

2004 Health and Human Development GA 3: Written examination

GENERAL COMMENTS

The paper was designed to address all of the Areas of Study in Units 3 and 4. The question and answer format of the paper appeared to be well accepted by students. Students should be aware that the number of lines is indicative of the length of response required for the marks allocated. A few students wrote in an extra script book, often just to finish off a sentence. Students should be encouraged to fit their answers onto the question paper or use the space left under questions or on any spare pages at the back of the question paper.

The new format meant that students did not write out the question as part of the answer. Many students require practice in reading the questions carefully before framing their answers.

SPECIFIC COMMENTS

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

Question 1

This question focused on 'the impact on health and development in developing countries of changes in the consumption of tobacco, alcohol and processed foods as a result of globalisation' in Unit 4.

1ai.

Marks	0	1	2	Average
%	20	46	34	1.2

One mark was available for each reason. Appropriate reasons focused on shifts in marketing tobacco from developed to developing countries:

- smoking is in decline in developed countries, therefore manufacturers are targeting low-income countries
- low income countries gain taxes from tobacco to add to government income, therefore there is no encouragement to stop tobacco smoking
- there may be no health warnings on packaging in developing countries so smokers are unaware of the health implications of smoking.

The following response gained two marks:

Reason I-Globalisation has seen the tobacco industry looking for markets outside developed countries where tobacco smoking is decreasing. Tobacco corporations are targeting developing nations with strong campaigns to increase sales in these countries.

Reason 2 – In developing nations smoking is increasingly being viewed as a 'status symbol' so individuals feel compelled to smoke to appear wealthy or affluent.

1aii.

Marks	0	1	2	3	4	5	6	Average
%	3	9	22	20	24	12	11	3.4

To gain two marks for each effect, students had to provide some detail rather than just list an effect. The following are examples of effects that would score two marks:

- increased incidence of cardiovascular disease while the effects would generally begin to be seen in middle adulthood onwards, in developing countries with fewer health warnings, effects may be seen earlier
- increased cancer rates effects on physical development (sensory organs, muscular strength) may affect physical health more medical treatment may be required
- raised rates of low birth weight babies may lead to delayed development with subsequent effects on social and emotional health and development.

The following answer shows how one student answered the question:

- 1. Tobacco smoking is a risk factor for many preventative diseases such as cardiovascular disease and lung cancer. The incidences of these diseases will rise and it will impact on health status.
- 2. Spending money on tobacco reduces resources available for purchasing nutritious foods and hence malnutrition or undernutrition may occur hindering physical development.
- 3. Smoking can adversely affect the developing foetus and can cause low birth weight therefore physical development may be affected and optimal growth and development not reached

1



1bi.

Marks	0	1	2	3	Average
%	12	22	36	29	1.8

A number of students did not focus on a **developed country** for this part of the question. The students needed to clearly identify a policy and describe how it may affect the number of people smoking tobacco. Possible examples include:

- legislation that requires health warnings to be placed on tobacco/cigarette packets so that smokers can read the health warnings before smoking
- legislation that prohibits smoking in public buildings, which encourages people to be aware of the effects of smoking on their health as well as the effects of passive smoking on the health of others
- tax included in the cost of cigarettes and tobacco, which raises the cost of smoking to discourage the amount who people smoke
- education and behaviour change; for example, through a program like QUIT.

The two responses below both scored full marks:

One policy used in a developed country such as Australia is the legislation passed which has made it compulsory for all tobacco packaging to carry a warning. This warning informs the consumer of one of the many detrimental effects smoking can have on an individuals health and the potential hazards of smoking that can affect others, not only the smoker.

Quit is a national anti-tobacco program in Australia. It involves a QUIT help line, TV advertisements, awareness and education on the dangers of smoking. It involves graphic depiction of the consequences of smoking in an attempt to educate people of the dangers to health of tobacco use.

1bii.

Marks	0	1	2	3	4	Average
%	26	16	29	14	15	1.8

Students needed to describe why the policy may be successful in a **developed** country; however, many students responded for a developing country instead and therefore gained no marks. Students must know the difference between a developed country and a developing country. The following are examples of appropriate responses:

- governments in developed countries have money they can use to explain the policy through the media. There is high distribution to people with high literacy and enough disposable income to heed the media
- policies may lead public health organisations to take on and develop strategies like QUIT to enhance the success of the policy
- high levels of literacy in developed countries may increase the understanding of the health warnings on tobacco packages
- developed countries may have greater incomes to enable them to focus on the health of their population, hence they are able to develop policies like smoke-free environments in public buildings.

