intellectual development. They will learn new knowledge, improved language skills and the capacity to be creative and solve problems.
- Being well-nourished and healthy means the children have energy to explore their environment and become involved in many activities. This will help develop their intellectual skills.

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Students could not simply list examples in order to achieve two marks. Students should not have simply repeated information that was in the case study but should have used examples from the case study to link to health and/or development.

Many students did not use the case study or indicate whether they were identifying health or development. They therefore did not gain any marks.

The following student response gained full marks.

1. Intellectual development – individuals taught and learn to manage their own finances and increase understanding of how to be successful in a business.

2. Emotional health – people are able to build up resilience as they can cope with everyday stress of life as they are self reliant. Feel empowered and proud increasing self-esteem as they feel they are worthy, also hope for the future.

Question 4b.

Marks	0	1	2	3	4	5	6	7	8	Average
%	24	13	18	14	13	7	7	3	2	2.6

Examples might have included the following.

Focus on education/develop personal skills – This program is likely to be very effective as the teaching of skills and knowledge is the primary focus. Women are taught how to manage a loan and to start and continue a business, which builds their business knowledge and skills. Giving the women knowledge and skills has assisted them in becoming self-sufficient and empowered.

Focus on women/empower women – The BRAC program targeted women and helped them to establish their business skills. Targeting women means the program is likely to be more effective because women hold the major role in improving health and development. The women carry out all the chores, ensure that all family members are well fed and practice good hygiene, as well as decide whether children will attend school.

Involve the community/strengthen community action/culturally appropriate – This program involved the community, particularly women. This helped to ensure the program was successful as it could be delivered in a way that was culturally appropriate. It also focused on business skills that would be appropriate for the community in which these women lived.

Ensure the program is accessible, particularly to the poor/affordable – This program will be very effective as its primary focus was very poor women. It was conducted at no cost to the women and the women were then provided with a loan to get their business started. The requirement to repay the loan means that it was not a handout and enabled the women to build their self-esteem and become proud and self-reliant.

Focus on water and sanitation – This program provided the family with skills that enabled them to build a well and install a sanitary toilet in the house. The provision of safe water and sanitation is important and would help to reduce the chance of ill health.

Focus on disease prevention – For example, the installation of a sanitary toilet for her home will reduce the incidence of cholera.

To be awarded eight marks, students could select any two elements of sustainable primary health care and link them to the case study to draw a conclusion about the likely effectiveness of the program.

For each of the elements, students were awarded one mark for identification of the correct elements, two marks for the explanation that was linked to the case study and one mark for the evaluation of the effectiveness. If students did not link the explanation to the case study, they were only awarded one mark for identification and no marks for a general explanation. Many students used the elements of primary health care rather than sustainable health care and were unable to evaluate the likely effectiveness of the project.



The following student response identified two relevant elements of sustainable primary health care and evaluated the likely effectiveness of the BRAC project.

Element 1 – Focus on Women and reduce gender inequality – Empowering women to become self-reliant and reduce gender inequalities will increase the likelihood of long term success of the BRAC project for the community. Women are main caregivers and workers in developing nations yet are often disadvantaged (discriminated against) due to cultural factors. Women are empowered to take control over their own health which will in turn see health and development of the family improved. For instance, women may access better nutrient dense nutritional food for the entire family increasing. The BRAC project is successful in adhering to this element of sustainable primary health care as it focuses on women and making them self reliant.

Element 2 – investing in education – In order for continual and long term improvements the BRAC program must develop personal skills of individuals within the community. The education increases individuals ability to take control over their own lives and enable them to improve the health status of the community. Women are able to pass on what they learn about managing finances and running a business to future generations which will enable long term benefits even after the initial implementation of the project has finished.

Question 4c.

