CHAPTER 11
The determinants of health and individual human development of Australia’s adults

WHY IS THIS IMPORTANT?
The determinants of health and individual human development have an impact across all stages of the lifespan and are just as important during adulthood as they are at other stages. During childhood and youth, factors that impact on the individual determine their current and future health status. For adults, particularly older adults who experience the highest rates of morbidity and mortality, the determinants of health and individual human development play a key role in their health status as well as their ability to maintain or enhance individual human development. These determinants include biological, behavioural and social factors, as well as the physical environment. While it is not necessary to study all of the determinants outlined in this chapter, a range has been presented for you to select one from each category.

KEY KNOWLEDGE
3.5 determinants of health and individual human development of Australia’s adults, including at least one from each of the following:
- biological, such as genetics, body weight, blood pressure and blood cholesterol (pages 340–54)
- behavioural, such as sun protection, smoking, physical activity, food intake, alcohol and drug use and sexual practices (pages 355–75)
- physical environment, such as housing, workplace safety, neighbourhood safety and access to healthcare (pages 376–86)
- social, such as media, level of education, employment status and income, the workplace, community belonging; that is, voluntary work and social connections, living arrangements, social support, family and work–life balance (pages 387–403).

KEY SKILL
- explain the determinants of health and individual human development and their impact on adults, using relevant examples.
KEY TERM DEFINITIONS

atherosclerosis narrowing of the arteries due to a build-up of fatty deposits or ‘plaques’ that reduce blood flow

bowl cancer growth of malignant cells in the bowel. Also known as colorectal cancer

colonoscopy medical procedure to examine the large bowel with a small camera

coronary heart disease conditions affecting the arteries that supply the heart muscle

diastolic blood pressure a measure of the minimum pressure in the arteries when the heart muscle relaxes between heart contractions

endometriosis growth of the tissue that normally lines the uterus in sites outside of the uterus such as the ovaries

genetic predisposition an inherited tendency to exhibit certain traits (e.g. being tall) or to develop certain conditions (e.g. cancer) based on genetic make-up

high-density lipoprotein (HDL) cholesterol that protects against heart disease

housing stress an anxious state that occurs when the cost of housing (either rental or mortgage) is relatively high in relation to household income

hypertension high blood pressure

infertility the inability to conceive a child while having unprotected sexual intercourse for at least 12 months

low-density lipoprotein (LDL) cholesterol that increases the risk of heart disease by forming plaques on arterial walls

macular degeneration loss of vision in the centre of the visual field due to retina damage

male impotency inability to develop or maintain an erection of the penis

mammography screening X-ray of the breast tissue to detect abnormal growths

occupational overuse syndrome (OOS) a condition, resulting from repetitive movements, that can affect the tendons and muscles of joints

polyps abnormal growths within the bowel

psychoactive effects the altering of mental processes such as mood, cognition, emotions and behaviour

social capital the level of cooperation, trust and goodwill between people, organisations, levels of government and in neighbourhoods

social support the connections that an adult has with individuals and groups

sphygmomanometer instrument that measures blood pressure

standard drink the volume of a particular beverage that contains 10 grams of alcohol

stroke a condition resulting from a lack of blood flow to an area of the brain due to a blockage or rupture of a blood vessel

systolic blood pressure the maximum pressure exerted on the arteries when the heart muscle contracts to pump blood
11.1 Biological determinants: genetics body weight, blood pressure and blood cholesterol

KEY CONCEPT The influence of biological determinants on the health and individual human development of adults

As we have seen in previous chapters, biological determinants relate to the functioning of the body and include a range of biomedical factors such as cholesterol levels, blood pressure and body weight. Obesity, raised blood pressure and high cholesterol levels can be indicators of ill-health, particularly in the adult population.

Genetics

The combination of genes that is inherited from the biological parents at the time of conception can have a significant impact on health and individual human development during the adulthood stage of the lifespan. The genes that are inherited not only determine physical characteristics such as height, eye colour and body shape, they also determine the rate and timing of development, genetic conditions and predisposition to disease that may not become apparent until adulthood.

Rate and timing of development

In chapter 9, you learnt about the role of the endocrine system in releasing hormones that impact on the rate and timing of development during the childhood stage of the lifespan. During adulthood, hormones continue to have an impact on health and individual human development.

The genes a female inherits have a significant impact on the timing of menopause. Those who have a family history of early onset of menopause are more likely to experience early menopause themselves. Menopause is the final menstrual cycle in a woman’s life and marks the end of the reproductive years. Most women reach menopause between the ages of 45 and 55, with the average being 51 years of age. The menstrual cycle ceases as a result of the ovaries no longer releasing eggs (ova) and the female hormones oestrogen and progesterone. A decrease in the female hormones after menopause may lead to the thinning of the bones (osteoporosis) and an increased risk of bone fractures, as well as an increase in the risk of heart attack, heart disease, high blood pressure and stroke. The onset of menopause can impact on a women’s mental health, with some women experiencing mood changes, mild depression and irritability. Having to adjust to the end of reproductive life can also affect emotional development. However, some women find menopause a time of freedom and one which brings about positive change.

As males age, they usually experience a decline in their testosterone levels. Testosterone is a hormone produced by the testes. Unlike menopause, where females experience a sudden reduction in the levels of hormones, the reduction in testosterone in males is less and more gradual. The decline in testosterone levels may not affect some males at all. Those who are affected by the decline in testosterone may experience a lack of energy, fatigue, poor concentration or memory, mood changes, low sex drive, or loss of muscle strength.

Genetic conditions impacting on adults

Genetic conditions occur as a result of an altered or faulty gene or set of genes. Some genetic conditions appear from the time of birth, but other genetic conditions may not present until adulthood. Two examples of genetic conditions that impact on adults are Alzheimer’s disease and Huntington’s disease.
Alzheimer’s disease is a progressive condition that impairs the functioning of the brain in areas such as memory, thinking and personality. The condition eventually causes death. There are two types of Alzheimer’s disease: sporadic Alzheimer’s which has no known cause, and familial Alzheimer’s which is caused by a genetic mutation. Alzheimer’s affects one in 25 Australians over the age of 60. There is no cure for Alzheimer’s, nor is there any way to prevent the onset of the disease.

Tables 11.1 and 11.2 summarise how Alzheimer’s disease impacts on the health and individual human development of adults with the disease.

**TABLE 11.1 Impact of Alzheimer’s disease on the health of those affected**

<table>
<thead>
<tr>
<th>Type of health affected</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>• Inability to look after oneself resulting in lack of hygiene, which increases the risk of ill-health such as skin infections and diarrhoea&lt;br&gt;• Memory lapses resulting in the individual forgetting to take medication, which could lead to a faster deterioration in physical health&lt;br&gt;• Malnutrition due to forgetting to eat at regular times&lt;br&gt;• In the late stages, becoming bedridden and needing full-time care&lt;br&gt;• Poor judgement puts the individual at risk of physical harm when driving a car&lt;br&gt;• Disorientation to time and place, resulting in the individual getting lost and being susceptible to dangers in their environment such as road traffic.</td>
</tr>
<tr>
<td>Social</td>
<td>• Lack of ability to maintain relations with other people, resulting in poor social health&lt;br&gt;• Deterioration of social skills impacts on the individual’s capacity to interact with others&lt;br&gt;• Inability to hold a conversation with others, which impacts on the relationships with loved ones</td>
</tr>
<tr>
<td>Mental</td>
<td>• Memory lapses&lt;br&gt;• Depression&lt;br&gt;• Apparent loss of enthusiasm for previously enjoyed activities</td>
</tr>
</tbody>
</table>

**TABLE 11.2 Impact of Alzheimer’s disease on the individual human development of those affected**

<table>
<thead>
<tr>
<th>Type of development affected</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>• Damage occurs to brain cells and there is a build-up of protein called ‘plaques’ in the brain&lt;br&gt;• Loss of motor skills</td>
</tr>
<tr>
<td>Social</td>
<td>• Loss of social skills such as the ability to hold a conversation&lt;br&gt;• Loss of speech&lt;br&gt;• Personality changes</td>
</tr>
<tr>
<td>Emotional</td>
<td>• Inability to control emotions&lt;br&gt;• Inability to adequately express emotions</td>
</tr>
<tr>
<td>Intellectual</td>
<td>• Long-term memory loss&lt;br&gt;• Forgetting simple words or using the wrong words&lt;br&gt;• Confusion and difficulty making decisions</td>
</tr>
</tbody>
</table>

Huntington’s disease is a neurological condition caused by a defective gene. Each child of a parent with the Huntington’s gene has a 50 per cent chance of developing the disease. Huntington’s disease causes the death of cells in certain areas of the brain, resulting in a gradual loss of intellectual, physical and emotional capacities. Symptoms of the disease do not usually appear until middle adulthood. Table 11.3 summarises the ways in which Huntington’s disease impacts on the individual human development of an adult.
11.1 Biological determinants: genetics, body weight, blood pressure and blood cholesterol

Table 11.3 Impact of Huntington's disease on individual human development

<table>
<thead>
<tr>
<th>Physical</th>
<th>Social</th>
<th>Emotional</th>
<th>Intellectual</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Mild twitching of fingers and toes</td>
<td>• Inappropriate social behaviour due to the loss of emotions such as shame and embarrassment that usually help to ensure appropriate social behaviours</td>
<td>• Loss of ability to control emotions resulting in mood swings, apathy and aggression</td>
<td>• Short-term memory loss</td>
</tr>
<tr>
<td>• Lack of coordination</td>
<td>• Walking difficulties</td>
<td></td>
<td>• Difficulties in concentrating and making plans</td>
</tr>
<tr>
<td>• Walking difficulties</td>
<td>• Jerky movements of the arms or legs (chorea)</td>
<td></td>
<td>• Inability to block out distractions</td>
</tr>
<tr>
<td>• Speech and swallowing difficulties due to lack of control of the muscles of the face, throat and tongue</td>
<td>• Speech and swallowing difficulties due to lack of control of the muscles of the face, throat and tongue</td>
<td>• Difficulties with communication</td>
<td>• Loss of task sequencing</td>
</tr>
</tbody>
</table>

One-third of people with Huntington’s disease experience depression. Problems with speech, communication and inappropriate social behaviours may cause people to avoid someone with Huntington’s disease. Due to swallowing difficulties, an adult with Huntington’s disease may find eating difficult and may lose weight as a result. Changes in the ability to think may result in the consumption of foods that lack the nutrients required for maintaining or promoting health. In the later stages of the disease, the adult may not be able to chew and swallow effectively, resulting in the need to be tube fed to ensure that nutritional needs are being met.

**Genetic predisposition to disease**

Some adults are at greater risk of developing particular diseases due to inheriting an altered gene. Inheriting these altered genes does not guarantee that the individual will develop the condition but genetic predisposition can be a significant risk factor in the development of diseases such as type 2 diabetes and some cancers.

**Type 2 diabetes**

Normally, blood glucose levels are regulated by insulin, a hormone that is secreted by the pancreas. Insulin enables the body's cells to metabolise glucose for energy. In an adult with type 2 diabetes, the pancreas makes insufficient insulin or the cells of the body do not respond to it. As a result, there is an increase in the blood glucose levels and this can impact on health.

Symptoms of type 2 diabetes include:

- extreme tiredness
- excessive thirst
- blurred vision
- increased risk of infections.

If left untreated, the condition can cause long-term damage to the kidneys, eyes, nerves and heart. Type 2 diabetes is most common after 40 years of age but can appear earlier.

Although lifestyle factors such as poor diet, smoking and lack of physical activity significantly increase the risk of developing type 2 diabetes, another risk factor is genetics. According to the Better Health Channel, adults aged 35 years and over who are Aboriginal or Torres Strait Islanders, Pacific Islanders, from the Indian subcontinent or of Chinese origin, are at greater risk. Adults aged 45 years and over who have had a first-degree relative (e.g. parent) with type 2 diabetes are also at greater risk of developing the condition.

**Cancer**

Cancer is the second most common cause of death in Australia and impacts significantly on all aspects of health and individual human development. The functioning of the organs and systems affected by cancer are seriously diminished.
as cancer cells invade and damage the tissues and organs. This is commonly associated with excessive pain. Sufferers can experience a range of emotions such as anger, denial, shock, sadness, depression and helplessness. Socially, many sufferers become isolated and lonely. Cancer does not only affect the sufferers but also their families and friends.

Non-cancerous cells in the body grow and multiply in an orderly way. Changed genes can result in cells behaving abnormally and growing into a cancerous tumour. The location of the tumour determines the type of cancer. Cancers that have a genetic predisposition include breast, bowel, stomach and prostate cancer.

**Body weight**

The body weight of adults is largely determined by the combination of genes that are inherited from the biological parents as well as lifestyle and behaviours such as physical activity levels and food habits. Concerns regarding body weight tend to focus on overweight and obesity due to the increasing rate of both conditions over the past 20 to 30 years. Figure 11.4 demonstrates the proportion of people who were overweight or obese in 2011–12. According to the 2011–12 National Health Survey, 28.3 per cent of persons 18 years and over were obese, 35 per cent were overweight, 35.2 per cent were normal weight and 1.5 per cent were underweight. It is estimated that at the current rate of increase, overweight and obesity will affect 75 per cent of the Australian population by 2020.

In 2011–12 more men were overweight or obese than women (69.7 per cent compared to 55.7 per cent).

![Figure 11.4](image1.png)

**Figure 11.4** Proportion of persons who are overweight or obese, 2011–12

Note: Based on Body Mass Index for persons whose height and weight were measured.

Source: ABS, Australian Health Survey: First Results.