1biii.

Marks	0	1	2	3	4	Average
%	26	15	30	12	17	1.8

Students were required to discuss two factors that may make it more difficult for the policy described in part i. to be successful in a developing country. Following are examples that students could have used as a basis for their answers:

- developing countries may not have the financial or administrative infrastructure to be able to conduct and sustain such a policy
- higher illiteracy rates and poverty levels may mean that accessibility to the media may not be sufficient to support such an approach
- higher poverty levels may mean that smokers buy individual cigarettes, bypassing health warnings on packets.

The following response, which focused on warnings on tobacco packets, received four marks:

- 1. Most people living in developing countries are illiterate or have difficulty in reading and writing. This would make it difficult or impossible for them to read and comprehend written warnings on a tobacco package. Thus for most consumers a written warning would be pointless.
- 2. In developing countries it is not uncommon for cigarettes to be sold individually as people have little money so cannot afford to purchase an entire box of cigarettes. If cigarettes were to be sold individually, the likelihood of the consumer viewing the packaging and reading the warning is reduced, limiting the effectiveness of warnings on packets.



Question 2

This question covered the new focus on National Health Priority Areas, Area of Study 2 in Unit 3. Too many students showed no knowledge of the National Health Priority Areas.

2ai.

Marks	0	1	2	Average
%	25	44	31	1.1

National Health Priority Areas focus on diseases or conditions that contribute significantly to the burden of disease in Australia. Focusing on these areas benefits the health of all Australians through a collaborative endeavour from all governments. The purpose is to channel resources where they are likely to have the greatest impact in reducing the burden of disease.

2aii.

Marks	0	1	2	Average
%	21	14	65	1.5

- asthma
- cardiovascular health
- cancer control
- diabetes mellitus
- mental health
- arthritis and other musculoskeletal conditions.

Students received one mark for each correct answer.

2b

Marks	0	1	2	Average
%	16	36	48	1.3

Students need to list the group they had chosen to focus on for their answers. Sample answers for the age groups 15–34 years and 55–74 years follows:

- unintentional injuries are about seven times higher in the 15–34 age group
- intentional injuries are also about seven times higher in the 15–34 age group than for the 55–74 age group.

An alternative method was for students to respond in terms of percentage differences between their chosen groups. The following response is from a student who did this well:

Difference 1 – For individuals aged 15–34 years unintentional injuries contribute to 14.9% of total DALYs compared with 2.2% of DALYs for 55–74 years.

Difference 2 – Intentional injuries accounted for 0.8% of total DALYs for individuals in the 55–74 years age group. In comparison to the 15–34 age group where the contribution of intentional injuries was a lot higher at 8.6% of total DALYs.

Students were not asked to provide reasons for the differences. The question was a test of students' skill in reading tables – something that many students seemed unable to do. Those students who used the category 'other than injuries' gained no marks as the question asked about injuries.

2ci.

Marks	0	1	2	3	4	Average
%	8	10	22	29	32	2.7

Appropriate answers for full marks for each age group should have provided specific age-related examples of development. One example follows:

55–74 years:

- physical development joints stiffening, spine compacting
- social development volunteering in the community enables social interaction
- emotional development sense of worth and positive self-esteem through being useful in the community
- intellectual development brain is still active for most.

Too many students were unable to provide appropriate answers for their selected age group.



2cii.

Marks	0	1	2	3	4	Average
%	23	14	29	15	19	2.0

Many students were unable to provide explanations of the levels of intentional and unintentional injuries for two of their examples of development for the group they identified in 2ci. One student wrote an excellent response for the 55–74 years age group.

Example 1: The effect of retirement can cause feelings of worthlessness, uselessness, sense of loss of identity and purpose of life could take a harsh toll on some individuals. If they are living alone they may feel socially isolated, lonely and depressed. This could in some circumstances lead some individuals to suicide and other intentional injury. Many men especially may feel emotional turmoil as they are often defined in the community through their occupation. Their low emotional health may impact on their levels of intentional injury.

Example 2: For many people as they age they put on weight due to declining energy needs. Thus they may decide to partake in some form of physical activity to try and prevent weight gain. At this stage of the lifespan, eyesight, balance, motor skills and strength may be declining so playing a sport or doing physical activity could lead to unintentional injuries if people fall or are hit by a ball they cannot catch or see coming.

