



2005 Health and Human Development GA 3: Written examination

GENERAL COMMENTS

Students often did not perform well on questions with a higher mark allocation, indicating that many were unable to apply their knowledge adequately. Too many students did not appear to read the question carefully – this was especially noted in Questions 1b. and 5aiii. Many students seemed to read the first two words then jump into their answer rather than checking what was being asked of them. Students must spend time reviewing their answers, to check that the question asked has been answered.

Many students were unable to distinguish between health and development, which is a fundamental aspect of the study. The differences between environmental and inherited factors were also often not understood.

Students' ability to read the data provided had improved from 2004. It was pleasing that fewer students used script books. Enough space is provided in the booklet for expected answers, therefore students who run out of room when writing their responses may need to think about their answers more carefully and cut out irrelevant material.

SPECIFIC INFORMATION

Question 1

1ai.

Marks	0	1	2	Average
%	31	49	21	0.9

DALY: Years of healthy life lost through premature death or living with a disability due to illness or injury.

This is a definition all students should know as part of the course.

1aii.

Marks	0	1	2	Average
%	13	19	67	1.6

Any two of:

- arthritis is more prevalent in the population than cancer
- there is a higher percentage of people with a disability related to arthritis than cancer
- there is a lower percentage of deaths from arthritis than cancer
- arthritis has a lower burden of disease than cancer.

A number of students gave as their two responses that cancer has a small prevalence (1.4%) and arthritis has a larger prevalence (32%). These facts should have been combined into one point as follows: cancer has a smaller prevalence (1.4%) compared to arthritis (32%).

1b.

Marks	0	1	2	3	4	5	6	Average
%	21	12	19	16	15	9	7	2.5

Students could have used some of the following material:

- behaviour – men are more likely to smoke than females, therefore a greater number may suffer from lung cancer
- genetic contribution – similarities in prostate and breast cancers (both related to gender)
- age
- hormones
- lifestyle – nutrition intake may impact on gender similarities in colorectal cancers
- attitudes – females may suffer more melanoma cancer because of their concerns about body image and tanning.

This question was not well done. Students were often unable to:

- identify the differences or similarities in cancers between males and females
- select relevant factors (determinants) that impact on health and relate their answer to the data provided
- compare the gender differences appropriately
- show knowledge of cancer, which is one of the national health priority areas that they should have studied.

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A good student response is shown below. This answer could have been improved by linking prostate and breast cancers with ageing and hormones, and pointing out that sunbaking is more common for women because of body image.

Factor 1 – Genetics – The genes inherited by an individual determine their gender. Gender impacts on the predisposition and likelihood of certain cancers. For example only males suffer prostate cancer and it is rare for males to develop breast cancer which is much more likely for women.

Factor 2 – Lifestyle – Behaviour – The behaviours we partake in affect our health. Sunbaking and smoking is still seen as a vital social activity by many. This has resulted in both men and women suffering high incidence of Melanoma and lung cancer.

Factor 3 – Environment – Social – Our social environment is where most food intake takes place. The people around us have a profound impact on the foods we choose. For example, eating with peers we want to look 'in' so eat foods that are often unhealthy fast food high in salt, sugar and/or fat and low in fibre. This has an impact on the high prevalence of colorectal cancer in both males and females.

1c.

Marks	0	1	2	3	Average
%	32	16	24	27	1.5

Students could have chosen one of the following priority area examples.

- Building healthy public policy: making smoke free venues in public places, which prevents people from causing harm to themselves and others (through passive smoking).
- Strengthening community action: providing shady areas for children to play; fundraising within a community to enhance research and treatment in the cancer areas (for example, fields of women for breast cancer in local areas brings locals together to provide education and support).
- Creating supportive environments: QUIT activities encourage and support people to stop smoking; more accessible and user friendly testing (Pap smears, breast screen) encourages early detection and less invasive treatment.
- Developing personal skills: teaching people to recognise early signs of cancer for themselves (for example, breast self examination).
- Reorienting health services: providing multidisciplinary care for cancer patients, developing integrated cancer services across Victoria so all cancer patients get the best care in a timely fashion wherever they live; emphasising prevention (for example, activities offered that link diet with the prevention of colorectal cancers).