![Figure 11.5](image2.png)

**Figure 11.5** Rates of obesity and overweight have increased significantly in the past three decades.
11.1 Biological determinants: genetics body weight, blood pressure and blood cholesterol

Measuring body weight
Overweight and obesity are determined by the body mass index (BMI), which is calculated by dividing an adult’s weight in kilograms by their height in metres squared. For example, the BMI for an adult male with a weight of 110 kilograms and a height of 1.86 metres would be calculated as follows:

\[
BMI = \frac{\text{weight (kg)}}{\text{height (m)}^2} = \frac{110}{(1.86)^2} = \frac{110}{3.46} = 31.8
\]

A BMI of 31.8 for an adult male would place him in the obese class 1 classification.

Table 11.4 outlines the classification of adults according to BMI, and the risk of further disease according to BMI classification.

<table>
<thead>
<tr>
<th>Classification</th>
<th>BMI (kg/m²)</th>
<th>Risk of further disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&gt;18.5</td>
<td>Low</td>
</tr>
<tr>
<td>Normal range</td>
<td>18.5–24.9</td>
<td>Average</td>
</tr>
<tr>
<td><strong>Overweight</strong></td>
<td>&gt;25</td>
<td>Increased</td>
</tr>
<tr>
<td>Pre-obese</td>
<td>25.0–29.9</td>
<td></td>
</tr>
<tr>
<td>Obese class 1</td>
<td>30.0–34.9</td>
<td>Moderate</td>
</tr>
<tr>
<td>Obese class 2</td>
<td>35.0–39.9</td>
<td>Severe</td>
</tr>
<tr>
<td>Obese class 3</td>
<td>&gt;40.0</td>
<td>Very severe</td>
</tr>
</tbody>
</table>

Together with the BMI, the distribution of excess body fat can determine the level of risk to health and individual human development. Excess fat around the waist is associated with a greater risk of health-related conditions — such as coronary heart disease, stroke and type 2 diabetes — compared to excess fat that is distributed around the buttocks and thighs (the ‘pear’ shaped body). A person’s waist circumference is considered to be a better predictor of health risk than BMI:

- A waist circumference of 80 centimetres or over for women indicates an increased risk to health while a waist circumference of 88 centimetres or more indicates a significantly higher risk of developing obesity related conditions.
- For men, a waist circumference of 94 centimetres or more indicates an increased risk to health and a waist circumference of 102 centimetres indicates a substantially increased risk.

As can be seen from table 11.4, increasing BMI correlates with an increased risk of ill-health. Overweight and obesity significantly increase the risk of illnesses and conditions such as type 2 diabetes, cardiovascular disease, high blood pressure, sleep apnoea, osteoarthritis, certain cancers (breast, endometrial, cervical and bowel) and psychological disorders. In terms of social and mental health, overweight and obesity can lead to discrimination, poor self-esteem, body shape dissatisfaction, disordered eating (e.g. binge eating), isolation and depression.

Blood pressure
Blood pressure measures the force of the blood on the walls of the arteries and is recorded as systolic and diastolic measurements. **Systolic blood pressure** is the maximum pressure exerted on the arteries when the heart muscle contracts to pump blood. **Diastolic blood pressure** measures the minimum pressure in the arteries when the heart muscle relaxes between heart contractions. Blood pressure is measured in millimetres of mercury (mm Hg) using an instrument called a
**Blood pressure**

Blood pressure is written as a number figure of systolic/diastolic, with the systolic measurement being the higher one (e.g. 120/80 mm Hg).

Blood pressure can increase with exercise or exertion. Elevated blood pressure is a concern when the pressure remains high while at rest because this might indicate the heart is being overworked and the arteries have increased stress on the arterial walls. This can accelerate the depositing of fatty plaques on the arterial walls, a condition called **atherosclerosis**. Atherosclerosis contributes to other illnesses such as coronary heart disease and stroke.

Although there is no ‘ideal’ blood pressure, the following measurements provide a guide:

- normal blood pressure: less than 120/80 mmHg
- normal-high blood pressure: between 120/80 and 140/90 mmHg
- high blood pressure: equal to or more than 140/90 mmHg
- very high blood pressure: equal to or more than 180/110 mmHg.

High blood pressure is known as **hypertension** and is a major risk factor for **coronary heart disease**, **stroke**, heart failure and kidney failure. Genetic factors — along with obesity, lack of physical activity, poor nutritional intake including high salt intake and heavy alcohol consumption — are also significant risk factors.

One in seven Australian adults suffers from hypertension. The condition is more common with age due to the arteries becoming more rigid, and it is more common in males and females until the age of 64+, when a greater proportion of women suffer from the disease. Figure 11.7 shows the proportion of adults with high blood pressure with increasing age in 2011–2012.

![Figure 11.7](Image)

**Figure 11.7** Proportion of persons with high blood pressure, 2011–12

Note: High blood pressure considered to be 140/90 mmHg or more.

Source: ABS, Australian health survey: first results.

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**Blood cholesterol**

Cholesterol is a type of fat that has a range of functions within the human body. It produces hormones, assists with digestion through the production of bile acids and is an essential component of cell membranes. Cholesterol is found in higher concentrations in the brain and nervous system. It occurs in two forms: **high-density lipoproteins (HDLs)** and **low-density lipoproteins (LDLs)**. HDL cholesterol is referred to as the ‘good’ cholesterol as it can help unplug arteries by removing excess LDLs out of the cells. LDL cholesterol, on the other hand, is referred to as ‘bad’ cholesterol because it can cause fatty substances to build up on
11.1 Biological determinants: genetics, body weight, blood pressure and blood cholesterol

the arterial walls and block the blood vessels. High levels of HDLs can be a positive sign for health as long as they are accompanied by low levels of LDLs.

Although it is required for the effective functioning of the body, cholesterol becomes a health concern when there is too much of it in the blood. High blood-cholesterol levels, particularly LDLs, are one of the three main risk factors for heart disease (the other two are tobacco smoking and high blood pressure). The liver is where the processing of cholesterol occurs. When saturated fats are consumed, the cholesterol that is not processed by the liver is returned to the bloodstream. If there is too much LDL cholesterol in the blood, it can build up into fatty deposits on the arterial walls. This build-up of fatty deposits causes a narrowing of the arteries (atherosclerosis), which may eventually become blocked and cause a heart attack or stroke. The safe level of cholesterol is thought to be no higher than 5.5 mmol/litre of blood.

High blood cholesterol is often asymptomatic (has no symptom) so it can go undetected for many years. In 2011–12, one in ten adults diagnosed were unaware they had the condition.

In 2012–2013, high blood cholesterol levels were responsible for 6 per cent of chronic health conditions managed by GPs and represented 3.3 per cent of all GP visits.

The number of people with high blood cholesterol levels has decreased since 1999–2000. This could be due to improved detection and better management of the disease. According to the Australian Institute of Health and Welfare, in 2011–12:

- More than one in three people aged 25 and older had high blood cholesterol (36 per cent) compared to 48 per cent in 1999–2000 (figure 11.10).
- About 5.6 million adults had high blood cholesterol. It was more common in women than men (2.9 million women suffered from the condition compared to 2.7 million men).
- One in three Australian adults (33 per cent) had high levels of LDL ‘bad’ cholesterol and 23 per cent had low levels of HDL ‘good’ cholesterol — a combination that increases the risk of heart disease.
- High blood cholesterol was most common among adults aged 55–64 (48 per cent), but 24 per cent of people aged 18–24 also suffered from the condition.

High blood cholesterol levels are more common among people living in rural and remote communities, with 38 per cent from such communities being diagnosed with the condition compared to 31 per cent in the city. High blood cholesterol is also a health risk factor that contributes to the differences in health status between the Indigenous and non-Indigenous community.
TEST your knowledge

1 Explain how the rate and timing of development can impact a woman's health and individual human development. Your response could be in the form of a table similar to tables 11.1 and 11.2.

2 (a) Describe Alzheimer's disease.
(b) Explain the impact that Alzheimer's disease has on the health and individual human development of an adult.

3 (a) Describe Huntington's disease.
(b) Explain the impact that Huntington's disease has on the health and individual human development of an adult.

4 Outline the types of cancer that have a genetic predisposition.

5 Explain how cancer can affect health and individual human developments.

6 Outline the effects that type 2 diabetes has on the health of the adult.

7 Outline the factors that contribute to overweight and obesity in adults.

8 In 2011–12, what percentage of the adult population was overweight or obese?

9 What is the prediction regarding future rates of overweight and obesity?

10 Outline BMI, including how it is calculated.

11 List the health conditions associated with overweight and obesity.

12 What is high blood pressure?

13 How is blood pressure measured?

14 What is the difference between systolic and diastolic pressure?

15 What proportion of Australian adults are affected by high blood pressure or hypertension?

16 Why does high blood pressure become more common with increasing age?

17 How does high pressure impact the health of Australian adults?

18 Explain the difference between HDL cholesterol and LDL cholesterol.

19 List the health conditions that are associated with high levels of blood cholesterol.

20 Explain how blood cholesterol can contribute to heart attack or stroke.

APPLY your knowledge

21 Research and outline five strategies that family members can use to maximise the health and individual human development of a person with Alzheimer's disease.

22 Describe the difference between a genetic condition and a genetic predisposition.

23 Calculate the BMI for an adult female who is 65 kilograms and has a height of 1.62 metres. What BMI classification would this person be?

24 Use figure 11.4 to answer the following questions.
(a) Explain the relationship between age and the prevalence of overweight and obesity.
(b) Explain the relationship between gender and the prevalence of overweight and obesity.

25 Use the Effects of obesity links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.
11.2 Behavioural determinants: sun protection and tobacco smoking

**KEY CONCEPT** The impact of sun protection and tobacco smoking on the health and individual human development of adults

Health-related behaviours have a major impact on the health and individual human development of adults, particularly behaviours related to smoking, physical activity, food consumption, alcohol and drug use, and sexual practices. Significant health gains can be achieved by adults making changes to their behaviours. However, this is often difficult because many of these behaviours start early in life and are also affected by a range of factors such as social networks (parents, family, peers), education level, socioeconomic status, environment, advertising, health campaigns, genetic predisposition, access to resources, and government policies. Changing health-related behaviours can sometimes take a long time.

**FIGURE 11.11** Behavioural determinants affecting adults

**Sun protection**

When adults are outdoors, the ultraviolet (UV) radiation from the sun can penetrate unprotected skin and cause damage. Sunburn occurs as a reaction to exposure to UV radiation. Chemicals are released from the top layers of the skin, causing the blood vessels to expand and release fluids that generate inflammation, redness and pain. Severe cases of sunburn can result in all or some of the following:

- blistering
- headaches
- nausea
vomiting
• dizziness
• severe pain.

In Australia, the risk of developing skin cancer from too much sun exposure needs to be balanced with the need to maintain adequate vitamin D levels. The UV from sunlight is required for the formation of vitamin D in the skin. Vitamin D can also be found in relatively small amounts in some foods (e.g. oily fish, eggs, liver, margarine and some dairy products fortified with vitamin D) but their contribution to the overall daily requirement is minimal. Vitamin D is important to adults as it helps the body to absorb calcium through the small intestine. Calcium is required for maintaining the strength of bones and teeth, and the functioning of muscles and nerves.

The majority of Australians have sufficient exposure to sunlight through their daily activities to receive enough vitamin D, although older adults confined to nursing homes can be at greater risk of vitamin D deficiency due to lack of UV exposure.

The UV index is an international standard measurement of the strength of the UV radiation from the sun in a specific location at a particular time. When the UV index reads 3 or above, sun protection is necessary because there is a much greater risk of damage occurring to the eyes and skin. Skin cancer can develop when the cells of the skin are damaged, causing them to grow abnormally. Each time the skin is exposed to UV radiation, changes occur in the structure and function of the skin cells and permanent damage can occur. Every exposure to UV radiation can increase the risk of skin cancer. All skin types can be damaged as a result of exposure to UV radiation, even those who have skin types that are less likely to burn.

There are three types of skin cancer: basal cell carcinoma, squamous cell carcinoma and melanoma. The types of skin cancer are named after the skin cell in which the cancer develops. Basal cell carcinoma and squamous cell carcinoma are referred to as common or non-melanoma skin cancers. They represent the most common type of cancer in Australia, but are not life-threatening. However, in 2011 there were 543 deaths from non-melanoma skin cancer. The most dangerous form of skin cancer is melanoma. If left untreated it can spread to other parts of the body and, eventually, result in death. Melanoma is the fourth most common cancer diagnosed in Australia.

Australia has one of the highest rates of skin cancer in the world, with over 440,000 Australians being treated for skin cancer each year. Two in three Australians will be diagnosed with skin cancer by the age of 70. In 2011, 1544 deaths in Australia were due to melanoma. It is the sixth most common cause of cancer deaths in Australian men and tenth most common in Australian women.

Apart from skin cancer, lack of sun protection and exposure to UV radiation can result in eye damage such as photoconjunctivitis, macular degeneration and cataracts, and premature ageing.

It is important for adults to follow the recommended sun-protection practices that are relevant for every stage of the lifespan. These include:
• slip on sun-protective clothing to cover as much skin as possible
• slop on SPF30+ sunscreen — this should be broad spectrum and water-resistant, applied 20 minutes before going outdoors and reapplied every two hours
• slap on a hat to protect the face, head, neck and ears (e.g. wide-brimmed or bucket-style)
• seek shade wherever possible
• slide on sunglasses, making sure they are a wraparound style that covers as much of the eye area as possible and meet the Australian standard (AS1067).

Using sun-protection behaviours can reduce the risk of skin cancer, a disease that affects not only health and individual physical development but also has a huge impact on emotional and social development and mental and social health.
11.2 Behavioural determinants: sun protection and tobacco smoking

A cancer diagnosis can result in a range of emotions being experienced by the sufferer and their family and friends. While everyone reacts differently, most will experience enormous sadness, anxiety, anger and a sense of helplessness about the future. This requires significant emotional adjustment. Relationships with family and friends often change, and people can sometimes find it difficult to talk about the illness. Many sufferers also experience a sense of loneliness and isolation.