Question 3

3ai.

Marks	0	1	2	3	Average
%	8	8	20	65	2.4

Most students identified three factors that contribute to health status and developmental outcomes in developing countries. Appropriate responses included:

- water supplies may be contaminated with parasites and pathogens may lead to gastrointestinal illnesses
- a lack of safe sanitation can lead to chronic diarrhoea can restrict the absorption of nutrients and lead to impaired physical development through malnutrition
- limited access to immunisations against diseases may lead to diseases such as measles, mumps and polio and affect physical and social development
- limited access to education regarding adequate health care and nutrition may lead to malnutrition and consequently impact on physical development
- lack of health care and education on appropriate practices to ensure health.

Students should go beyond just listing a factor such as water – some explanation was needed to gain a mark.

3aii.

Marks	0	1	2	3	4	5	6	Average
%	10	7	14	22	17	13	18	3.4

Students who had good answers for part i. were generally able to explain how these factors may cause the differences in the contribution of infectious and parasitic diseases to total DALYs in Zimbabwe and Australia. Students had to mention differences between Australia and Zimbabwe in each of the factors to gain the full marks.

The following are examples of excellent student answers:

For most people in developing countries access to clean water free from bacteria that they can drink and wash in is a major problem. People are often forced to drink from dirty waterways, ponds, streams which are breeding grounds for parasitic and infectious diseases, for example, cholera, typhoid. Also drinking, washing food in or bathing in unclean water can cause diarrhoeal diseases. Thus lack of access to safe water in developing countries such as Zimbabwe accounts for high rates of infectious and parasitic disease in comparison to Australia where almost all individuals have clean water to drink, wash in, thus Australia has much lower rates of these diseases.

Many people in developing countries are living in extreme poverty. They cannot afford to buy or access nutrient dense foods so they have weakened immune systems that makes it difficult to fight parasitic and infectious diseases and makes it easier for them to contract them which would lead to high incidences of these diseases in developing countries. In Australia most people are living above the poverty line. They are able to afford foods to boost their immune systems so this would account for some of the lower rates of infectious and parasitic diseases.

Developing countries such as Zimbabwe often do not have the infrastructure or economy to support a health care system like Australia's Medicare system. This leads to alack of availability of doctors, hospitals and necessary treatments required to prevent or fight infectious and parasitic diseases therefore increasing the gap between Australia's rate of disease when compared to Zimbabwe.



3bi.

Marks	0	1	2	3	Average
%	13	38	34	15	1.5

Many students were unable to adequately describe one contribution that Australia could make to global health programs through AusAID or non-government organisations to decrease the impact of infectious and parasitic diseases in high mortality countries like Zimbabwe. Students were asked to describe the contribution in this part of the question.

The following answer scored full marks. The answer shows that the student understood how support can be provided and that safe water is a key factor.

Australia could, through AusAID or contributions to non-government organisations such as Worldvision, CARE Australia or Oxfam Community Aid Abroad establish small-scale projects in local communities to provide safe drinking water and adequate sanitation for local people.

3bii.

Marks	0	1	2	Average
%	30	47	24	1.0

Students had to use the answer from part i. to explain why this contribution would decrease the impact of infectious and parasitic diseases in high mortality countries like Zimbabwe.

The student example from part i. continued with:

The provision of safe water and sanitation will ensure infectious and parasitic diseases are kept low. This will therefore promote better health as the people are free from illness. They will be able to maintain good growth patterns, socialise within the community, learn by attending school, have higher self esteem - development can be optimal.

Ouestion 4

4ai.

Marks	0	1	2	Average
%	12	55	34	1.2

- iron: red meat; eggs; fortified breakfast cereals
- folate: dark green, leafy vegetables; liver; oranges; tomatoes; fortified breakfast cereals.

Many students provided the food sources for fluoride instead.

4aii.

Marks	0	1	2	3	4	Average
%	37	27	19	11	7	1.3

Iron: Iron is necessary for the formation of haemoglobin in the red blood cells. It carries oxygen. The requirement for iron increases in pregnancy mainly because the volume of blood increases. If iron intake is low, the mother may develop anaemia which can lead to lower oxygen uptake. This may lead to a low birth weight child which may, in turn, cause delayed development.