Many students did not identify a priority area of the Ottawa Charter. Some confused it with the determinants of health. Those who were successful mostly focused on building public policy or developing personal skills, as the following student answer shows.

Developing Personal Skills – A focus on this area could reduce the prevalence of cancer within our community by educating and further making health the central component in many lives. Lessons as to skin care, including sun cream, hats and protective clothing should be taught as a way to educate people of how to protect themselves from skin cancer.

Question 2

2a.

Marks	0	1	2	Average
%	27	39	34	1.1

There is a strong link between people's health and their social and economic situation. Broadly stated, the wealthier you are, the healthier you are. Low socioeconomic groups generally have a lower life expectancy (by an average of two to three years) than those in more advantaged socioeconomic groups.

Many students provided reasons for the differences, but not what the differences were.

2bi.

Marks	0	1	2	3	4	Average
%	16	21	25	19	19	2.1

Consequences for the community include:

- pharmaceutical costs (medications used to treat ill health; for example, cholesterol lowering drugs, blood pressure controls)
- increased medical consultations
- increased health care costs
- higher number of hospital beds required

- lost productivity (absenteeism because of ill health is a cost to the economy).

Consequences for the individual include:

- can affect energy levels and hence ability to work/earn an income and the ability to exercise
- likely development of obesity, diet related diabetes and/or some cancers (and consequent health costs)
- lost earnings if cannot work because of the illness.

This student used excellent examples.

Consequence for the community – Increased Medicare expenses due to people becoming overweight and obese due to dietary imbalances for treatments and medication such as high blood pressure and high cholesterol tablets. This means less funds can be put towards education and road safety that would benefit whole communities.

Consequence for the individual – decreased quality of life if they are obese or suffer from high blood pressure or high cholesterol. They may have to take time off work for regular doctors' appointments or be restricted in their job because of their weight. This may lead to poor self-esteem and even depression in the long run.

2bii.

Marks	0	1	2	3	4	Average
%	3	7	19	31	40	3.0

Examples that students could have expanded on include:

- behavioural – taste preferences, dietary patterns, ethnicity
- social – family preferences, friends, peers, learning experiences, social trends in foods, body image
- economic – money available, food provisions/food industry, marketing of foods, costs of foods, income level
- environmental – location of food outlets, geographical remoteness, access (for example, wheelchair) to foods that are affordable and appropriate, food laws.

This student provided a clear answer.

Behavioural – likes and dislikes of some foods.

Social – influence of peers in what to eat.

Economic – low socio-economic may not afford nutrient dense foods.

Environmental – advertisements for certain foods.

This question, on the effects of food selection and purchase, was answered well by most students; however, too many students made generalisations about rural areas and food choices for low socioeconomic groups.

2biii.

Marks	0	1	2	3	4	Average
%	16	19	31	20	15	2.0

Students' example should have been along the lines of the following examples.

- Economic factor: money available – wealth does not necessarily entail a good choice of nutrients, however there is a strong relationship between the amount of disposable income and the amount and type of food purchased. Research has shown that a severe shortage of money coming into the household produces a reduction in the amount of food available, as income is used on other costs (for example, rent).
- Environmental: location of food outlets – where a person lives impacts on transport availability and access to the supply of food. In city areas many people of lower socioeconomic status live on the outer areas of the city and have limited private and public transport, so food may have to be purchased where it costs more and choices may not be readily available.

This question was generally poorly answered in relation to low socioeconomic groups. Many students made the generalisation that low income is related to high-fat, takeaway food purchases as it is better value than nutritious, 'high-priced' fresh food. Another generalisation made was that canned food is less nutritious than fresh foods; however, this may not be always true. The use of 'may' in responses would be a better approach.

The following students provided a clear answer.