However, cancer can be successfully treated if it is diagnosed early enough, and sufferers and their families are encouraged to remain hopeful.

Tobacco smoking

Tobacco smoking has an enormous impact on the morbidity and mortality rates of adults in Australia. It is the single most preventable cause of ill-health and death in the Australian population. It is estimated that tobacco smoking contributes 7.8 per cent of the burden of disease in Australia; approximately 10 per cent of the total burden of disease in males and 6 per cent in females.

Tobacco smoking is a major risk factor for a range of illnesses including cancer, hypertension, heart disease, and emphysema stroke. Approximately one-fifth of all cancer deaths in Australia can be attributed to smoking.

The most common form of cancer caused by smoking is lung cancer. However, smoking also contributes to cancer of many other areas of the body including the tongue, mouth, throat, nose, oesophagus, pancreas, stomach, bladder, kidney, cervix and bone marrow.

Smoking increases the risk of cardiovascular disease due to an increase in the rate of fatty substances being deposited on the arterial walls, resulting in the narrowing of the arteries. As a result, blood flow is reduced to the cardiac muscle of the heart. Permanent damage occurs to an area of the heart when the build-up of fatty substances blocks the artery or arteries supplying that area. The damage to the peripheral arteries of the body can result in reduced blood flow to the extremities, leading to blood clots, infection, gangrene and possibly amputation. For people under 65 years, the risk of dying from heart disease is three times greater for a smoker compared to a non-smoker, and 70 per cent greater for a smoker over 65 years. A smoker has about twice the risk of suffering from a stroke than a non-smoker.

The nicotine in cigarettes is what causes addiction in smokers. It is a naturally occurring substance found in the tobacco plant. When inhaled as tobacco smoke, nicotine raises the heart rate and increases blood pressure. Smoking also has short-term effects on health that include:

- dizziness
- hand tremors
- coldness in the extremities (hands and feet)
- irritation of the eyes and nose
- increased incidence of colds and coughs
- bronchitis
- increased acid in the stomach leading to ulcers
- reduced appetite
- reduced sense of smell and taste
- bad breath
- reduced physical endurance
- increased effect of irritants on allergies
- increased risk of lung infections
- increased risk of miscarriage in pregnant women who smoke.

Source: www.givingupsmoking.info.

The 2011–12 National Health Survey collected information about people’s use of tobacco. From this survey it was found that 2.8 million Australians aged
18 years and over smoked daily (16.3 per cent). This has been a decrease from 22.4 per cent in 2001 and 18.9 per cent in 2007–08. Furthermore, the daily smoking rates for people aged 18–24 fell from 21 per cent in 2001 to 16 per cent in 2010 (figure 11.14).

Quitting smoking has immediate and long-term health benefits for adults:

- after 12 hours — most nicotine is out of the bloodstream
- within 24 hours — carbon monoxide blood levels have largely dropped, heart rate slows, tremors lessen, skin temperature warms
- within a month — the immune system begins to recover
- within three months — symptoms such as cough, mucus and wheeze decrease, and blood flow to the hands and feet improves
- after six months — stress levels are usually lower than when smoking and the lungs are working much better
- after 12 months — the increased risk of heart disease due to smoking is halved
- after 15 years — the risk of heart disease and stroke becomes almost the same as an adult who has never smoked.

**TEST your knowledge**

1. Outline the impact that sunburn may have on an adult’s health.
2. Outline the UV index and explain its relevance to the prevention of sunburn.
3. Why is some exposure to UV radiation important for the health and individual human development of adults?
4. Use the Quit links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.
5. Explain how smoking increases the risk of cardiovascular disease.
6. According to the 2011–12 National Health Survey, what percentage of the population smoked in 2011–12?

**APPLY your knowledge**

7. (a) Refer to figure 11.22 and explain two trends shown in the graph.
   (b) What factors might have accounted for this?
8. Imagine that you are a health promotion officer at a local council. Create a brochure, web page or blog that highlights the risks associated with poor sun behaviours, as well as recognising the importance of vitamin D to the health and individual human development of adults.
9. Develop a brochure aimed at encouraging adults to quit smoking, making sure you include the benefits of quitting.
10. Explain how using sun-protection practices would help promote the health and individual human development of adults.
11. Apart from impacts on physical health, how might tobacco smoking impact on social and mental health?
11.3 Behavioural determinants: physical activity

**KEY CONCEPT** The impact of physical activity on the health and individual human development of adults

**Physical activity**

The benefits of physical activity to the health and individual human development of adults are considerable. Physical activity reduces the risk of chronic diseases such as heart disease, stroke and hypertension. It also helps ageing adults maintain or develop the strength and stamina that enables them to live independently. The benefits of physical activity are shown in figure 11.16.

**BENEFITS TO HEALTH**
- Improves cardiovascular fitness
- Reduces the risk of cardiovascular disease
- Reduces the risk of type 2 diabetes
- Reduces the risk of premature death
- Reduces the risk of high blood pressure
- Helps reduce blood pressure for those adults who already have high blood pressure
- Reduces the risk of colon cancer
- Reduces depression
- Reduces anxiety
- Helps control weight
- Promotes mental wellbeing
- Assists in controlling joint swelling and pain associated with arthritis
- Reduces the risk of osteoporosis

**BENEFITS TO INDIVIDUAL HUMAN DEVELOPMENT**
- Maintains the density of bones
- Promotes muscle strength and joint mobility
- Enables older adults to maintain motor control and therefore the ability to live independently

**FIGURE 11.15** The benefits of physical activity to adults have been well documented.

**FIGURE 11.16** Benefits of moderate–high intensity physical activity on the health and individual human development of adults

Physical activity helps to improve glucose metabolism, reduce body fat and lowers blood pressure, thereby reducing the risk of cardiovascular disease and type 2 diabetes. For adults who have already developed these diseases, regular physical activity can help in reducing their effects. Physical activity — particularly weight-bearing exercise such as brisk walking and jogging — helps to maintain the density of bones, thereby reducing the risk of osteoporosis. It also assists in maintaining the strength of muscles. Research has shown that physically active people tend to have better mental health, with more positive self-concept and self-esteem.

According to the Cancer Council Australia, doing little or no physical activity has also been associated with a higher risk of developing certain types of cancer — in particular, colon cancer and breast cancer. Being physically active reduces body weight, another factor that influences the risk of developing cancer.
The 2011–12 National Health Survey found that the overall level of physical activity for Australians aged 15 years and over was low. In the week prior to interview, 66.9 per cent of Australians were either sedentary or had low levels of exercise (35.4 per cent were sedentary and 31.5 per cent had low levels of exercise). Males tended to be generally more active than females (see figure 11.17).

The recommended minimum levels of physical activity for adults is 150 minutes per week of walking or other moderate or vigorous activity, with at least 30 minutes per day of activity. The activity does not have to be done in one continuous block of time but can occur in shorter amounts throughout the day. Vigorous exercise is activity that makes the individual ‘huff and puff’. In technical terms, vigorous exercise occurs when the heart is beating at 70–85 per cent of maximum heart rate.

![Figure 11.17](image.png)

**FIGURE 11.17** Level of exercise undertaken for fitness, recreation or sport in the last week, persons aged 15 years and over, 2011–12.

Source: ABS, Australian health survey: first results.

TEST your knowledge

1. What is the recommended amount of physical activity for an adult?
2. What proportion of the population did not engage in the recommended amount of physical activity in 2011–12?
3. Outline five benefits of physical activity to the health and individual human development of adults.

APPLY your knowledge

4. Develop a weekly physical activity program for a mother of two children who works full time. Consider the times of the day during which physical activity can occur and the type of the exercise.

5. Michael is a 42-year-old male who works in the city. He catches the train to work every day and walks from the station to his office, which is a 10-minute brisk walk. Twice a week, Michael attends the gym during his lunch break and participates in an aerobics class for 45 minutes. Most Saturday afternoons, Michael plays 18 holes of golf with a group of friends.
   (a) Is Michael participating in the recommended amount of physical activity? Explain.
   (b) What changes would you suggest to improve Michael’s level and/or type of physical activity?
   (c) What health benefits will Michael gain from participating in the recommended levels of physical activity?
11.4 Behavioural determinants: food intake

KEY CONCEPT The impact of food intake on the health and individual human development of adults

Food intake

Food contains a range of nutrients that are important for the health and individual human development of adults. All nutrients are required across all stages of the lifespan but the required quantities vary according to age, gender, metabolism and lifestyle. Growth has ceased by the adulthood stage of the lifespan. As a result, nutrients for the maintenance of body tissue rather than growth become more important.

**Figure 11.18** To ensure that the required nutrients are consumed, adults should aim to eat a diet consisting of a wide variety of foods.

There are six categories of nutrients:
- carbohydrates
- protein
- minerals
- fats/lipids
- vitamins
- water.

Carbohydrates, fats and protein are referred to as macronutrients because they are required in relatively large amounts. Vitamins and minerals are micronutrients because they are required in relatively smaller amounts.
- **Carbohydrates.** The body's preferred source of energy. They are classified into simple and complex carbohydrates (figure 11.19). Simple carbohydrates are absorbed quickly into the bloodstream and include foods such as sugar, honey and confectionery. Simple carbohydrates are classified as high glycaemic index (GI). Complex carbohydrates such as breads and cereals take longer to break down and so provide a more sustained source of energy. Fibre is largely a complex carbohydrate that is found in foods such as oat bran, nuts, seeds and...
wholegrain foods. Complex carbohydrates take longer to be absorbed into the bloodstream and are classified as low-medium GI.

- **Fats.** Along with carbohydrates, fats are a primary source of energy for the body. Fats also play a role in protecting internal organs and maintaining body temperature. There are four types of fats: saturated, monounsaturated, polyunsaturated and trans fats (figure 11.20). Polyunsaturated fats can be divided into omega-3 and omega-6 fatty acids.
- **Protein.** Protein is required for the growth, maintenance and repair of body cells and the manufacturing of hormones, enzymes and antibodies. It is also a secondary source of energy.
- **Vitamins.** These occur as two types: fat-soluble and water-soluble. Fat-soluble vitamins are vitamins A, D, E and K. They are stored in body tissues and may become toxic to the body if over consumed. Water-soluble vitamins include vitamin C and the B-group vitamins. They are not stored in the body and any excess intake is excreted in the urine.
- **Minerals.** These include calcium, iron, potassium and iodine. These are all required for the effective functioning of the body.
- **Water.** Water is required for the functioning of every cell in the body. It also regulates body temperature, acts as a lubricant for joints and assists in the removal of waste from the body.

Certain nutrients act as a risk or protective factor for specific diet-related diseases (table 11.5). A risk factor increases the likelihood of a disease occurring whereas a protective factor helps guard against the development of a disease.
11.4 Behavioural determinants: food intake

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Function(s)</th>
<th>Food source</th>
<th>Risk or protective factor</th>
<th>Relevant disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>• Strengthens bones and teeth&lt;br&gt;• Regulates muscle function&lt;br&gt;• Assists blood clotting&lt;br&gt;• Transmits messages along the nervous system</td>
<td>Dairy products, leafy green vegetables, soy and tofu, sardines and salmon, brazil nuts, almonds, sesame seeds, calcium fortified foods</td>
<td>Protective</td>
<td>Osteoporosis</td>
</tr>
<tr>
<td>Fibre</td>
<td>• Provides the bulk to assist in the removal of waste from the body via the intestinal tract</td>
<td>Cereals and wholegrain foods, fruit, vegetables, lentils, nuts, seeds</td>
<td>Protective</td>
<td>Bowel cancer&lt;br&gt;Cardiovascular disease</td>
</tr>
<tr>
<td>Folate</td>
<td>• Required for growth and formation of red and white blood cells&lt;br&gt;• Synthesises DNA</td>
<td>Asparagus, spinach, brussel sprouts, oranges, bananas, strawberries, legumes, fortified cereals, liver, poultry, eggs</td>
<td>Protective</td>
<td>Folate-deficiency anaemia&lt;br&gt;Neural tube defects such as spina bifida</td>
</tr>
<tr>
<td>Iron</td>
<td>• An important component of haemoglobin in the blood; haemoglobin is required for the transportation of oxygen to the cells of the body</td>
<td>Red meat, egg yolks, legumes and nuts, leafy green vegetables, fortified cereals</td>
<td>Protective</td>
<td>Iron-deficiency anaemia</td>
</tr>
<tr>
<td>Polyunsaturated fats</td>
<td>• Assist the normal development of the foetal brain&lt;br&gt;• Lower blood pressure and blood triglycerides</td>
<td>Atlantic salmon, mackerel, tuna, trevally, sardines, canola and soy oils and canola-based margarines</td>
<td>Protective</td>
<td>Cardiovascular disease</td>
</tr>
<tr>
<td>Saturated fats and trans fats</td>
<td>• Concentrated source of energy, providing 37 kilojoules per gram&lt;br&gt;• Provides insulation and protection for internal organs through fat stored on the body</td>
<td>Fatty cuts of meat, full-fat milk, cheese, butter and cream, commercially baked products, deep-fried foods, coconut and palm oil</td>
<td>Risk</td>
<td>Obesity&lt;br&gt;Cardiovascular disease&lt;br&gt;Stroke&lt;br&gt;Type 2 diabetes</td>
</tr>
<tr>
<td>Simple carbohydrates (high GI)</td>
<td>• Provide energy (16 kilojoules per gram)</td>
<td>Table sugar, confectionery, softdrinks, chocolate, cakes and biscuits, honey and jam</td>
<td>Risk</td>
<td>Dental caries&lt;br&gt;Type 2 diabetes&lt;br&gt;Obesity</td>
</tr>
<tr>
<td>Sodium</td>
<td>• Maintains water balance in the body&lt;br&gt;• Required for muscle contraction</td>
<td>Table salt, processed foods, takeaway and fast foods, potato crisps, processed meats, canned vegetables, instant pastas and soups, white bread, sauces</td>
<td>Risk</td>
<td>Hypertension&lt;br&gt;Cardiovascular disease</td>
</tr>
</tbody>
</table>
In terms of food intake, the consumption of sufficient fruit and vegetables by adults is important in promoting health and reducing the risks of developing stomach cancer, colorectal cancer and cardiovascular disease. According to the National Health and Medical Research Council, adults should consume two serves of fruit and five serves of vegetables each day. In 2011–12, 92 per cent of Australian adults did not eat five serves of vegetables daily, and 52 per cent did not eat two serves of fruit daily.