Folate: Folate is important for neural tube development. Low folate intake may lead to neural tube defects like spina bifida. Folate is also required for red blood cell production, synthesis of DNA and protein. Low levels of folate may mean low infant birth weight.

To gain two marks, students needed to name a condition and also say what the effects are. Many students did not answer this part of the question, while others provided an answer more suited to fluoride.

4h

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Marks	0	1	2	3	4	Average
%	31	27	24	12	6	1.4

This part of the question was answered poorly. Given that the three examples of dietary advice were listed in the Health and Human Development Victorian Certificate of Education Study Design for 2004, it was expected that the students would have covered the basic points of each. Students had to choose **one** of the examples given and comment on the advice it gives in assisting women to make appropriate food choices during pregnancy. The best response would be to focus on 'The Australian Guide to Healthy Eating', which includes a specific guide for pregnant women.



The following examples provide a guide for answers that could have been expected.

- 'The Australian Guide to Healthy Eating': the only guide that gives recommended serves for each food group for pregnant and lactating women. It is easy to identify foods that provide adequate nutrition for the mother and the developing foetus. The aim is to encourage the consumption of a variety of foods from each of the five food groups in proportions consistent with the 'Dietary Guidelines for Australian Adults'. It deals with problems associated with quantities, saturated and unsaturated fats, and variations within food groups regarding quantities of nutrients.
- 'Dietary Guidelines for Australian Adults': represent current scientific and public health knowledge. They
 provide advice about healthy food choices consistent with minimal risk for development of nutrition-related
 diseases. The guidelines provide general advice but do not indicate foods and quantities or provide specific
 advice for women during pregnancy.
- 'Eat Well Australia': this is a national public health nutrition strategy, not strategies for individuals as such. The focus is on health priorities; for example, preventing obesity and promoting optimum nutrition for women, infants and children. There are support projects such as national nutrition education in schools and a review of food selection guides. It is focused on population groups not individuals. Advice may be obtained through specific projects but may not provide particular advice for pregnant women.

The following is an example of a response where the student was able to use the 'Dietary Guidelines' to a limited extent.

The Dietary Guidelines for Australian adults provide a good easy to comprehend general guide for all people including pregnant women to follow if they wish to have a nutritious diet and optimise development. The guidelines encourage individuals to eat a wide variety of foods which is essential during pregnancy to ensure that the mother receives adequate nutrients from a variety of food sources.

This answer could have been improved by stating that these are general guides that are not specific to pregnant women and that these women may have to seek further advice on which foods to increase or decrease in order to provide adequate nutrients during pregnancy.

4ci.

Marks	0	1	2	Average
%	35	48	18	0.9

Students had to list two possible long-term effects on health or development of a low birth weight child. Some examples that students could have used include:

- the infant may have poorly developed sucking reflexes and would therefore be unlikely to feed well. This affects physical development and the child's susceptibility to infections
- growth is likely to be slower, with longer term consequences for physical development; for example, it could impact on social and emotional development
- there is a greater risk of dying or developing significant disabilities early in life that may impact across the lifespan; for example, lung infections.

4cii.

Marks	0	1	2	3	Average
%	3	15	39	42	2.2

Most students were able to identify three reasons why indigenous mothers may have a higher proportion of low birth weight babies than non-indigenous mothers. Examples that students may have used include the following:

- poor antenatal care
- poor maternal nutrition
- chronic maternal illness
- poor access to health care
- poverty
- maternal tobacco smoking
- young age at pregnancy
- maternal consumption of alcohol
- short intervals between births.

Good student responses included the following examples:

More indigenous mothers smoke during pregnancy resulting in low birth weight babies.



Indigenous people are often in a low socio-economic group meaning they cannot afford adequate food. The mother is more likely to be malnourished therefore the foetus doesn't grow to a healthy weight.

Less access to maternal health care and education. Living in rural or remote areas could mean that indigenous mothers can't access clinics to gain education on how to optimize development of the foetus.

4ciii.

Marks	0	1	2	Average
%	19	51	30	1.1

Many students were unable to describe one program that the government could implement to improve the health status of indigenous people by decreasing the incidence of low birth weight babies. Many gave 'education' as a program, but provided no real elaboration – students should have provided a **description** of an appropriate program. Two examples are given below:

- Primary Health Care Access Program: increase primary health care to areas that currently lack these facilities; reform local health care to better meet the needs of indigenous people; allow the indigenous to take greater responsibility for their own health care; establish health care focused on early intervention strategies and illness prevention with the aim of increasing the health of individuals and communities
- Public Health Nutrition Strategy for Aboriginal and Torres Strait Islanders: provide programs to inform women about nutrition and the best foods to prepare and eat.