Marks	0	1	2	3	Average
%	18	43	28	12	2.6

Achieve universal primary education

- In many developing countries, children do not have the opportunity to achieve basic primary levels of education. This is a concern, particularly for girls. A lack of ability to read or write makes it more difficult to access and use health information and services. They are unable to read instructions and have less knowledge of hygiene practices, increasing the risk of disease and illness which affects physical health.
- Without education, women in particular lack knowledge of the importance of safe water and sanitation and what constitutes a healthy food intake. This means that children and adults are more likely to become ill with communicable diseases and will be unable to attend school or obtain work, or for women, work in the fields. This will reduce their access to food which may lead to stunting of growth or poor physical development.
- Lack of access to food can also contribute to low energy levels and a lack of motivation to explore their environment, which could impact on intellectual development.
- Girls who are educated are more likely to demand an education for their children, are likely to get married at a later age and have fewer children. This will have a positive impact on their physical health and development such as reducing the risk of iron-deficiency anaemia and reduced bone density.

Improve maternal health

- In many developing countries, women lack access to health care services during pregnancy and do not have trained birth attendants when delivering babies. This places both the mother and the baby at risk of dying from complications and infection.
- Complications during pregnancy can lead to damage of the excretory system such as the fistula, which has a significant effect on a women’s physical health and her social, emotional and intellectual development, being unable to work, attend school or develop self-esteem.
- Women who have many children place themselves, as well as their babies, at risk of premature death. Pregnancy also depletes the mother’s body of many nutrients and ongoing pregnancies can mean babies are born underweight and premature. This increases the chance of an infant dying before their first birthday. Having many children also affects the physical health of the mother by increasing the risk of iron-deficiency anaemia. Her physical development can also be affected by reducing her motor skill development and the potential stunting of growth.
- Poor maternal nutrition can also lead to long-term health problems for children and mothers. Healthy mothers are more likely to give birth to healthy children who can develop according to their genetic potential and this reduces the risk of developing diseases later in life. Good maternal nutrition is important for maintaining the mother’s bone density and reduces the risk of iron and folate-deficiency anaemia.

Eradicate extreme poverty and hunger

- With high levels of poverty, developing countries do not have the resources to provide basic health infrastructure and support, such as safe water and sanitation, which means diseases such as diarrhoea, typhoid and cholera will be common. This contributes not only to poor physical health but also to high rates of mortality, particularly among children. Poor physical health can affect physical development by contributing to stunted growth and poorly developed motor skills.



- High levels of poverty contribute to poor access to health care services. Without access to health care and basic medication, ill health is more common. Children and adults who are ill are unable to attend school or work and this will impact on their social and intellectual development.
- Poverty is also associated with higher levels of HIV/AIDS which affects adults and an increasing number of children, reducing physical, social and emotional health. Social and emotional development is also affected by the isolation sufferers face and the sense of shame they feel.
- When children suffer from hunger and malnutrition they are not receiving enough of the essential nutrients needed for physical growth. This will lead to poorly functioning organs and a depleted immune system. This makes a child under the age of one more susceptible to death from illnesses such as diarrhoea, pneumonia, measles, tuberculosis, polio, tetanus, diphtheria and whooping cough. This also increases the risk of an infant dying before their first birthday.

Combat HIV/AIDS, malaria and other diseases

- HIV/AIDS is an increasing problem in many developing countries and is a factor that contributes to ongoing poverty. The members of the community who are responsible for growing crops or doing paid work to provide income for their families are most likely to contract the virus. Families therefore suffer because the ‘breadwinner’ may become too ill to work due to HIV/AIDS-related conditions such as respiratory infections, diarrhoea, fever, weight loss and cancer. This loss of income may lead to food shortages, unaffordable health care, difficulty providing other basic necessities such as clothing and school books, therefore education opportunities for children are either reduced or removed, and social and intellectual development are affected. Such families would not be able to afford antiretroviral drugs which might provide quality of life and extend a person’s life.
- Children may be orphaned and forced to take on adult roles and responsibilities that impact on their social and emotional development. Feelings of shame and guilt also place a strain on families and affects emotional health and development.
- Malaria and other diseases such as tuberculosis also contribute to poverty as sufferers are too sick to work and are therefore unable to earn an income. This affects physical health, intellectual and social development.

Students were awarded three marks for their discussion of why the United Nations would focus on the specific Millennium Development Goal selected. This could include three key justifications briefly outlined or fewer justifications discussed in detail. Students must have referred to health and development in their answer to be awarded three marks.

Question 4d.

Marks	0	1	2	3	Average
%	34	36	21	9	1.1

An example of an appropriate answer could have been the following.