Of concern was also the consumption of ‘extras’ foods — those foods high in energy and low in nutrients. These foods make up 36 per cent of the energy intake for adults, which is greater than the recommended one to three serves per day. Overconsumption of these foods increases the risk of obesity and other health problems such as type 2 diabetes, heart disease and cancer.

The Australian government has developed food selection tools such as the Dietary Guidelines for Australians and the Australian Guide to Healthy Eating which can be used by adults to guide healthy food choices.

**TEST your knowledge**

1. Explain the difference between simple (high GI) carbohydrates and complex (low GI) carbohydrates.
2. What are the four types of fat?
3. Why should saturated fat and trans fat be reduced in an adult’s diet?
4. What diseases do the following nutrients protect against and what are the food sources of these nutrients?
   a. Calcium
   b. Folate
   c. Fibre
   d. Iron
   e. Polyunsaturated fats
5. For what diseases are the following nutrients a risk factor and what are the food sources of these nutrients?
   a. Saturated fats and trans fats
   b. Simple carbohydrates
   c. Sodium
6. Why is the overconsumption of ‘extras’ food a health concern?
7. Why is the lack of fruit and vegetable consumption in the Australian population a concern?

**APPLY your knowledge**

8. Access the Australian Dietary Guidelines (page xxx) and draw up a table to show the different ages of adults and the recommended number of servings for each food group. Ask an adult you know to keep account of all the food and drink they consume in one day and analyse their food intake by comparing the number of serves from each food group they consumed compared to the recommendation. What are the possible short- and long-term consequences to health and individual human development of the pattern of dietary intake?
11.5 Behavioural determinants: alcohol use

KEY CONCEPT The impact of alcohol use on the health and individual human development of adults

Alcohol use

Alcohol is the most widely used and accepted recreational drug in Australia. However, the overconsumption of alcohol is a major risk factor for a range of diseases and illness and injury-related deaths. Alcohol is second only to tobacco as a preventable cause of drug-related death and hospitalisation in Australia (NHMRC, 2009). The 2013 National Drug Strategy found that 26 per cent of males and 9.7 per cent of females aged over 18 years drank more than the recommended daily alcohol consumption of no more than two standard drinks. It is generally accepted, however, that a very moderate intake of alcohol (around half a standard drink per day) may contain health benefits for older people. Red wine, in particular, is considered to be beneficial in reducing the risk of cardiovascular disease due to the anti-oxidants it contains. However, health authorities do not go so far as to recommend that non-drinkers should start consuming alcohol for their health.

ALCOHOL RISK

In 2009, the National Health and Medical Research Council released new Australian guidelines to reduce health risks from drinking alcohol. For healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury, and drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.

Source: AIHW, Australia’s health 2014, p. 167.

Many adults consume alcohol responsibly; however, many consume alcohol at a level that is considered to increase their risk of alcohol-related harm. According to the 2013 National Drug Strategy Household Survey, the level of alcohol consumption has declined since 2010. Further:

- The number of people drinking at levels that placed them at risk of an alcohol-related disease or injury fell by approximately 250,000 (from 3.7 million in 2010 to 3.5 million in 2013).
- Fewer people consumed five or more standard drinks on a single occasion at least once a month, declining from 5.2 million in 2010 to 5.0 million in 2013.
- More people were choosing not to drink alcohol, with the proportion increasing from 19.9 per cent in 2010 to 22 per cent in 2013.

However almost one in five people aged 14 or older consumed more than two standard drinks per day on average, putting themselves at risk of an alcohol-related illness. One in six (15.6 per cent) people aged 12 or older had consumed eleven or more standard drinks on a single drinking occasion, which is well over the recommended safe level of consumption. In 2013 almost half (49 per cent) of drinkers took action to reduce their alcohol intake, with the main reason for doing so being a concern for their health.

Alcohol consumption varied between males and females and across different age groups:

- Males are almost twice as likely (8.5 per cent) as females (4.6 per cent) to drink daily.
- The age group of 70 years and over was the most likely to drink daily. However, people in this age group were the least likely to consume alcohol in risky
quantities, with only one in ten (9.3 per cent) consuming five or more standard
drinks on a single occasion in the past year.

• People aged 18–24 were more likely than any other age group to exceed the
single-occasion risk guidelines, although people in their 40s and 50s were most
likely to consume five or more standard drinks on a single drinking occasion
more regularly, with around 6 per cent doing so on most days or every day. In
comparison, people aged 18–24 were most likely to exceed single-occasion risk
guidelines weekly or monthly (see figure 11.22)

Excessive alcohol consumption is a major risk factor for a range of diseases
and conditions. It is associated with a higher risk of accidents and injury in
a variety of settings including motor vehicle and bicycle accidents, accidents
involving pedestrians, falls, fires, drowning, sport and recreational injuries,
alcohol poisoning, overdose, suffocation, choking on vomit, assault, violence and
intentional self-harm. More adults die from alcohol-related road accidents and
injuries than from alcohol-related cancers, cardiovascular disease and alcohol
dependence combined.

The impact on the health and individual human development of adults
(figure 11.23) include:

• Liver. Overconsumption of alcohol is one of the most common causes of cirrhosis
of the liver. Liver cells are progressively replaced by scar tissue, leading to an
increased risk of infection and problems with blood clotting. The liver is unable
to perform vital functions, such as metabolism, production of proteins and
filtering of drugs and toxins. It can eventually lead to death.

• Cardiovascular system. Overconsumption of alcohol can elevate blood pressure
and LDL cholesterol, and increases the risk of heart attack and stroke.

• Bowel and pancreas. Alcohol can affect the normal secretions in the bowel and
irritate the bowel lining, resulting in diarrhoea and inflammation. The pancreas
may become inflamed and cause severe pain.

• Cancer. Alcohol is linked to an increase in cancer risk. It is known to cause
cancers of the mouth, throat and oesophagus. It is also a risk factor for cancers
of the stomach, breast, liver, pancreas and bowel.

• Mental health. For many adults, small amounts of alcohol can provide stress relief
but the sustained consumption of alcohol can lead to dependence and increased
anxiety levels. For adults who are prone to mental illnesses such as depression,
alcohol can increase the frequency and severity of these conditions. This can
impact the individual’s capacity to interact with others, thereby affecting social
and emotional development.

Figure 11.22 Proportion of people exceeding the single occasion risk(a)
guidelines (at least monthly), people aged 18 or older, by age, 2001 to 2013
(per cent)

(a) Had more than four standard drinks on one
occasion.

Source: Online Table 4.8.

Source: Adapted from AIHW 2014, National drug
strategy household survey detailed report 2013,
p. 40.
11.5 Behavioural determinants: alcohol use

- **Sexual problems.** Alcohol can increase sexual health problems such as **male impotency**. This may impact on an adult’s capacity to maintain a relationship with a partner.

- **Eye disease.** Alcohol consumption can increase the risk of eye conditions such as cataracts, drusen (the accumulation of extracellular material in the eye) and age-related **macular degeneration**.

- **Alcohol dependence.** Adults with a dependence on alcohol will place priority on drinking over behaviours that would normally be considered important, such as food consumption and personal hygiene. They might experience tremors and anxiety if they cease drinking for a few hours. Alcohol dependence may cause social problems such as domestic violence. It may also affect an adult’s ability to manage family and work relationships, thereby impacting social development.

- **Sleep disorders.** Initially alcohol can induce sleep, but it eventually reduces the quality of sleep and may worsen sleep disorders.

- **Malnutrition.** Alcohol displaces important nutrients from the body. As a result, nutrients are not available for the maintenance and repair of body tissues. Alcohol is high in kilojoules and increases energy intake, which may contribute to overweight and obesity if the energy is not expended.

- **Breast cancer and gynaecological problems.** Women who drink alcohol are at greater risk of breast cancer and gynaecological problems such as infertility and an irregular menstrual cycle.

- **Brain impairment.** Alcohol consumption can lead to memory loss, difficulties with learning new information, confusion and hallucinations, thereby affecting intellectual development.

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**Case study**

**Alcohol study: Middle-aged women drink more than any age group, Queensland researcher says**

*By Erika Rutledge and Elaine Ford*

Middle-aged women drink more alcohol than any other age group, according to a Queensland University of Technology researcher who is now working to find out why.

Student Hanna Watling says 13 per cent of women aged 45 to 59 are drinking an average of more than two glasses of wine at night, which could be placing them at risk of serious illness.

Ms Watling says a new online survey aims to find out why more middle-aged women are turning to the bottle.

‘We’re hoping to understand a bit more about what’s going on for this particular group of drinkers and why it is they tend to turn to alcohol in this sort of way,’ she said.
Case study review

1. What percentage of women aged 45–59 were found to be drinking alcohol at a level that could put their health at risk?
2. What happens to alcohol consumption patterns for women as they age?
3. What reasons are given for why women in their 40s and 50s are drinking alcohol?

Ms Watling says research has found when women increased their drinking from two to three standard drinks a day, they more than tripled their lifetime risk of death from alcohol-related diseases.

‘Heavy drinking is more common among young women in their late teens and 20s, but as they age, women tend to abandon binge drinking for less heavy but more frequent levels of alcohol consumption,’ she said.

However, Ms Watling says the study suggests that for women in their 40s and 50s, drinking is not about getting drunk.

‘Instead, it’s more that alcohol becomes a greater part of everyday life as you age, for example having a wine with dinner or in front of the TV,’ she said.

‘Alcohol also becomes a way of dealing with the stresses of busy lives such as family worries, work pressures or social commitments.’

However, she says researchers are concerned those women who drink moderately but often may end up consuming a larger volume of alcohol than those who drink heavily but less frequently.


FIGURE 11.24 The study suggests that for women in their 40s and 50s, drinking is not about getting drunk.

‘What we’re doing we’re launching this survey and we’re asking for women who are between 45 and 59 years old and who have been drinking at least once in the past month to take part.’

‘When we understand more about what’s going on for this particular group of drinkers we might be able to develop interventions that are tailored to their specific needs and their specific circumstances.’

Three drinks a day triples risk of alcohol-related disease

Ms Watling says research has found when women increased their drinking from two to three standard drinks a day, they more than tripled their lifetime risk of death from alcohol-related diseases.

‘Heavy drinking is more common among young women in their late teens and 20s, but as they age, women tend to abandon binge drinking for less heavy but more frequent levels of alcohol consumption,’ she said.

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‘Instead, it’s more that alcohol becomes a greater part of everyday life as you age, for example having a wine with dinner or in front of the TV,’ she said.

‘Alcohol also becomes a way of dealing with the stresses of busy lives such as family worries, work pressures or social commitments.’

However, she says researchers are concerned those women who drink moderately but often may end up consuming a larger volume of alcohol than those who drink heavily but less frequently.


TEST your knowledge

1. What has been the trend in alcohol consumption between 2010–13?
2. How do the patterns of alcohol consumption vary between males and females and across the different ages of adulthood?
3. Which age group is more likely to exceed the recommended safe level of drinking on a single occasion?
4. What is the recommended daily limit of standard drinks for adults?
5. List five impacts on the health and individual human development of adults as a result of the overconsumption of alcohol.

APPLY your knowledge

6. Develop a health promotion campaign that aims to reduce the levels of alcohol consumption within the adult population. Consider the factors that influence the drinking behaviours of adults and the impact that alcohol has on the health and individual human development of adults.
7. Refer to figure 11.22 and identify three trends evident in the graph.
11.6 Behavioural determinants: drug use

KEY CONCEPT The impact of drug use on the health and individual human development of adults

Drug use

A drug is any substance that produces a psychoactive effect. The National Drug Strategy defines a drug as including tobacco, alcohol, pharmaceutical medications and illicit substances as heroin and ‘ecstasy’. Illicit drug use is a major risk factor for ill-health and death associated with HIV/AIDS, hepatitis C, low birth weight, malnutrition, poisoning, mental illness, self-inflicted injury, overdoses and death.

Drug use may arise from an inability to cope with adult responsibilities. Like alcohol, drug use generally — not just the use of illicit drugs — is a major risk factor for many diseases in adults. It is also associated with injury, accidents, disability, violence, crime and suicide, and social and family problems.

According to the 2013 National Drug and Household Survey, the proportion of people aged 14 and over who had used an illicit drug in the previous 12 months had increased from 14.7 per cent in 2010 to 15 per cent in 2013. Cannabis is the most commonly used illicit drug in Australia, with 35 per cent of Australians aged over 14 years of age reporting using cannabis at some time. The use of cannabis can result in acute effects including the impairment of motor skills, reaction time and the ability to perform skilled activities, as well as decreased memory and learning abilities — thus impacting on an individual’s physical and intellectual development. Mental health can also be affected, as cannabis causes changes in the user’s moods, affects how they think and perceive the environment, and causes decreased motivation in areas such as study, work or concentration.

While there was no change in the use of meth/amphetamine in 2013, there was a change in the form of drug used. The use of ice (also known as crystal) more than doubled, from 22 per cent to 50 per cent, between 2010 and 2013. Among ice users there was also a doubling of daily and weekly use.