A student provided this good answer:

Introducing antenatal education classes designed for pregnant Indigenous Australians. These classes could be run by trained Aboriginal women who could impart knowledge/education on what nutrients are required, what food sources these come from, the effects of smoking and consumption of alcohol and the necessity for regular checkups.

4civ.

Marks	0	1	2	3	Average
%	34	38	20	8	1.0

Students had to use their answer to part iii. to explain why this program may be effective in improving the health status of all Indigenous Australians. This should have been done by linking prenatal environmental influences with 'normal' development and positive long-term effects on health.

Many students only focused on the mother and baby at the time of birth. Responses that carry on from the above examples above are:

- Primary Health Care Access Program: using early intervention strategies that focus on maternal health in women at risk (for example, education/programs about the effects of tobacco smoking and alcohol) will have long-term positive consequences for the physical development of their babies
- Public Health Nutrition Strategy for Aboriginal and Torres Strait Islanders: improves the nutritional status of
 women; if mothers are not malnourished then their babies may be more likely to have an increased birth
 weight, so ultimately this will influence the health and development for all indigenous people.

The same student whose response is shown in 4iii. explained why the program would be effective:

This program could be effective as it focuses on the women who are the child bearers/main care givers. It will be delivered in a culturally appropriate way as it involves people of their own culture administering/teaching classes. It focuses on education and health knowledge which can be passed down through generations and around the communities. These components will hopefully reduce the incidence of low birth weight babies improving their health status and development over the long term.

Having used a similar approach in part iii. another student answered as follows:

The program would be focusing on women. If women are educated it can lead to health improvements for the entire family/community. Women provide the family with food so if they are aware of how to provide adequate nutrition it will optimise the development and health of the entire family. Also if women are aware of risks associated with behaviours such as smoking and alcohol they can impart this knowledge on to others and hopefully improve health of other people.

Question 5

5a

Marks	Marks 0		2	Average
%	40	22	38	1.0



Students had to list two of the following values that underpin Australia's health care system to gain two marks:

- equity
- accessibility
- universality
- efficiency
- simplicity.

5bi.

Marks	0	1	2	Average
%	31	35	33	1.0

Students' skills in interpreting data were tested in this question, which asked them to describe the projected changes in population indicated in Figure 3. Students should have identified two of the following changes:

- a larger percentage of people will live longer
- the percentage of males and females living to 85 will become higher by 2041
- the percentage of younger people will decline
- there will be a larger percentage of older people, beginning at age 50.

Students could only talk in terms of percentages or proportions, not numbers, when answering the question.

One student gained full marks with the answer below:

The figure shows that between 1997 and 2041, a greater percentage of our population will be in older age groups, especially increases in percentages of those in the 65+ age group and a more equal distribution across all age groups rather than a decline in percentage of population in older age groups.

5bii.

Marks	0	1	2	3	4	Average
%	38	23	24	10	5	1.2

Students were asked to predict one impact the projected changes may have for the health care system if the current values of the health care system are to be maintained. Students had to include the values they had identified in Question 5a to gain full marks.

If health care is to remain affordable, it may require greater emphasis on preventative approaches rather than emphasis on biotechnology. Equity may become an issue – should the focus be on older people or younger people, urban or rural, able or disabled? The provision of taxes for health care could impact on affordability – as the population ages there may be less taxes to provide intensive health care for older people, who begin to have a lower health status. An increase in funding for health would be necessary.

The following student response shows one way to answer the question:

One impact of the projected changes in population on the health care system could mean, if current values of the health system are to be maintained, is that there will be an increased burden and need for government funding to maintain funding on Medicare which could lead to increases in taxes to support the large demand on Medicare due to the burden of an ageing population. Taxes will most likely rise if the government wants to continue to offer accessible and affordable health care. There will be a greater burden on the healthy part of the population to support the usually less healthy older people.

5ci.

Marks	0	1	2	Average		
%	21	23	56	1.4		

Students were asked to name one strategy developed by a government or a non-government organisation that aims to promote one of the key areas listed for promoting healthy ageing and preventing illness. To receive two marks, students had to list an appropriate strategy and link it to one of the key areas listed.