Primary health care strategy: Safe motherhood program – The United Nations could provide funding to a local women’s organisation to establish a program targeted towards women of childbearing age and/or those who are pregnant. This program will help pregnant women understand the importance of a healthy food intake while pregnant, the importance of having regular ante-natal checks to ensure there are no complications during pregnancy and that they are immunised against tetanus. It is also important that during a trained birth attendant is present at the birth so that the environment is hygienic and risks associated with tetanus infection are reduced. Trained birth attendants can also recognise if any complications occur during birth and take appropriate action where possible to improve maternal health.

Students could have selected any primary health strategy as long as it linked to the Millennium Development Goal selected in Question 4c. Students were awarded one mark for identification of the strategy and two marks for the description. Students were not awarded marks for describing the benefit instead of the program.

If students did not select a millennium development goal that was the same as Question 4c, they could only receive a maximum of one mark for the description and one mark for the name. Too many students did not describe an appropriate program but described the expected outcomes. Simply writing ‘education’ as the name of the program was inadequate and a specific program should have been identified, for example, Pencils for schools.

The following are examples of student responses that gained full marks.

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Feeding programs – Through multilateral aid – NGO (non-government organisation) may take over fortified nutrient dense foods to developing nations and distribute them to communities in need. This may involve identifying culturally acceptable foods and what nutrients are critically low and developing foods that can be administered to these individuals in developing countries.

Immunisation – Although no vaccine against HIV/AIDS is available immunisation against many others such as malaria, measles and polio are. NGOs could provide materials for immunisation for local groups to administer.

Question 5a.

Marks	0	1	Average
%	13	87	0.9

Life expectancy is the measurement of the number of years a person would be expected to live given the current conditions.

Most students were able to define the term ‘life expectancy’ for one mark.

Question 5b.

Marks	0	1	2	Average
%	42	16	42	1

- 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 to 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 to 81.8 in remote areas and 77.6 in very remote areas.

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.

Question 5ci.

Marks	0	1	2	2	Average
%	43	8	10	39	1.5

Asthma – The rates of self-reported asthma are higher in inner regional areas and are 22% higher than in metropolitan areas, and 8% higher in outer regional and remote 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.

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 to be awarded one mark for each. 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 5cii.

Marks	0	1	2	3	4	5	6	Average
%	29	18	20	15	9	4	4	1.9

Students needed to select and discuss two environmental factors that could account for the higher level of injuries in outer regional and remote areas compared to those in metropolitan areas. Environmental factors could have included road conditions, increased occupational risk, isolation, access to health care and socio-economic status. Students were awarded three marks for the link to the increased risk of self-reported injuries for both examples selected. Students were not awarded marks for naming the environmental factor. Reference to inner regional areas was not relevant. This question was testing knowledge of rural health and the ability to understand data provided for Question 5c. Many



students did not account for the differences between metropolitan and rural areas – they simply described rural health in stereotypical ways.

The following student responses were awarded full marks.

Political environment – Individuals living in metropolitan areas may be exposed to ‘Work Safety’ programs more regularly than those living in rural areas who have less access or time to take part in ‘work Safety’ programs. These programs may change attitudes of individuals in metropolitan areas to be more careful in work reducing the rate of self reported injuries.

Access to health care – individuals living in rural and remote areas may have limited access to health care and so therefore may not report injury as being significant. As they do not access health care because it is inconvenient and difficult to come by, the individuals living in rural and remote areas may develop further more serious complications as they did not seek medical treatment before a minor injury became a serious injury. Those living in metropolitan areas will go to get injuries fixed more easily.

Locality – Due to the remote and outer regional location if individuals there are very few medical clinics and trained doctors present to treat or register the number of injuries thus why self reported injury prevalence is relatively high when compared to those living in metropolitan areas where clinics and doctors are plentiful.

The safety of roads is an environmental factor that could contribute to the percentage increase in self reported injuries in rural and remote areas compared to the metropolitan areas. The lower population in the rural and remote areas means that roads are maintained less, have less safety signs and are in a generally worse condition. The increase in self reported injuries could be contributed to by minor road accidents.

Question 5ciii.