The recent use of selected illicit drugs across the different ages in adulthood can be seen in figure 11.26. Those aged 20–29 are more likely to have recently used illicit drugs, while people aged 40+ tend to have the lowest rate of drug use.

In 2013, of the 2.7 million people in Australia who had used an illicit drug in the previous 12 months, 1.5 million were male and 1.1 million were female (with 100 000 not accounted for), and 18.1 per cent of all males and 12.1 per cent of all females in Australia had used an illicit drug in the previous 12 months.
Normal aspects of ageing have a significant influence on drug use as adults age. The way in which medications are absorbed, distributed, metabolised and cleared from the body is affected by age-related changes in organ systems and illness. Even when medications are taken as prescribed, age-related changes and disease can increase the risk of side effects.

The rapid development of new medications to treat a variety of diseases, relieve pain and improve quality of life has led to the increased use of prescribed and over-the-counter medications. With increasing age, adults are more likely to have more than one medical condition for which they have been prescribed medications. This could pose a problem as different medications may interact and create side effects that affect the functioning of the other medications.

The use of drugs can impact on health in the following ways:

- **Damage to body organs.** Heavy drug use can affect the liver, brain, lungs, throat and stomach.
- **Infectious diseases.** Sharing needles from injecting drugs is a major risk for contracting blood-borne diseases such as hepatitis B or C and HIV/AIDS.
- **Injuries and accidents.** Drug-related injuries can be linked to fights and falls, as well as accidents that occur while operating machinery at work or driving vehicles.
- **Depression.** It is common to feel low after using some drugs (including alcohol). This could be due to the drug itself or to something that happened while using the drug. It is unclear whether alcohol use contributes to depression or is a symptom of it.
- **Stress.** Some adults use certain drugs to help them relax. However, changing the way the body and mind work with drugs is a form of stress in itself, and users can experience tension, anxiety, paranoia and other feelings that only add to the feelings of stress.
- **Relationship problems.** Family breakdown and conflict between friends and partners are more common with drug use.

Credible information on drugs (through various forms of media), early treatment of complications, and drug treatment centres are important aspects of dealing with some of the issues listed above. Increasing individual awareness and attempting to change drug-taking attitudes and behaviours is of vital importance.

### Case study

**Psychosis fears after ‘ice’ use rises among injecting drug users**

*By Harriet Alexander with Dan Harrison*

Hospitals and drug clinics are bracing themselves for more patients presenting with psychosis and cardiovascular problems after a significant increase in use of the drug ‘ice’.

The number of injecting drug users who used ice in the last six months has increased from 55 per cent to 61 per cent in the last year, according to the National Drug and Alcohol Research Centre’s annual survey released on Monday.

Overall, methamphetamine use remained stable, but there was a shift from snorting it as ‘speed’ to smoking or injecting in its crystal form, as ice.

Chief investigator Lucy Burns, of the University of NSW, said the figures were concerning because ice was more addictive than other forms of methamphetamine and its use was associated with psychosis and violence. ‘Heroin remains the drug of choice for people who inject drugs but ice is pretty up there too,’ Dr Burns said. ‘There’s been a move to the crystal use of methamphetamine and of course that’s the stronger form.’
11.6 Behavioural determinants: drug use

Injecting the drug also exposed people to a greater risk of blood-borne viruses.

The proportion of injecting drug users who used ice remained stable at 74 per cent in NSW, but it leapt from 55 per cent to 75 per cent in Victoria and also rose to 72 per cent in the ACT.

Use of the drug ice is growing faster among injecting drug users in Victoria than in any other part of Australia.

Dr Burns said the increase was significant.

‘Ice is metabolised by the body more quickly than other forms of methamphetamine, is more addictive and its use is associated with drug-induced psychosis, violence and erratic behaviour,’ she said. ‘Injecting ice also puts people at a number of other major risks, including acquiring septicaemia, hepatitis C and HIV.’

NSW injectors were using ice more than once a week, while in Victoria they were using it fortnightly and in the ACT they were taking it twice a week.

Among recreational drug users, the use of ice was statistically stable, with about one in five people reporting that they used the drug regularly nation-wide, although it was as high as one in three in Victoria.

They were more likely to take methamphetamine in powder form.

The clinical director of the drug and alcohol service at St Vincent’s Hospital, Nadine Ezard, said the number of people presenting at Sydney emergency departments for methamphetamine-related problems had more than tripled in the last five years.

‘They’re using stronger forms and more often, therefore we’re expecting to see more problems associated with it because the presentations we see tend to be dose related,’ Associate Professor Ezard said.

These included psychosis and cardiovascular problems.

Last year, more than 20 000 people around Australia received treatment for drug problems where methamphetamine was the principal drug of concern.

Associate Professor Ezard said the residential withdrawal service at St Vincent’s Hospital was receiving proportionally fewer residents with opioid and alcohol problems and proportionally more people who used stimulants as the primary drug of concern.

The implications were broad, with people intoxicated by crystal methamphetamine more likely to engage in risky behaviour such as unprotected sex.

Demand had exploded in the stimulant treatment program at St Vincent’s that was set up NSW Health in response to concerns about ice in 2006.

In January last year, there were 120 people on the program.

There are now 200 on the program and 100 on the waiting list and most of them are employed, unlike the methadone clinic where just three per cent are employed.

‘It’s a different cohort to people on the opioid treatment program,’ Associate Professor Ezard said.

‘We would like to intervene before people lose their jobs.’

The National Drug and Alcohol Centre’s survey of ecstasy users had happier news, reporting that the use of synthetic cannabis had halved among this group.

They were also less likely to buy psychoactive substances online.


Case study review

1 What is meant by psychosis?
2 Why is the increasing use of ice as a form of methamphetamine considered to be a problem?
3 In what ways is the body’s response to ice different to other forms of methamphetamines? Why is this a concern?
4 How does the use of ice impact adult health and individual human development?

TEST your knowledge

1 What is a drug?
2 Which drug is the most commonly misused?
3 How does drug use/misuse vary during adulthood?
4 Identify four drugs (illicit, prescription or non-prescription) used by adults and explain the impact that those drugs have on the physical, social and mental health of an individual.

APPLY your knowledge

5 Write a response to the following: ‘Drug use is less risky during adulthood than during the youth stage of the lifespan’. In your response, consider the types of drugs that adults use and their possible effects on health and individual human development.
11.7 Behavioural determinants: sexual practices

**KEY CONCEPT** The impact of sexual practices on the health and individual human development of adults

**Sexual practices**

Sexual practices refer to the ways in which individuals experience and express their sexuality. Decisions made about sexual practices during adulthood are a continuation of the decisions and experiences made during youth, especially those made during early adulthood when selecting or attracting a partner is a major developmental milestone. Other important issues related to sexual practices include unprotected sex, sexually transmissible infections, pregnancy and fertility/infertility, and reproductive function and dysfunction.

**Unprotected sex**

Almost all sexually active Australians say they have had unprotected sex, and yet more than half say they have never had a test for a sexually transmissible infection (STI). While many safe sex campaigns are targeted at youth, 35–40 year old adults are also exposed to unsafe sex practices. STIs and unplanned pregnancies are key health issues that affect many Australians. Research shows that during early and middle adulthood (18–24 year olds and 35–40 year olds respectively), individuals are less likely to be proactive with their health care and have an STI check. Women are more likely than men to have an STI check up after having unprotected sex; however, overall as many as six out of ten adults do not follow up with an STI check after unprotected sex.

**Sexually transmissible infections**

Chlamydia is one of the most frequently reported sexually transmitted infection in Australia, and the rate of infection has almost tripled over the past decade (see figure 11.28)

![Figure 11.28: Chlamydia notifications by age and sex, 2014(a)](image)

Note: (a) Per 100,000 population aged 15 years and over
Health messages regarding sexually transmissible infections (STIs) are usually aimed at youth but adults are not immune to infection and need to follow safe sex practices to minimise the risks. The decisions they make can have an impact on their health and individual human development. Cancer of the cervix, for example, can be linked to the sexually transmitted herpes 2 virus and the human papillomavirus (HPV) and untreated chlamydia can lead to pelvic inflammatory disease and infertility. As with many other health behaviours and diseases, the full effect on the life of an individual and family may not be realised until middle adulthood. Adults of all ages need accurate information about sexual health, including developmental changes, STIs and related treatment strategies to promote satisfying and responsible health behaviours.

**Pregnancy: fertility/infertility**

Unintended pregnancy can be an issue not only for youth, but also for adults. Research indicates that unintended pregnancies are often the result of contraceptive failure. Whatever the cause, unintended pregnancy is associated with increased infant mortality and morbidity, parental neglect, child and partner abuse, and emotional deprivation.

Reproductive problems can become a major concern in early adulthood, especially in relation to infertility. Infertility is the inability to conceive a child while having unprotected sexual intercourse for at least 12 months. It is known that men and women suffer from infertility at about the same rate. Sometimes multiple factors are involved in one or both partners.

Women can be infertile from disorders such as hormone imbalances, blocked fallopian tubes, endometriosis, or abnormalities of the reproductive organs. Men can experience infertility if they have problems with the number and shape of their sperm, produce antibodies against their own sperm or have blocked spermatic cords. In some cases, the exact cause of infertility cannot be found.

Proper diagnosis of infertility will help in selecting an appropriate treatment plan that maximises the chance of becoming pregnant.

**Infertility statistics**

- One in six couples is infertile.
- In 40 per cent of cases the problem rests with the male, in 40 per cent with the female, in 10 per cent with both partners, and in a further 10 per cent of cases the cause is unknown.
- Fertility problems affect one in three women over 35.
- One in 25 males has a low sperm count and one in 35 is sterile.
- For healthy couples in their 20s having regular unprotected sex, the chance of becoming pregnant each month is 25 per cent.
- Birth rates from a single cycle of IVF using the woman's own eggs are approximately 30–40 per cent for women aged 34 and younger. This decreases steadily after age 35 as the ageing of the egg supply significantly impacts on the chances of having a baby through IVF.
- Approximately 3 per cent of births in Australia involve the use of assisted reproductive technologies such as IVF.
Reproductive function/dysfunction

As mentioned in chapter 10, physiological changes in the reproductive systems of both men and women throughout adulthood result in changes in sexual function. After menopause, many women enjoy sex more, especially because the risk of becoming pregnant is no longer a concern. Although men and women frequently enjoy satisfactory sexual relationships throughout middle adulthood, men are more vulnerable to experiencing sexual dysfunction than women. Advancements in medical technologies have made available a range of products (e.g. Viagra) that allow men to continue to function sexually into older age. Currently there is no data to suggest that men or women lose interest in sexual activity as they age. Although the need to express sexuality continues, older adults are susceptible to many disabling medical conditions — cardiovascular conditions, arthritis, normal changes associated with ageing, and medication side effects — that can make the expression of sexuality difficult. In both males and females, reduced availability of sex hormones results in less rapid and less extreme responses to sexual arousal. Touch is an overt expression of closeness and an integral part of sexuality, and older adults still feel the human need to touch and be touched.

TEST your knowledge

1. Define sexual practices.
2. What are STIs?
3. What is the definition of infertility?
4. Outline possible causes of infertility in both males and females.
5. What percentage of births in Australia involved the use of assisted reproductive technologies?

APPLY your knowledge

6. What are the issues relating to sexual practices across each stage of adulthood?
7. "Unintended pregnancies can be an issue, not only for youth, but also for adults'. Discuss the impact that pregnancy can have on the health and individual human development of adults."
11.8 Physical environment determinants: housing and workplace safety

KEY CONCEPT The impact of housing and workplace safety on the health and individual human development of adults

Many aspects of the physical environment impact on the health and individual human development of adults. Employment becomes a priority during adulthood, so the physical environment in which adults work can impact on health and individual human development. Other factors within the physical environment include housing, neighbourhood safety and access to health care.

**Housing**

A house provides shelter and protects adults from the outside environment, including any physical dangers. The majority of Australian adults live in their own homes that they either own outright (33 per cent) or are paying off (36 per cent). Rentals account for approximately 28 per cent of households, with the two biggest groups being private rentals (24 per cent) and public/government rentals (4 per cent).

**Housing stress**

Having suitable housing is a priority for most adults. However, for many Australian adults, housing stress impacts on health and individual human development, not only for themselves but also for their family members. Housing stress occurs when the cost of housing (either rental or mortgage) is high in relation to household income, and when at least one-third of family income is required to meet rent or mortgage payments. This also contributes to financial stress, adults and families leaving with less income to meet day-to-day needs such as basic services (electricity, gas and water), nutrition, health care and clothing. Financial stress has a greater impact on lower-income households because they have little money to meet basic needs. Low-income families often have to spend nearly one-third of their income on housing costs.

The constant stress of not having enough money to cover rent or mortgage payments and other necessities of life can contribute to health problems and affect all aspects of individual human development. The effects on health include:

- migraine or tension headaches
- insomnia or other sleep disorders
- anxiety, anger and irritability
- memory lapses
- shoulder, neck or back pain
- chronic fatigue
- heart palpitations
- skin conditions
- heartburn
- diarrhoea or constipation
- dizziness
- shortness of breath
- heart problems
- chronic pain.

Financial stress from housing affordability problems can result in adults going without meals or not consuming foods that meet their nutritional requirements. Over the long term, this can contribute to a range of diet-related conditions such as...
as osteoporosis, cardiovascular disease and type 2 diabetes. The lack of income to pay for health care may result in these conditions being left untreated.