Examples of strategies that were appropriate for students to use include: Strong People Stay Healthy; Preventing Falls among Senior Victorians; Mental Health Awareness Week; Community Visitor's Scheme; Healthy Ageing; Active Australia; strength and balance exercise programs; water aerobics; gentle exercise programs; the Safe at Home initiative; Dietary Guidelines for Older Australians; Meals on Wheels; Commonwealth Hearing Services Program; National Strategy for an Ageing Australia; Positive Ageing; World Class Care; the UN Plan of Action on Ageing; Preventive Health Program for Older Australians; and Promoting Safe Environments.



Examples that would gain two marks include:

- Mental Health Awareness Week: the key area is maintaining social relationships and friendships
- Dietary Guidelines for Older Australians: the key area is maintaining adequate nutrition.

5cii.

Marks	0	1	2	3	4	Average
%	42	9	21	15	13	1.5

Too many students were unable to explain how their selected strategy related to two actions of the Ottawa Charter. The following is the type of answer that was expected for four marks.

Physical strength training sessions for older people at a local gym relate to 'creating a supportive environment' (access, cost, availability, supportive social networking, etc.) and 'developing personal skills' (teaching the older people strength training, flexibility exercises that they can do at home, etc.). This strategy would not relate to 'building healthy public policy' (there is no policy development here), 'strengthening community action' (the classes are not organised by the people, just delivered to them) or 'reorienting health services' (there are no health services involved in this strategy).

Some other examples that could have been developed include:

- 'building healthy public policy': work with local governments to put in place the policy to make exercise facilities available for the elderly at a low cost
- 'strengthening community action': an example could be the formation of self-help groups for people who have had a heart attack or fall
- · 'creating supportive environments': adopt a grandparent, or neighbours checking on elderly neighbours
- 'developing personal skills': a program for education on falls prevention
- 'reorienting health services': focusing on prevention rather than treatment.

A student response that earned full marks is included below:

- 1. Developing Personal Skills Dietary Guidelines for Older Adults is a health promotion tool which aims to give people the knowledge, skills and abilities to make healthier choices when it come to nutritional intake. It does this by supplying key guidelines on what should and shouldn't be included when choosing food in order to maintain adequate nutrition.
- 2. Reorienting Health Services The guidelines do this by changing people's attitudes to health from that of a purely curative view to a more preventative focus. Looking at your diet and how nutrients can serve as a risk or protective factor is what these guidelines encourage therefore preventing diseases such cardiovascular disease.

5ciii.

Marks	0	1	2	3	4	Average
%	43	22	19	9	6	1.1

Students needed to relate the strategy they had chosen in part i. to maintaining health and development for those aged over 65. Two examples of ways students answered are:

The Dietary Guidelines would definitely be effective in maintaining the health of older Australians as they are specifically written to support the health and nutrition needs of older Australians. The guidelines include the usual – Enjoy a wide variety of nutritious foods', 'Eat plenty of vegetables and fruit', 'Eat plenty of cereals, breads and pasta'. They also include special consideration of their needs like 'Include foods high in calcium' as this is required in greater amounts to maintain bone density and prevent osteoporosis. The guidelines are also advising them to care for and store food properly. These guidelines are designed to enhance nutrition therefore protect against diet-related diseases such as cardio-vascular disease thus contributing to better health therefore better maintenance of physical health. If they are not ill the elderly can participate in social activities to help social development and health, do crosswords (intellectual development) and maintain relationships (emotional development) as they are not disabled by life threatening illness.

Meals on Wheels is often very effective in ensuring that over 65 year olds are adequately nourished. Meals on Wheels aids in the provision of dietary variety while alleviating any issues that may arise out of the purchase and preparation of food. Meals on Wheels also aids in increasing the social health of elderly Australians by offering socialisation opportunities. The Meals on Wheels initiative also counteracts the effects that inadequate food storage and preparation has and provides meals which contain necessary nutrients needed to ensure physical health is optimal. Interaction between the volunteers and the recipients also aids in the emotional health of the elderly as they feel a connection to other people and, in some cases, to the external world aiding in feelings of happiness and contentment by alleviating relative social isolation. Concluding, Meals on Wheels is very effective in maintaining adequate social, physical and emotional health in the elderly.