Economic factor: Available money – Low socio-economic individuals don't have large amounts of money to spend on food which may narrow their selection of foods. They may be forced to buy low cost mince meat because it is cheaper rather than more nutritious lean red meats which are considerably more expensive.

Education: Low or poor – This would affect one's ability to select, purchase or prepare nutritious food as they may be unaware of what and how much of each nutrient they need especially at critical growth stages.

2ci.

Marks	0	1	2	3	Average
%	32	42	20	6	1.0

The term 'public health' is used to describe the level of health in the population, and actions that improve that level. Activities that aim to benefit a population tend to emphasise prevention, protection and health promotion, rather than treatment. Given that some of the major causes of morbidity and mortality in Australia include diet as a significant risk factor, it is clear that nutrition plays a large role in public health. People's health status can be improved through a focus on nutrition. Nutrition policies and programs like the 'Australian Guide to Healthy Eating', 'Eat Well Australia' and 'Dietary Guidelines' are public health nutrition activities

Given that nutrition is a clear dot point in the Study Design, too many students were unable to explain why it is important in public health programs. Many students could identify the link between nutrition and health but could not then link it with public health. Students should have been able to provide material such as above in their answer.

If the students mentioned that nutrition is related to morbidity and mortality they received a mark. If they were able to show that they knew that it was population-focused, another mark was given. If they provided an example of a public health nutrition policy or program, the third mark was given.

A good answer provided by one student follows below. The answer may have been improved by actually mentioning burden of disease and some programs related to nutrition.

Having a diet with adequate nutrients is very important as it can prevent many illnesses like obesity, osteoporosis, non-insulin dependent diabetes and cardiovascular disease. By including nutrition in public health programs it ensures people have and know how to get a balanced diet so they will not develop these conditions which would need a great dependence on the public health care system.

Another student provided the following comprehensive answer.

Public health consists of the protection and promotion of health through the prevention of illness. Due to Australians' lifestyles today, affected primarily by behavioural factors, it is evident lifestyle choices such as nutrition are essential in the protection of health and the prevention of illness. Dietary imbalances, caused by poor nutrition, are a main contributor to the burden of disease. If good nutrition can be encouraged many of these diseases will no longer affect the community to such a degree.

2cii.

Marks	0	1	2	3	4	5	Average
%	25	27	23	15	7	3	1.6

The use of a public health nutrition program like the Café Meals Program for sustaining the health and development of low socioeconomic status groups was not well explained by many students. Many just repeated the program information given in the data. Better answers described each aspect of development (physical, social, emotional and intellectual), discussed the social, emotional and physical health, and applied these appropriately to aspects of the program.

The following two responses use different ways of presenting the answer. The first example could have been improved by being more specific in naming the areas of health and development. The second example uses the elements of sustainability as justification.

Nutrition programs such as Café Meals Program are increasingly effective in raising the health status of low socio-economic groups while also allowing for greater development. Health-wise, the reliability of nutritious meals secures a balanced diet for these people, ensuring they receive nutrients such as protein, carbohydrates and calcium to maintain their physical health. These nutrients allow the body to function appropriately as bodily processes are regulated by the availability of such foods. Socially, the development of these people is benefited as they no longer feel socially insecure and rather feel like integrated members of society. Emotionally, the consumption of this food and the ability of them to eat in city cafes will raise their self-esteem. Physically for those in young adulthood, the peak in bone density and muscle mass can be maintained by the intake of key nutrients.

This program has many elements that make it sustainable. For example, it is a local action therefore involves local people who are more aware of the problem areas than others. It is reaching low socio-economic groups, that is, it is reaching those most in need. The program is culturally sensitive because it ensures that the food available is acceptable to the patrons. Finally, the program is accessible to people because the vouchers used in the scheme can be used at a local café. Conversely, for this program to be more sustainable, it could educate the people of low socio-economic status how to gain employment and thus empower them to make their own food choices and take control of their lives.

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Question 3

3ai.