Financial stress may also place a strain on relationships with family and friends. As a result, the adult may feel isolated and have reduced opportunities for socialisation. For married couples, financial stress linked to difficulties with meeting house repayments or rental costs may cause divorce. For those who are renting, frequent moves in order to find affordable rental housing may make it difficult for the adult to maintain friendships and develop a sense of belonging within a community. This will have a significant impact on an adult’s capacity to develop relationships with other people, thereby impacting on social development. As an adult’s emotional development is dependent on their interaction with others, emotional development may also be hindered due to financial stress. The health issues arising as a result of financial stress may affect the adult’s ability to focus on learning new information and/or skills, thereby impacting their intellectual development.

**Workplace safety**

More time is spent in the work environment in the adulthood stage of the lifespan than in the youth stage. This means there is a greater risk of workplace injuries and illnesses during adulthood if effective preventative measures are not in place. In the 12 months to June 2014, 4.3 per cent of the 12.5 million people who had worked during that time experienced a work-related injury, with males having higher rates of injury than females. This equates to approximately 531,800 people and an injury rate of 43 per 1000 employed people. Males tend to have higher rates of injury than females because there are more men in the workforce and they tend to be employed in higher-risk occupations (e.g. construction). In 2013–14, the injury rate for males was 44 per 1000 employed men compared with a female rate of 36 per 1000 employed women.

Injury rates also vary according to age. The highest work-related injury and illness rate was in the 50–54 year age group with 52 per 1000 workers. Adults over the age of 65 years recorded the lowest rate with 25 per 1000 persons.

The type of occupation also affects the risk of injury or illness in the workplace. The occupations with the highest rates of injury in 2013–14 were labourers, machinery operators and drivers, community and personal service workers, and technicians and trades workers. The higher rate of injuries in these occupations can be attributed to the physical nature of these jobs. Professional people (science, building, engineering, business and information, health and education) had the lowest rate of injuries. Figure 11.34 illustrates the rate (per thousand employees) of work-related injury or illness according to occupation groups. Shift workers are also at greater risk of work related injury representing almost one-third of all workers.

![FIGURE 11.32 Housing and financial stress can contribute to a range of health problems.](image)

![FIGURE 11.33 Males tend to have higher rates of workplace injury than females.](image)
While office jobs have a relatively low risk of injury, conditions related to overuse of technology are becoming more common. For instance, having to sit for hours in front of a computer may lead to back and neck pain, headaches, muscle and joint pain of the upper limbs, and eyestrain from having to look at the monitor for extended periods of time (figure 11.44). Occupational overuse syndrome (OOS) is a condition caused by repetitive movements that can affect the tendons and muscles of the hands, wrists, elbows, shoulders, back and neck. It can result in pain, muscle weakness, swelling, numbness and restricted joint movement.

In 2013–14, the most commonly reported injuries were sprains or strains of joints and muscles; these accounted for 33 per cent of workplace injuries. This was followed by chronic joint or muscle conditions (21 per cent of workplace injuries) and cuts or open wounds (14 per cent of workplace injuries).

Apart from the injuries or illnesses that may be sustained from the workplace, there is also the risk of workplace deaths. In spite of the recommendations and expectations of a safe working environment, people still die every year from preventable causes. In 2014, there were 185 workplace fatalities across Australia.
The most common causes of fatalities were vehicle accidents, being hit by falling objects, being hit by moving objects, and falls from height (Safe Work Australia, 2014).

The effects of workplace injury may be short or long term and can have significant impacts on the health and individual human development of adults. Short-term injuries/conditions, such as cuts and abrasions, will allow an adult to return to work relatively quickly. Other injuries/conditions, such as fractures and stress-related conditions, generally require a longer period of time away from work. In some instances, the worker may be so severely injured that they are unable to return to work or may not be able to return to the same position they previously held.

Workplace injury can result in the adult being in pain, and the potential permanent scarring or impairment may cause significant misery to the individual. Certain injuries, such as back injuries, may make it difficult for an adult to carry out normal everyday tasks, such as going to the toilet. Being unable to look after oneself and relying on the support of family and friends may impact on the affected adult’s mental health. An adult who is unable to attend work may begin to feel worthless and worry about the future, not only for themselves, but also for their family members. The stress and anxiety associated with a long-term workplace injury may lead to a variety of mental health conditions such as post-traumatic stress disorder and depression. Some injured adults may become dependent on prescription drugs, alcohol or other non-prescription drugs.

In terms of emotional development, the adult may be in chronic pain and find it difficult to control their emotions. This may impact on the adult’s capacity to maintain relationships with others, thereby impacting their social development. On the other hand, the reliance on family and friends may result in greater bonds being formed, which will enhance the social health and development of the adult.

The impacts on physical health can vary according to the severity of the injury. The injured adult may be unable to participate in regular physical activity and, as a result, fitness levels may decline. Lack of regular physical activity can impact on physical development, such as a decrease in muscle mass and bone strength.

**TEST your knowledge**

1. Explain the effects that financial stress can have on the health and individual human development of adults.
2. What was the workplace injury rate in 2013–14?
3. What were the most commonly reported workplace injuries in 2013–14?
4. Which stages of adulthood had the highest and lowest rates of workplace injury?
5. Explain occupational overuse syndrome. How can it be prevented?
6. Why would shift work be a risk factor for work-related injury?
7. Explain the possible impact on health and individual human development of a long-term work-related injury.

**APPLY your knowledge**

8. Write a letter to the editor of a newspaper outlining the impact of high mortgage repayments and housing rent on the health and individual human development of adults.
11.9 Physical environment determinants: neighbourhood safety and access to health care

KEY CONCEPT The impact of neighbourhood safety and access to health care on the health and individual human development of adults

Neighbourhood safety

All people need to feel safe in their homes and when out in the streets. In 2008–2009, more than four million adults, or 26 per cent of those aged 18 years and over, reported feeling unsafe alone at home, walking alone at night in their neighbourhood, or taking public transport at night alone (Australian Social Trends, June 2010). Figure 11.46 indicates that during 2008–09 the vast majority of Australians felt safe in their home alone.

Crime–rates

In 2013–14, it was estimated that:
- 2.6 per cent of households were victims of at least one break-in at their home, garage or shed
- 6.0 per cent of households were victims of at least one incident of malicious property damage
- 0.6 per cent of households had at least one motor vehicle stolen
- 0.4 per cent of persons over 15 years of age were victims of at least one robbery
- 2.3 per cent of persons over 15 years of age were victims of at least one physical assault.

Victims of crime may experience a range of impacts on health and individual human development including:
- feelings of emptiness
- nightmares or insomnia
- sadness
- guilt or shame
- grief or loss
- panic or confusion
- physical symptoms of illness.
• fear or anxiety
• exhaustion
• depression
• anger or irritability
• feelings of loss of privacy or control
• helplessness or feeling deserted

Apart from the physical impact of crime, fear for personal safety can restrict the adult's participation in social occasions and reduce their trust in the community. As a result, an adult may lose interest in their daily activities and be less likely to access local community services and recreational facilities (e.g. parks), which can reduce their fitness levels and impact on the maintenance and/or development of bone mass and muscle tissue. Restricted involvement in the community limits the social contact that the adult has with others, which may contribute to feelings of sadness, possibly leading to depression. Depression can affect the adult's capacity to control their emotions, and decrease their interest in situations or activities that promote the development of intellectual skills. In contrast, adults who have a sense of safety within their neighbourhood are more likely to be involved in community activities, thereby promoting their health and individual human development.

Access to health care

Health care focuses on promoting the health of the Australian population through the provision of a range of health services. As morbidity and mortality rates increase with age, it is important for adults to have access to appropriate health services for the purpose of preventing disease, screening for disease or treating illness. The range of health services that are available to Australian adults has contributed to the increase in life expectancy over the past two decades, as diseases are detected earlier and treatments have continued to improve. As can be seen from figure 11.38, there has been a significant increase in the survival rate following a heart attack, which may be partly attributed to the increased capacity of health services to diagnose and treat a heart attack.

There are many health-care services available to improve the health and individual human development of adults including BreastScreen Australia, and the National Bowel Cancer Screening Program.

Not all Australians have equal access to health care. Those living in rural and remote communities, Indigenous people and those from low socioeconomic backgrounds are often disadvantaged in relation to accessing a range of health-care services.

BreastScreen Australia

BreastScreen Australia is a breast cancer screening program that operates in over 500 locations throughout Australia. Breast cancer is a major risk for women — more women die from this type of cancer than any other form. On average, seven women die from breast cancer every day in Australia. Detecting breast cancer early increases the chance of surviving the disease.

Mammography screening takes a low-dose X-ray of the breasts to detect any changes in breast tissue (figure 11.39). The aim is to detect abnormal growths so that the individual can be treated before the cancer progresses. Mammograms can detect small tumours that may not be felt by hand.
11.9 Physical environment determinants: neighbourhood safety and access to health care

Women over 40 years of age are eligible for free mammography screening but screening recruitment strategies focus on the 50–69 year age group. This is because over 75 per cent of breast cancers occur in women 50 years and over. Also, breast tissue in younger women is more dense and can show up as a white area on X-rays, making it easy to be mistaken for breast cancer (which also appears as a white area on X-rays). The lifetime risk of women developing breast cancer is one in eight. Women in the 50–60 year age group who have previously had a mammography screening are sent a reminder for their next mammogram, which ideally should be conducted every two years.

Access to Breastscreen services is important as early detection significantly increases a woman’s chance of survival. Accessing BreastScreen services varies depending upon where women live. In 2011–12, women living in outer regional areas had the highest breastscreen participations rate (59 per cent) and women living in very remote areas had the lowest participations rate (46 per cent). Only 38 per cent of Indigenous women accessed BreastScreen services. Since BreastScreen's establishment in 1991, breast cancer deaths have fallen from 68–44 deaths per 1000 women.

**National Bowel Cancer Screening Program**

**Bowel cancer** is a cancerous growth or growths that occur on the inside of the colon or rectum. These growths are referred to as **polyps**. They can look like small spots on the lining of the bowel or they can appear as growths that extend from the lining like cherries on stalks. Not all polyps are cancerous but removing any detected polyps significantly reduces the risk of bowel cancer.

Bowel cancer is the second most common cancer diagnosed in Australia. If detected early, bowel cancer can be successfully treated. Unfortunately, only 40 per cent of bowel cancers are detected early.

In recognition of the importance of screening for bowel cancer, the federal government funded the National Bowel Cancer Screening Program. Under this program, men and women turning 50, 55, 60, 65,
70 and 74 are invited to screen for bowel cancer. They are sent a free screening kit by mail. From 2015 the program has been further expanded, with more age groups included in the screening program. In 2016 Australians aged 64 and 72 years will be sent a free screening kit, and in 2017 those aged 68, 58 and 54 years will also be included. By 2020, people aged 52, 56, 62 and 66 will also be invited to be part of the program. It is anticipated that by 2020, almost four million Australians will be invited to screen each year under this program.

Access to these services varies according to geographical location. In 2012, 65 per cent of all participants in the National Bowel Cancer Screening Program came from major cities. Those living in very remote areas had the lowest participation rate. Access also varies according to socioeconomic status. Those of lower socioeconomic status had lower participation rates.

People who are eligible to participate in the screening program are sent an invitation through the mail to complete a simple test at home. This test is called a faecal occult blood test (FOBT). It requires an individual to take a sample of their faeces and send it to a pathology laboratory for testing. A positive FOBT means that blood has been detected in the faeces, which could be a possible sign of bowel cancer. Individuals with a positive FOBT are informed and advised to discuss the results with their doctor, who will usually refer them for a colonoscopy. Completing an FOBT every two years can reduce the risk of dying from bowel cancer by up to a third.

Case study

Rural residents need more than a quick-fix approach to mental health

By Martin Laverty

Field days and agricultural shows are big events in country Australia. Farming families travel for hours to see the latest in tractor technology, soil seeding, or water conservation techniques. They mostly travel just to meet others and have a chat.

In recent years, new exhibitors have established themselves among the livestock and paddock demonstrations also wanting to have a chat. These exhibitors, such as the Royal Flying Doctor Service, are providing mental health and wellbeing checks.

For some country residents, a mental health check at a field day may be the only face-to-face mental health care they encounter. The Council of Australian Governments’ Reform Council data tells us only half of remote area residents needing mental health care actually receive it, when compared to people accessing mental health care in cities.

One in five Australians in the past year encountered a mental health condition of some type, according to a June report of the Australian Institute of Health and Welfare. Myth suggests a disproportionate number of these one in five people live in rural and remote areas, fuelling incorrect assumptions that the act of living in a rural or remote area contributes to the risk of mental illness.

Research does not show higher rates of mental disorders in rural and remote areas, according to the journal of the National Rural Health Alliance. The alliance’s study found socioeconomic disadvantage, poor access to mental health services, high-risk occupations, exposure to environmental adversity, and variation in community resources each contributed to mental illness in rural and remote Australia, as opposed to living in country Australia per se.

These determinants of mental health risk are no different to risks that also exist in metropolitan areas. The difference is that responding to these determinants requires different city and country approaches; one size does not fit all in the bush.

The evidence in country Australia is that mental health care and prevention is simply not reaching as many people as it needs to. Old-fashioned resourcing, rather than how to apply that resource, is a key problem.

(continued)
The Australia and New Zealand Journal of Psychiatry reports that rural and remote areas have fewer mental health services, fewer qualified professionals, and a narrower range of service options. The consequence is that people in country areas are less likely to engage in and complete mental health treatments than those who live in the city. For some, the consequences are fatal.

The National Mental Health Commission is at present finalising its review of Australia’s mental health services. It will hand its report to the federal government before month’s end. In proposing action for rural and remote Australia, the commission should focus on achieving city-country parity in mental health service utilisation, to in turn contribute to parity in nationwide mental health outcomes.

Achieving city–country parity will require new resourcing for country services. Such parity does not mean a mental health hospital in every country town. It does not mean a psychologist in every remote community. Parity does however require a universal service obligation guarantee of appropriate remote area access when mental health care treatment is needed, using existing and trusted community organisations in newly expanded prevention and treatment roles.