Marks	0	1	2	3	4	5	6	Average
%	35	20	19	12	8	3	3	1.6

Alcohol consumption – Males and females in regional and remote areas consume higher levels of alcohol than those in metropolitan areas. Alcohol is energy dense and can contribute to increased weight gain.

Lower rates of physical activity – Males and females in outer regional and remote areas are less likely to undertake physical activity. This means that they will expend less energy, which increases their risk of gaining weight if their energy input is greater than their energy output.

Food intake – Those living in outer regional and remote areas are less likely to consume foods that are low fat, in particular, milk and dairy products. This means that their food intake is often higher in saturated fat and this contributes to an increased risk of gaining weight. Those in outer regional and remote areas are also less likely to consume fresh fruit and vegetables and more likely to consume high energy snacks, which again increases the risk of becoming overweight.

This question was not answered well. Often there was no comparison provided between the two areas. Students were awarded three marks for the correct discussion of two examples of lifestyle and behaviour factors linked to increased levels of overweight and obesity in outer regional and remote areas. Reference to food intake should have been considered one lifestyle and behaviour practice only. Where students referred to exercise or food intake but the description was based on environmental factors, students could only be awarded one mark for each.

Question 6a.

Marks	0	1	2	3	4	Average
%	4	15	31	21	28	2.6

- Obesity is a major risk factor for type 2 diabetes as well as cardiovascular disease and some cancers, all of which contribute to high burdens of disease in Australia.
- The rate of obesity has increased significantly in the last 10 years and this is contributing to a greater burden of disease associated with type 2 diabetes, cardiovascular disease and some cancers.
- Obesity contributes to a huge financial burden on the community in terms of costs associated with the health care system and those associated with a loss of productivity.
- Obesity is a lifestyle disease and there is a capacity to prevent the disease through education and behaviour change. The resources allocated to obesity have the potential to reverse the trend of the disease.

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Students needed to explain two reasons why obesity has been included as a national health priority area to be awarded four marks. Students were not required to include statistics.

The following student response gained full marks.

1. High expenditure on health care system – various diet-related diseases are a precursor of obesity such as type 2 diabetes and cardiovascular disease. This results in increased need for medical treatment – eg hospitalisation due to stroke which increases Medicare’s expenditure.

2. Preventable – obesity is a preventable disease in which individuals can take some control over and consequently reduce the prevalence of this disease. As the incidence is increasing and it can be prevented through changes an individual makes over their lifestyle, behaviour and knowledge via health campaigns it was made a NHPA

Question 6bi.

Marks	0	1	2	Average
%	3	14	83	1.8

- The incidence of obesity has increased steadily from 1987 to 2000.
- In each year, the incidence of obesity is higher in girls than boys.

Students needed to identify the two trends that were evident in the graph. They did not need to use data in the explanation of the trend to achieve one mark for each trend.

Question 6bii.

Marks	0	1	2	3	4	Average
%	35	22	26	9	7	1.3

- Diets in developing countries such as Chile, are changing as incomes are rising. The consumption of the traditional staple foods such as cereals, roots and tubers is declining, while meat, dairy products and oil crops are rising. These foods tend to be more energy dense and therefore contribute to an increased risk of obesity.
- As people move to the cities they are more likely to consume energy-dense diets that are high in saturated fat and refined carbohydrates. This change in diet is also combined with less physical activity which increases the risk of obesity.
- Large multinational processed food companies are aggressively targeting developing countries and heavily advertising these products. With increased incomes and heavy advertising, the dietary intake of children is changing to one that contains more energy-dense take away foods.

Students needed to link the increase in obesity to the increased marketing by multinational companies as well as the movement of families away from farms and into the cities, which alters their physical activity levels. Students were awarded two marks for each of the factors.

The following student response was awarded full marks.

1. Globalisation – could lead to an increase in the rates of obesity. Whilst globalisation has had some positive influences, an increase in processed foods in developing countries as a result of this has led to some of the more traditional foods being removed from day-to-day diets. This could lead to an increase in obesity rates.

2. The influence of new technology, such as TV, could lead to a reduction in the levels of physical activity partaken by school age students and a subsequent increase in the rate of obesity.

Question 7a.