Marks	0	1	2	Average
%	19	20	62	1.5

Differences included:

- the percentage of females who rated their health as fair/poor increases with age
- 11 per cent of males aged 65–74 years rated their health as excellent, while 13.4 per cent of females in the same age range rated their health as excellent
- more males aged 85+ rated their health as good/very good than females (65.7 per cent versus 53.2 per cent)
- 40.3 per cent of females 85+ assessed their health status as poor/fair compared with 27.8 per cent of males in the same age group.

3aii.

Marks	0	1	2	Average
%	12	26	62	1.5

Possible criteria included:

- physical health – whether they felt physically able to carry out activities, absence of disease or infirmity, pain
- social health – whether they had friends and family who were around for them
- emotional health – whether they felt happy with their health status.

Most students were able to predict two criteria that older Australians may have used to assess their own health status.

3bi.

Marks	0	1	2	3	4	Average
%	9	22	37	17	14	2.1

Many students were unable to give two reasons that might contribute to the different levels of Medicare benefits paid for the 10–14 age group compared with the 75+ group. Students had to provide some explanation to get two marks for each reason. They had to do more than just list, for example, ‘hospitalisation’ or ‘doctor’s visits’ to gain marks.

Many students stated that the older age group was more likely to sustain injuries/fracture bones, not recognising that this was characteristic of the younger age group too. Many students used the inappropriate answer that a child’s parents would be in the workforce and could afford to pay for health care unlike the retired older people who were not earning an income. This showed a lack of understanding of what Medicare does.

This response is an example of a comprehensive answer.

Reason 1: 10–14 age group is young and active and fit generally and experiencing better health than the 75+ group whose bodies are becoming old and frail and more susceptible to disease.

Reason 2: 10–14 age group – immune system is good so colds and flu do not as severely affect them like they do in the 75+ age group who may become hospitalised because of flu.

Another student used this example.

Those in the 75+ age group are in the process of physical degeneration as their body becomes increasingly inefficient. Muscle and bone mass decreases and subsequently illness or diseases is more prevalent leading to a need for access to doctors, hospitals and medications. The younger age group is building up their muscles and bones and are less susceptible to illnesses and diseases thus requiring less medical help.

3bii.

Marks	0	1	2	Average
%	9	54	36	1.3

Possible reasons included those below.

- Women are generally at the child-bearing stage of the lifespan at these ages, hence require antenatal and childbirth care.
- Women may attend for pap smears.
- Men are at the peak of their physical development and physical health, apart from injuries, therefore may have fewer visits to doctors.

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The majority of students were able to provide only one possible reason as to why the average Medicare benefits paid for females aged 25–34 is greater than those paid to males of the same age group. Too many students gave the reason that females would be getting mammograms: these are not done routinely at this age and it is not a stage where women are more likely to get breast cancer.

3ci.

Marks	0	1	2	Average
%	9	24	67	1.6

Answers included:

- communicable disease control
- immunisation
- cervical screening
- breast cancer screening.

This question was reasonably well answered.

3cii.

Marks	0	1	2	Average
%	2	2	96	2.0

Answers included:

- prevention of hazardous and harmful drug use
- communicable disease control (water treatment, sewerage treatment)
- selected health promotion activities
- environmental health
- food standards
- hygiene.

This question was very well answered.

3ciii.

Marks	0	1	2	3	4	5	Average
%	12	17	31	25	10	5	2.2

Many students were unable to make the required prediction or justify their answer. Many did not read the question carefully and seemed unsure of what was being asked for in their answer.

The following example shows good justification for the student's position.

If the prevention of ill health was appropriately applied by the community it is evident this approach would cost less. The expenses of running hospitals, clinics and employing medical professionals are huge and consequently could be reduced. The biomedical approach alone allows for the community to contract illness and disease and therefore must handle the large costs of diagnosing, treating and rehabilitating those in poor health. Although it appears evident that society, due to environmental, behavioural, social and economic reasons, will not fully make health a central component in their lives and apply the advice provided through health promotion strategies. Due to this inability to completely rely on preventative health, as society will not fully alter its behaviour, ie. alcohol consumption, the government will have to pay for both prevention and biomedical aspects in conjunction – a very costly endeavour. In theory preventative health would reduce Medicare costs though in practice it does not appear that this is really possible.