Future mental health care delivery into rural and remote Australia should build on existing health and community care access points, rather than trying to build new services from scratch. Again, the Australian Institute of Health and Welfare reported in June that 71 per cent of those seeking treatment for mental illness consulted their doctor.

With consumers asking their doctor for mental health care more than any other service provider, it is doctors in rural areas who should ideally be supported through the Mental Health Commission’s recommendations to take on, with proper support, expanded prevention, diagnostic, care, and mental health treatment roles.

Proposing a greater role for doctors in mental health care may be met by howls of protest from other interests. The nursing, psychologist, and broader allied health community working in country Australia also deserve more support than they get.

Yet the scarcity and workload of health professionals in country Australia means doctors, nurses, psychologists, and allied health staff work in effective collaborative teams in any case. It’s these to these teams that new resourcing should be directed.

With expert evidence that there is insufficient access to mental health care in rural and remote Australia, and with this resulting in large numbers of bush residents missing out on care and not completing treatment plans, it’s clear the Mental Health Commission should recommend that government expand mental health service access in rural and remote Australia.

Martin Laverty is the Federation Chief Executive Officer of the Royal Flying Doctor Service of Australia.

Source: The Age, 12 November 2014.

Case study review
1. How do the rates of mental health conditions of those living in rural and remote Australia compare to those living in the major cities?
2. What factors were identified as contributing to mental illness in rural and remote Australia?
3. What health-care services do those living in rural and remote Australia lack?
4. How might the lack of health-care services affect the health of those living in rural and remote Australia?
5. Explain three recommendations from the article that you think should be implemented to address the issue of mental illness.

TEST your knowledge
1. Why is it important for people to feel safe in their community?
2. Explain the impact of crime on the health and individual human development of adults.
3. What is meant by access to health care?
4. How many women die per day as a result of breast cancer?
5. What age group does BreastScreen Australia target?
6. What is mammography screening?
7. Why is bowel cancer screening limited to those in the 50–74 age group?
8. What is the FOBT and how is it implemented?

APPLY your knowledge
9. Explain how access to health care promotes the health and individual human development of adults.
10. Explain the relationship between access to health care in remote areas and the health status of these people.
KEY CONCEPT The impact of the media, level of education, employment status and income on the health and individual human development of adults

In the adulthood stage of the lifespan, social determinants that affect health and individual human development include factors such as the media, living arrangements, level of education, employment status and income, community belonging, social support, family and work–life balance. It is during the adulthood stage of the lifespan that individuals take on the role of parenting and employment becomes a significant factor in adults’ lives. The level of education that a person achieves often determines their type of employment and therefore their level of income. Level of income is a predictor for health status because those on higher incomes tend to have better health than those on lower incomes. As working life takes on greater significance in adulthood, so does the importance of maintaining work–life balance. Many families also experience changes to their living arrangements that can impact on the health and individual human development of all family members.

The media

The media impacts on how adults see the world — on their socialisation, development, opinions, values and knowledge.

Media takes many forms. It includes the internet, social media, newspapers, magazines, television, radio, books, video games, CDs and tapes, billboards, posters, text messages, movies and videos.

The impact of the media

The effects of the media on the health and individual human development of adults are listed below.

• The internet
  – The internet is a powerful form of media and adults can often spend hours in front of a computer each day, socialising, reading, playing games and

FIGURE 11.41 Our world is filled with information and images that provide us with knowledge and entertainment.
11.10 Social determinants: the media, level of education, employment status and income

creating content. The internet now provides many ways for people to access other forms of media, such as newspapers, radio, movies and music. All these pursuits can have a positive effect on individual human development by enhancing intellectual skills and providing opportunities for meeting and communicating with new people.

- Unlike other forms of media, the internet allows adults to easily and cheaply create content and become producers of media rather than just being consumers. Profiles on social networking sites have allowed people to make connections and form relationships, improving their social and mental health. On the internet people can create blogs, twitter, upload videos and audios and interact in exciting and creative ways.

- The internet is not a controlled environment so there is a lot of freedom. However, this also means that it contains unedited or unreliable information, alternative and possibly dangerous views, abusive content and opportunities for predators to access people they can abuse. These drawbacks can detrimentally affect mental health if precautions are not taken.

- The internet allows adults to self-diagnose health problems. This can be positive if it encourages people to see a doctor for a symptom they might otherwise have dismissed, but it can be dangerous when advice that contravenes mainstream medical practice is provided by people without any medical training. It is important that adults seek reputable medical advice if there are concerns about health.

• The media has allowed health messages to reach a great proportion of the public. Most health promotion strategies incorporate some form of media campaign. Also, studies have shown that if information about a particular health issue is embedded into a television drama, awareness and understanding of that health issue in the community improves significantly. This has great potential for targeting various groups in the community who watch particular television shows. Messages about infectious diseases, cancer, diabetes management, sexually transmissible infections, mental health issues and access to health care can all be successfully embedded into storylines and provide viewers with valuable information. Health improves when people are provided with reliable information in an easy-to-understand format.

• Newspapers provide information on a daily basis and allow individuals to keep up with local community, national or world news for work or entertainment. Newspapers are privately run and owners may have their own viewpoints that they wish to get across to readers. Regular features such as crosswords and other thinking games and quizzes may help keep the mind active and improve intellectual development. Social health and development may be improved when workmates share and discuss information they have read in the newspaper.

• Magazines are another form of media that can have an impact on health and individual human development. They range from informative and factual, to glamour and fashion magazines. Reading magazines can be a form of entertainment for most adults. Some magazines, however, can set up unrealistic goals of how people ‘should’ be and can influence how individuals view themselves. This impacts on their self esteem and self-concept.

• Listening to the radio can also affect an individual’s health and individual human development. Music can affect an adult’s mood and thus impact on their emotional development and mental health. Listening to talkback radio can keep an individual informed of the opinions of a community and allow them to share their opinion with someone who is willing to listen. This form of media is particularly important in influencing the social and mental health of those in middle and later adulthood.
Level of education, employment status and income

Higher education improves people’s living standards because it is associated with higher paid employment, which gives people the income needed to pay for resources that assist in promoting health and individual human development. Education also provides individuals with the skills and knowledge required for maintaining a healthy lifestyle and for gaining access to the appropriate health services.

In Australia the proportion of males and females aged 20–64 with a non-school qualification such as a university degree, diploma or certificate has increased over time for both males and females (see table 11.6). In 2014, 65.6 per cent of males and 63.6 per cent of females had a post-school qualification compared to 59.2 per cent of males and 52.5 per cent of females in 2004. The proportion of females aged 20–64 who have gained post-school qualifications has shown the greatest increase over this time.

Socioeconomic status (SES) is a measure of an adult’s or a family’s economic and social position within society relative to others. It is usually based on education, occupation and income. When categorising socioeconomic status, it is typically divided into three levels: high, middle and low.

Adults from a high socioeconomic background tend to have the most resources, opportunities and power to make decisions compared to adults from a low socioeconomic background. Adults with higher incomes tend to have better health and live longer than those with lower incomes. Studies have shown that adults from a socioeconomically disadvantaged background tend to have reduced life expectancy, premature mortality, increased disease incidence and prevalence, increased biological and behavioural risk factors for ill-health, and lower overall health.

Adults from low socioeconomic backgrounds are more likely to smoke, eat less fruit and vegetables, exercise less and be at greater risk of overweight and obesity. They are also at greater risk of type 2 diabetes, cardiovascular diseases, arthritis, mental health issues and respiratory conditions such as asthma.

Adults from low socioeconomic backgrounds visit the doctor and hospital outpatient and accident and emergency departments more frequently than adults from higher socioeconomic backgrounds, but they are less likely to access preventative health services. Socioeconomically disadvantaged adults are more likely to die sooner after serious illness than adults who are socioeconomically advantaged.

Adults who are educated tend to have a higher level of health literacy. Health literacy involves knowing what is good quality advice in regards to health, how and where to seek further health-related information when required, and how to translate relevant information into action. An adult with a higher level of health literacy will find it easier to manage their health. Low levels of health literacy means an adult will not be able to manage their health as effectively. The 2006 Adult Literacy and Life Skills Survey, conducted by the Australian Bureau of Statistics, found that people living in higher socioeconomic status areas were more likely to have a higher level of health literacy than those in lower socioeconomic areas (figure 11.42). Approximately 26 per cent of people from the lowest socioeconomic areas had an adequate level of health literacy or above, compared with 55 per cent of people from households in the highest socioeconomic areas.

Unemployment has a significant impact on health status as lack of income limits people’s capacity to access health resources and services. Not being employed may create stress and anxiety for adults and reduce their capacity to financially support other members of their family or engage in social activities with family and friends, thereby impacting on social and mental health.

### Table 11.6 Non-school qualification, persons aged 20–64 (per cent), 2004–14

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>59.2</td>
<td>52.5</td>
</tr>
<tr>
<td>2006</td>
<td>60.1</td>
<td>54.9</td>
</tr>
<tr>
<td>2008</td>
<td>61.1</td>
<td>57.4</td>
</tr>
<tr>
<td>2010</td>
<td>62.7</td>
<td>59.4</td>
</tr>
<tr>
<td>2012</td>
<td>65.4</td>
<td>63.0</td>
</tr>
<tr>
<td>2014</td>
<td>65.6</td>
<td>63.6</td>
</tr>
</tbody>
</table>

Source: Based on data from ABS 2014, Education and work, Australia, cat. no. 6227.0.
There is a relationship between type of occupation and health and individual human development. Poorer health, greater levels of disability and higher mortality tends to occur in adults employed in low-skilled manual labour compared to those in managerial/professional occupations. Adults who work in low-skilled labouring jobs are at greater risk of physical hazards that may result in injuries, thereby impacting on physical health. The injury may restrict the individual from being involved in daily activities, resulting in a decline in physical strength and a reduction in bone mass. These types of jobs may also impact on an adult’s mental health as they tend to have less input into decision-making processes and therefore less control over their jobs. This may cause the adult to resent those in authority, thus impacting on social health.

**TEST your knowledge**

1. List the different forms of media.
2. Give one example of how the media influences the health and individual human development of adults.
3. What is the relationship between higher education and health?
4. In 2014, what proportion of people aged 20–64 had a non-school qualification?
5. Explain what is meant by ‘socioeconomic status’.
6. Outline the health risk factors for people from low socioeconomic backgrounds.
7. In what ways can unemployment impact on the health status of individuals?
8. Explain the relationship between occupation and health.

**APPLY your knowledge**

9. Explain the relationship between education, occupation, income and health.

10. Refer to table 11.7.
   (a) Which sex has shown the greatest increase in non-school qualifications between 2004–14?
   (b) Provide two reasons that might explain this.

11. Discuss how the provision of education can contribute to improving the health and individual human development of adults from low socioeconomic status backgrounds.

12. Why are socioeconomically disadvantaged individuals more likely to die sooner after serious illness than those who are socioeconomically advantaged?

13. (a) Which health conditions are more prevalent in the highest socioeconomic status group?
   (b) Which risk factors are more prevalent in the lowest socioeconomic status group?
   (c) Explain the relationship between the health risk factors and the health conditions for the low socioeconomic status population groups.
11.11 Social determinants: the workplace and community belonging

KEY CONCEPT The impact of the workplace and a sense of community belonging on the health and individual human development of adults

The workplace

The workplace in which an adult is employed is an important social determinant of health. The working relationship that an adult has with colleagues has a significant impact on their health and individual human development.

One of the issues that can have a negative effect on adults is conflict. Workplace conflict can arise for a variety of reasons. It may occur when people’s ideas, decisions or actions are not readily accepted by all employees, or when people simply do not get along on a personal level. Conflict related to the implementation of new ideas and decisions can be productive because it generates worthwhile discussion and debate that may assist the business in making positive changes or improving work practices. However, a clash of personalities can make the workplace an unpleasant environment. Conflict with bosses can make it very difficult for the employee and lead to work-related stress. According to a report completed by Safe Work Australia in 2012, depression costs Australian employers approximately $8 billion per year as a result of absence due to sickness and presenteeism, with $693 million of this figure due to job strain and bullying. Presenteeism is the loss of productivity that results from employees coming to work but, as a consequence of illness or other conditions, not functioning at full capacity. Absenteeism occurs when employees do not come to work at all (Safe Work Australia).

Many other factors in the workplace may cause work-related stress including:

- long working hours
- heavy workloads
- changes within the organisation
- tight deadlines
- lack of job security
- boredom
- harassment/bullying
- discrimination
- lack of autonomy and being over-supervised.

Work-related stress affects the health of an adult in a variety of ways including:

- depression
- anxiety
- feelings of being overwhelmed and unable to cope
- sleeping difficulties
- fatigue
- headaches
- heart palpitations
- gastrointestinal upsets such as diarrhoea or constipation
- increased risk of cardiovascular disease.

As an adult’s social and emotional development is dependent on relationships with others, not interacting with family, friends or work colleagues means that the adult does not have the opportunities for maintaining or further developing social skills or the capacity to understand and control emotions, which in turn impacts their social and emotional development.

When adults belong to a group, such as one that is often found within a workplace, they are likely to derive a sense of identity, at least in part, from that group. An adult’s self-concept may be formed from the groups they are associated with in the workplace. For those adults who feel a sense of belonging within the...
11.11 Social determinants: the workplace and community belonging

workplace, a positive self-concept is more likely to develop, thereby promoting social and mental health.

**Community belonging**

The degree of connectedness or belonging that an adult feels to their community is determined by their level of engagement in community-based activities. These activities enable adults to interact with other people from a diverse range of backgrounds. Some of the activities may be done purely for the benefits they bring to the individual (e.g. playing in a sporting team), whereas others may be done for the benefits that they bring to others (e.g. a human rights group). Many adults develop a sense of community belonging through becoming volunteers.