Marks	0	1	2	3	4	Average
%	26	22	23	18	11	1.7

Marco is in the early adulthood stage of the lifespan. Students needed to outline any two of the following examples of physical and intellectual development that are typical during this stage of the lifespan for men to be awarded four marks.

Physical Development

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- Early adulthood is a period of cell maintenance where tissues are replaced or repaired with no further increases in height but some completion of bone growth. Reproductive organ growth may continue in males into their early 20s.
- The sensory organs are at their sharpest – sight and hearing have reached their peak.
- Period of peak physical status – body systems/organs reach optimum functioning.
- Coordination, strength, speed of response and endurance are at maximum levels, maximum muscle strength is attained between 25–30 years with peak bone mass reached at around 30 years of age.
- Motor skills may show signs of gradually slowing down.

Intellectual Development

- Intellectual skills and intelligence continue to improve with all new changes that they experience.
- Ability to problem-solve and to predict in an abstract way continues to develop in adults who are challenged to use these skills.

Question 7b.

Marks	0	1	2	Average
%	40	37	23	0.9

Social Development

- Marco will continue to develop his values, attitudes and opinions as a result of his family experiences. Having children will mean he is likely to reflect on his values, attitudes and opinions and these are likely to be continually shaped.
- His wife and children provide opportunities for social interaction such as family outings and kindergarten, crèche or school functions. The children may also be involved in a range of activities that will see him mixing with different people and therefore further developing his communication skills. As a parent he will be undertaking a new role and learning the appropriate behaviour associated with this role.

Emotional Development

- Marco's family life is likely to contribute to an increase in his pride and self-esteem as he is able to reflect on his capacity to make a difference to the health and development of his children.
- Marco is likely to have developed a strong sense of attachment and love for his wife and children which will bring with a sense of contentment and happiness.
- Marco will have to learn how to cope with the challenges that are associated with being a parent and a spouse, and celebrate achievements, and manage disappointment and possible conflict.
- Having positive family relationships will help Marco develop greater resilience and better coping mechanisms.

Students needed to provide an outline of how Marco's family, which could include his wife and/or children, may contribute to his emotional and social development. Only one example of each was required to achieve full marks. Many students described emotional health rather than development and many saw family as a negative factor in social and emotional development.

The following student response received full marks.

Social development – may improve his ability to interact with various members of society as he has had to communicate and deal with new people such as child health care workers and other parents.

Emotional development – may experience new form of bond with a child and learn to express love and joy he hadn't had prior to the birth of his children.

Question 7c.

Marks	0	1	2	3	4	Average
%	12	18	27	21	22	2.3

Short-term health

- Physical activity will help maintain body weight and reduce the risk of becoming overweight or obese.
- Exercise helps maintain heart-lung function and muscle tone and contributes to increased levels of energy and a better functioning immune system.
- Exercise helps improve emotional wellbeing as it contributes to the release of chemicals that help to make individuals feel good.

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- Physical activity will help contribute to Marco's social health as he is interacting with a wide range of people when he plays indoor cricket.
- Emotional health can be enhanced when his team experiences success.

Long-term health

- Weight bearing physical exercise helps to maintain the bone density and reduce the risks of developing osteoporosis.
- Exercise helps to keep the joints and muscles flexible and reduce joint stiffness.
- Physical activity helps reduce diseases such as type 2 diabetes and cardiovascular disease.

Students needed to provide a brief overview of the benefits of physical activity to short and long-term health to be awarded full marks.

Question 7di.

Marks	0	1	Average
%	45	55	0.6

Health insurance is additional health insurance that is purchased on top of Medicare, by individuals or families.

Students needed to identify that private health insurance is an optional form of health insurance paid in addition to Medicare to be awarded one mark. Many students were unable to answer this question

The following is an example of an appropriate answer.

Additional health care coverage to universal healthcare via Medicare that provides rebates for extra benefits such as physiotherapy, private hospital, that are not covered by Medicare

Question 7dii.

Marks	0	1	2	Average
%	62	27	11	0.5

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.

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.

The following student example responded in this way for full marks.

Government policy in place that increases the amount of premiums on private health care insurance by 2% each year. If Marco doesn't take up private health care insurance before he is 30 he will have to pay an additional 2% on premiums each year there after.