Another effective way of answering the question was shown in the following response.

The preventative approach would be much more effective in decreasing Medicare costs. The Biomedical approach focuses on diagnosing, treating and curing a disease or condition. It only considers the physical side of a disease while the preventative approach also considers the social and emotional side of illness and focuses on preventing the disease from occurring. Primary prevention involves the prevention of diseases occurring at all, it is aimed at the whole community. These approaches include QUIT and Sunsmart. If primary prevention is obtained then Medicare costs would be reduced due to the reduced level of diseases and illness. Secondary prevention is aimed at those who are at higher risk of developing a disease such as women with a family history of breast cancer. They receive breast screening which increases the chance of detecting disease early which can allow for reduced costs and treatment time needed. Tertiary prevention is helping those who have already had disease reduce the chance of it coming back and them relapsing. This can include changing the diet and exercising to reduce the risk of the disease returning which saves Medicare money on treatment.

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Question 4

4ai.

Marks	0	1	2	Average
%	23	36	41	1.2

Students could have drawn on the following similarities:

- both beginning puberty
- growth spurts
- pubic hair appears
- body hair develops.

Some students just repeated material in the question stem, that they were both healthy and active. Students were expected to know the key areas of development at this life span stage.

4aii.

Marks	0	1	2	Average
%	16	33	51	1.4

- Tim: voice deepens; penis enlarges; testes and scrotum enlarge; chest hair grows.
- Trudie: ovaries enlarge; breast buds form; vagina, clitoris and uterus increase in size, hips widen.

Too many students were unable to identify two differences in physical development at this stage of the lifespan. They should have been able to provide answers from the examples above. Students should know the key aspects of development at each lifespan stage, and many texts provide such summaries for students to learn.

4aiii.

Marks	0	1	2	3	4	Average
%	20	23	28	17	12	1.8

Many students were unable to describe how physical development may impact on social and emotional development, and some had difficulty in describing social and emotional development. Too many students wrote about social development without explaining how it is developed in association with physical development. Too many wrote generalisations such as 'as Tim is an early developer his social development will be good'.

Students need to learn the relationships between the physical, social, emotional and intellectual development in more precise detail. The answer that follows does begin to show an understanding of the interactions.

Social development – The primary and secondary sexual characteristics that Tim is developing may lead to him feeling socially insecure. He may feel as though he will be ostracized as he personally may be grappling with the changes he feels. Tim may participate in group activities less often, not wanting to draw attention to himself – socially alienating himself from learning social interaction.

Emotional development – In the development of his primary and secondary sexual characteristics Tim will begin to form a more profound sense of self identity if he develops at the same time as his peers. Through his physical development changes he will learn many self conscious emotions such as embarrassment as he learns about self esteem.

4b.

Marks	0	1	2	3	4	5	6	7	8	9	Average
%	12	5	8	9	13	10	15	10	9	10	4.7

Hormone	Role the hormone plays in physical development
Growth Hormone (GH)	Causes all body cells (except central nervous cells) to grow and divide by stimulating cells to synthesise protein so that they can reproduce and grow.
ACTH (adrenocorticotrophic hormone)	Stimulates the testes to produce testosterone. Promotes male characteristics of body hair, facial hair, muscle growth, bone growth and deeper voice.
LH (luteinising hormone)	Stimulates testes to produce testosterone. Promotes male type characteristics. Stimulates ovaries to produce progesterone, which causes changes in the lining of the uterus.
FSH (follicle stimulating hormone)	Stimulates testes to produce sperm and ovaries to mature one ovum per cycle. Stimulates ovaries to produce oestrogen. Promotes female type characteristics of fat deposits, breast development, an increase in the size of the vagina and uterus. Promotes calcium absorption into bones.

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Many students were unable to list three hormones that influence the physical development of Tim and/or Trudie, and too many students were unable to explain the roles these hormones play in physical development. Students should understand the importance of hormones at specific stages in life, such as adolescence. Many texts show a 'map' of the hormones involved in physical development, and students should use these more carefully.

Students could have given testosterone or oestrogen as one of the hormones, but they could not also use LH and FSH as examples as these are the trigger hormones for testosterone and oestrogen.

4ci.

Marks	0	1	2	Average
%	53	27	20	0.7

Many students were unable to give a relevant environmental factor or show how it may influence Tim's development at this stage of the lifespan. The following examples do show an understanding of the relationship.

Environmental factor: access to nutritious foods – Due to the fact Tim has access to nutritious foods where he lives so he is able to physically develop to his optimum. For example, calcium would be provided to aid in the calcification of bones and protein is supplied to aid in the growth and mitosis of body cells.

Environmental factor: access to places for physical activity – If involved in physical activity Tim will develop greater muscles. He will be stronger and increase in flexibility while developing motor skills. He will be socializing with other youths which can help develop his social skills.

4cii.

Marks	0	1	2	Average
%	58	25	17	0.6

Many students did not notice the change in emphasis in this question where they were asked to choose one environmental factor and show how it influenced Trudie's health at her stage of the lifespan. One student answered in the following way.

Environmental factor: family – Having a supportive family during puberty is an important time as it will benefit her emotional health as her family will help her develop a positive body image and self confidence which are important for her emotional health to be optimal.

Question 5

5ai.

Marks	0	1	2	3	Average
%	9	9	19	63	2.4

Examples of acceptable answers include:

- high mortality developing countries have a larger burden of disease attributable to being underweight than the other countries
- low fruit and vegetable intake is similar for all types of countries, as is blood pressure and physical inactivity
- all types of countries have a low burden of disease attributable to physical inactivity
- developed counties have the lowest burden of disease attributable to all risks except being overweight.

Most students were able to use the information in Figure 2 to list three differences and/or similarities in the DALYs. Many students did not read the question carefully and tried to offer **reasons** for the differences or similarities rather than **list** three differences and/or similarities.

5aai.

Marks	0	1	2	3	Average
%	29	31	27	13	1.3

Many students were unable to choose one area from Figure 2 and describe how it affects health or development in a high mortality developing country compared with a developed country. Many students overlooked the requirement to compare the two types of countries.

The examples below show how two students were able to answer this question effectively.

Underweight, health. Being underweight in a high mortality developing country has very serious negative impacts on people's health. It makes them more prone to infections, illness and disease because of low immune systems. Being underweight in a developed country is not so serious on a person's health as they are often treated by medical facilities so they are less likely to get very ill.



Iron deficiency, health. A large number of DALYs in developing countries are attributable to iron deficiency. Lack of iron in one's diet means anaemia where the bloodstream is unable to transport oxygen around the body resulting in fatigue, headaches. This is not as prevalent in developed countries where the diet may be better and doctors are available to monitor iron needs.

5a.iii.

Marks	0	1	2	3	4	5	6	7	8	9	Average
%	6	2	6	8	12	15	16	14	13	10	5.4

Major Nutrient	Major food source	Function for optimal health and development
vitamin A	<ul style="list-style-type: none"> yellow and green leafy vegetables – carrots, pumpkin, spinach, broccoli yellow fruits – apricots, mango, rock melon 	<ul style="list-style-type: none"> essential for normal matrix formation (for example, bone) mucous membrane lining of respiratory and urinary tract increases the ability to see in dim light
vitamin K	<ul style="list-style-type: none"> spinach, soy beans, cabbage, green beans 	<ul style="list-style-type: none"> involved in the synthesis of some blood-clotting factors in the liver
folate	<ul style="list-style-type: none"> green leafy vegetables – broccoli, spinach, cabbage 	<ul style="list-style-type: none"> formation of enzymes and red blood cells metabolism of DNA neural tube development
vitamin C	<ul style="list-style-type: none"> citrus fruits, blackcurrants, berries, capsicums, spinach 	<ul style="list-style-type: none"> involved in collagen synthesis essential in the manufacture of blood and the cell walls of blood vessels assists in wound healing assists in the absorption of iron involved in folic acid metabolism involved in the manufacture of hormones such as thyroxine
carbohydrates	<ul style="list-style-type: none"> root vegetables, potatoes, bananas, apples, corn, grapes 	<ul style="list-style-type: none"> energy source – during digestion starches and sugars are broken down into glucose, which is then used to supply energy to the body
fibre	<ul style="list-style-type: none"> peas, carrots, apple, pear 	<ul style="list-style-type: none"> shortens the time required for food waste to pass through the intestine assists in regulating the bowels and avoiding constipation

Protein, iron, calcium and fat are not major nutrients in fruits and vegetables. Students needed to name specific vitamins in the B group and specific minerals.

All students should have been able to complete the above table; however, many students showed they had a limited knowledge of nutrients. During their examination preparation, students should develop a summary table of all nutrients, their functions and sources so they can use the information in many ways (most of the textbooks provide such a summary that students could use). Students might also find a reference such as *Nutrition – The Inside Story* (Home Economics Institute of Australia, 2003) an excellent guide.

5b.i.

Marks	0	1	2	3	4	Average
%	27	26	30	10	7	1.5

Students could have used the following examples:

- has the potential to reduce the effects of diet-related diabetes, obesity, colorectal cancers and cardiovascular disease (that is, can impact on areas that contribute highly to the burden of disease)
- may lead to a reduction in the consumption of foods that are high in salts, fats and sugars
- vegetable and fruit intake impacts on many dietary deficiencies, reduces the chance of malnutrition, and they are readily grown and widely distributed
- if fruit and vegetables are focused on, then impacts can be made on the contributions of cholesterol, zinc deficiency, vitamin A deficiency to the burden of disease.

Students should have been able to answer this question well, given the current advertising strategy of ‘two fruit and five vegetables’, but few did. Many students just rewrote material from the given text.

The following answer shows how one student was able to link the concepts of DALYs and strategy.

Fruit and vegetables contain nutrients that are essential for optimum health and development, eg. water, fibre, vitamins. If resources are put into encouraging the consumption of fruits and vegetables the nutritional status of people will rise leading to a rise in the general health status of populations.

Many diet related illnesses and diseases could be eliminated, for example obesity, colorectal cancers, non-insulin dependent diabetes, cardiovascular disease therefore lowering the burden of disease in populations.

Some students were able to refer to Figure 2 and note that, while the direct DALYs attributable to low fruit and vegetable intake are relatively low in all types of countries, the low intake does impact on the DALYs attributable to blood pressure, cholesterol, weight, and vitamin A deficiency.

5bii.

Marks	0	1	2	3	4	5	6	Average
%	42	9	13	12	11	7	6	1.9

Students could have used the following examples.

- High mortality developing country: Low socioeconomic status may mean people are unable to purchase a variety of fruit and vegetables. Many may live in urban slum areas where it is impossible to grow enough fruit and vegetables to enable them to eat five per day. Conflict that disrupts the food supply may be occurring within the country, so vegetable availability is erratic. Being underweight is the problem, as there is just not enough food available for those who crowd into urban areas.
- Low mortality developing country: Plentiful supplies of vegetables may be available at an affordable price, and the ability to travel to local markets may allow the fresh supply of vegetables. Education may not be available in a form that enables people to know the importance of vegetables in their diet.
- Developed countries: The socioeconomic level is such that people can afford to purchase vegetables. Educating people of the value of vegetables in their diet may still be a problem. Vegetables are widely distributed in urban areas and most people are able to travel to markets and supermarkets.

This question was not very well answered. Many students appeared not to have read the question carefully and wrote about why the program would be good in each of the country types. Students who approached the question logically and drew on strategies and implementation content from the Study Design were generally able to discuss one factor for each type of country.