**Social connections**

The term ‘social capital’ is often used in relation to community belonging as it refers to the connections between groups and individuals within society. Social capital includes the level of cooperation, trust and goodwill that is formed between people, organisations, neighbourhoods and levels of government. Social capital is important for developing a sense of community wellbeing. Communities that have limited social capital may exhibit the following:

- lack of support and networks for family, friends or community
- lack of participation in paid work or volunteering
- lack of involvement in local or broader decision making in the community.

Research has shown that people who feel a sense of community belonging have better self-reported health. A 2008 Canadian study, ‘Community belonging and self-perceived health’, found that almost two-thirds of people who felt a strong or somewhat strong sense of community belonging reported excellent or very good general health. In comparison, only 51 per cent of respondents with a weak sense of belonging viewed their general health positively.

Involvement in community activities and opportunities for developing a sense of belonging may impact positively on the individual human development of adults.
A strong sense of community belonging can promote self-esteem and provide opportunities for the development of social skills. Involvement in groups or clubs that promote physical activity has the benefit of promoting physical development or the maintenance of the physical components of the body. Intellectually, interacting with others enables the adult to gain new knowledge and develop new skills.

**Volunteering**

Volunteering can build a sense of community belonging and impact positively on health and individual human development. In 2010, 38 per cent of women and 34 per cent of men aged over 18 years were volunteers. Adult males aged 55–64 years and adult females aged 35–44 and 45–54 years in 2010 were most likely to volunteer (see figure 11.45).

![Volunteering rate, by age and sex, 2010](image)

Volunteering has significant benefits for the health and individual human development of adults. Research has established a strong link between volunteering and health. Those who volunteer have lower mortality rates, greater functional ability, lower rates of depression and longer life expectancy than those who do not volunteer. In particular, volunteering tends to provide greater health benefits to adults over the age of 60 than to younger volunteers. Volunteering has a positive impact on the social and mental health of an adult as it provides opportunities for developing a sense of purpose and accomplishment and enables social networks to be developed. For adults with chronic or serious illness, volunteering has significant health benefits. Reductions in pain intensity and decreased levels of disability were seen in adults who began to serve as volunteers for others suffering from chronic pain.

These health benefits have a positive influence on the individual human development of an adult. Having greater functional ability means that the older adult is more likely to participate in physical activity, thereby maintaining (or slowing the deterioration of) body tissues such as muscles and bones. Participation in regular physical activity also assists in the maintenance of motor skills. Through interacting with others, the adult is able to maintain or further develop the capacity to socialise with people from a diverse range of backgrounds. For some volunteers, situations may arise in which they are required to extend themselves beyond their comfort zone and learn new skills that enable them to interact effectively with others (e.g. volunteering to help migrants from a non-English speaking background). Volunteering also provides opportunities for keeping the mind active. This increases knowledge and promotes the maintenance and/or development of intellectual skills.
11.11 Social determinants: the workplace and community belonging

TEST your knowledge

1. What are the factors that contribute to workplace stress?
2. Why is ‘social capital’ important for the health and individual human development of adults?
3. What benefits does volunteering provide for the health and individual human development of adults?

APPLY your knowledge

4. Research the benefits of volunteering and write an advertisement encouraging people to volunteer for a selected organisation. In your advertisement, include the benefits that volunteering provides for the health and individual human development of adults.
5. In what ways can the workplace improve the health and individual human development of adults?
6. Why would volunteering provide greater health benefits to adults over the age of 60 years than to younger volunteers?
7. Referring to figure 11.45, explain possible reasons for the increase/decrease in the volunteering rate across the lifespan stages.
11.12 Social determinants: living arrangements and social support

KEY CONCEPT The impact of living arrangements and social support on the health and individual human development of adults

Living arrangements

Living arrangements refer not only to the type of accommodation that an adult lives in but also to the number of people living together and the relationships between them. The living arrangements of adults depend on family composition and lifespan stage. For instance, young adults may still live at home with their parents because high costs — of accommodation and/or university — combined with a limited income may make living with their parents more financially attractive. Their parents may be prepared to financially support them if they remain at home, and not having to pay for rent and other essentials can leave young adults with greater disposable income to spend on the things they enjoy.

Living with parents can have both positive and negative effects on the health and individual human development of young adults. For instance, young adults living at home are more likely to eat nutritious food prepared by their parents rather than buying convenient or packaged meals that are high in saturated fat, salt and sugar. As a result, their risk of developing diet-related diseases is decreased while the consumption of the required nutrients promotes the growth and maintenance of the body's tissues. However, living at home may create a sense of dependence on their parents, which reduces opportunities for them to develop the skills required to live as independent adults.

For the parents, having adult children living at home can increase financial stress due to the cost of providing for their needs. Having to care for adult children may impact on the mental health of parents if there is conflict with the children. On the other hand, the emotional support that some parents may gain from having their adult children at home can enhance the parents' social and mental health and individual human development.

Research indicates that living arrangements can have a significant impact on the mortality rates of adults. Being single is associated with higher mortality than being married or living in a de facto relationship. Living with a partner may have a protective effect for many reasons, including having greater disposable income for material resources (e.g. to buy safer cars), the social support provided by a partner and the positive impact that partners may have on health behaviours (e.g. physical activity levels).

Living arrangements during late adulthood

As adults age, decisions need to be made about living arrangements. For those in the late adulthood stage of the lifespan, where they live is often dependent on their level of health. For many elderly people, living in the comfort of their own home is important for them but ill-health may impact on their ability to live independently. Table 11.7 outlines some of the living arrangements available to the aged.
TABLE 11.7 Living arrangements available to elderly people

<table>
<thead>
<tr>
<th>Living arrangement</th>
<th>Explanation</th>
<th>Benefits to health and individual human development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staying at home with the assistance of community services</td>
<td>For some elderly people, staying at home requires extra assistance. ‘Home help’ or local community services can assist with housework, meals, personal care and social outings.</td>
<td>Enables the elderly person to remain in an environment in which they feel comfortable and familiar. Additional services can assist in meeting the hygiene, health, nutritional, physical activity, social and emotional needs of the elderly person.</td>
</tr>
<tr>
<td>High-level care homes</td>
<td>This caters for elderly people who require 24-hour nursing care due to immobility or conditions such as dementia.</td>
<td>The health of the elderly person is monitored and appropriate treatments and care are provided.</td>
</tr>
<tr>
<td>Low-level care homes</td>
<td>This caters for elderly people who may require some assistance with tasks such as dressing, eating and bathing, cleaning, laundry and meals.</td>
<td>Enables the elderly person to maintain some independence while being provided with assistance to perform tasks they find difficult. Staff can monitor day-to-day activities such as the taking of medications, physical activity and nutrition. Provides opportunities for social interaction with others.</td>
</tr>
<tr>
<td>Independent living units (retirement villages)</td>
<td>Residential communities that offer a range of services for independent elderly people.</td>
<td>Enables the elderly person to live independently in a community of people of similar ages. Socialisation and social support are important aspects of this type of living arrangement. Organised activities provide the elderly person with opportunities for physical activity, social interaction and the development of skills and knowledge.</td>
</tr>
</tbody>
</table>

Social support

Social support refers to the connections that an adult has with individuals and groups, including family, friends, work colleagues and other members of their community. These individuals and groups make up the social network of the person and provide support in a variety of forms such as the provision of information, practical assistance and emotional and financial help.

A study conducted in 2010 found that 97 per cent of Australians aged 18 or over reported having face-to-face contact with family and friends outside of the household in the previous week (ABS, 2010). Table 11.8 shows the sources of support during times of crisis for adults aged 18 years and over. This data indicates that adults are more likely to seek help from informal sources such as family members and friends rather than formal support services such as a psychologist.

TABLE 11.8 Sources of support in times of crisis, by age and sex

<table>
<thead>
<tr>
<th>Sources of support in times of crisis (a)</th>
<th>18–24 years</th>
<th>25–34 years</th>
<th>35–44 years</th>
<th>45–54 years</th>
<th>55–64 years</th>
<th>65–74 years</th>
<th>75–84 years or over</th>
<th>Males</th>
<th>Females</th>
<th>All persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friend</td>
<td>77.9</td>
<td>71.1</td>
<td>66.5</td>
<td>64.9</td>
<td>59.1</td>
<td>52.7</td>
<td>34.4</td>
<td>31.1</td>
<td>64.3</td>
<td>63.3</td>
</tr>
<tr>
<td>Neighbour</td>
<td>17.6</td>
<td>17.0</td>
<td>29.7</td>
<td>34.3</td>
<td>32.1</td>
<td>31.2</td>
<td>30.4</td>
<td>34.8</td>
<td>26.8</td>
<td>27.6</td>
</tr>
<tr>
<td>Family member</td>
<td>76.8</td>
<td>80.5</td>
<td>81.3</td>
<td>76.0</td>
<td>79.8</td>
<td>80.0</td>
<td>86.0</td>
<td>73.4</td>
<td>77.9</td>
<td>80.9</td>
</tr>
<tr>
<td>Work colleague</td>
<td>23.3</td>
<td>27.0</td>
<td>23.4</td>
<td>24.3</td>
<td>18.1</td>
<td>*3.1</td>
<td>np</td>
<td>np</td>
<td>21.4</td>
<td>18.3</td>
</tr>
<tr>
<td>Community, charity or religious organisation</td>
<td>7.4</td>
<td>7.6</td>
<td>11.1</td>
<td>11.3</td>
<td>11.5</td>
<td>11.2</td>
<td>*6.6</td>
<td>*6.9</td>
<td>8.5</td>
<td>10.9</td>
</tr>
<tr>
<td>Local council or other government services</td>
<td>*3.3</td>
<td>3.7</td>
<td>5.5</td>
<td>5.9</td>
<td>6.6</td>
<td>5.7</td>
<td>*4.1</td>
<td>**5.0</td>
<td>4.6</td>
<td>5.5</td>
</tr>
<tr>
<td>Health, legal or financial professional</td>
<td>5.2</td>
<td>8.0</td>
<td>9.3</td>
<td>9.6</td>
<td>9.1</td>
<td>8.6</td>
<td>5.3</td>
<td>np</td>
<td>7.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Other sources</td>
<td>*1.2</td>
<td>*0.4</td>
<td>*0.8</td>
<td>*0.9</td>
<td>*0.4</td>
<td>*0.2</td>
<td>np</td>
<td>np</td>
<td>0.9</td>
<td>*0.3</td>
</tr>
</tbody>
</table>

(a) Categories are not mutually exclusive.
* estimate has a relative standard error of 25% to 50% and should be used with caution.
** estimate has a standard error greater than 50% and is considered too unreliable for general use.
np not available for publication but included in totals where applicable, unless otherwise indicated.

Source: Australian Bureau of Statistics.
There is a significant link between social support and health, particularly in terms of mental health. For adults, social support is important during worrying times or times of stress. Prolonged stress and tension can result in aches and pain such as headaches, migraine and backaches. By discussing the issues with family and friends, an adult may reduce the associated tension or be offered advice on how to reduce the stress in their lives.

Social support is recognised as a protective factor for mental health issues such as depression and anxiety. In particular, good interpersonal relationships, family cohesion and social connectedness with friends are important for maintaining positive mental health.

As adults age, social support may decline due to a variety of reasons including:
- the loss of a spouse
- children leaving home
- health problems/disability that prevents interaction with others
- a decline in energy that reduces the capacity to be involved with others
- a lack of motivation.

This decline in social support can have a significant impact on the health and individual human development of adults. For instance, the loss of a spouse who is a main source of support is most likely to cause feelings of grief, which may result in depression. Major depression causes adults to experience deep sadness and difficulty in functioning. It may also impair their ability to perform daily tasks such as the preparation of meals. As a result, the nutritional needs of the adult may not be met, resulting in weight loss and deterioration of body tissues. Depression often results in the avoidance of social situations and this reduces opportunities for social interaction and the maintenance of social skills. Adults with depression are less likely to be engaged in intellectual pursuits such as reading, which impacts on their acquisition of knowledge and intellectual development.

On the other hand, an adult who has a supportive network of family and friends is more likely to experience better health and individual human development. This social support is more likely to have a positive impact on the mental health of the adult, so they are more likely to consume the required nutrients, exercise, socialise, participate in physical activity and engage in intellectual activities.

**TEST your knowledge**

1. Explain what is meant by the term ‘living arrangements’.
2. What are some of the reasons for the lower mortality rates of adults living with a partner?
3. Outline the benefits of the four types of living arrangements for the aged.
4. Define the term ‘social support’. What are the benefits to the adult of social support?

**APPLY your knowledge**

5. Write a response based on the following statement: ‘The connections that an adult has with others are important for promoting health and individual human development.’

6. Mary is 75 years old and still lives in the family home. Her children have noticed that she is becoming forgetful and they are concerned about her ability to care for herself. Physically, Mary is able to move around with relative ease but she has had a couple of minor falls that have resulted in significant bruising. Mary’s children worry about her capacity to look after herself.

(a) Outline the possible living arrangements available to Mary at her stage of the lifespan.
(b) Select a living arrangement that is appropriate for Mary and justify your choice based on the information provided.
KEY CONCEPT The impact of family and work–life balance on the health and individual human development of adults

Family compositions over the last few decades have changed significantly and this has resulted in a variety of living arrangements for families. It has also caused much debate over the definition of a family. According to the Australian Bureau of Statistics (ABS), ‘A family is two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household.’

Contemporary society is made up of a range of family types. Table 11.9 shows how the ABS has categorised families.

<table>
<thead>
<tr>
<th>Family type</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couple family</td>
<td>Two people, both aged 15 years and over, who are married to each other or living in a de facto relationship with each other</td>
</tr>
<tr>
<td>Couple family with children</td>
<td>A couple family (as defined above) who have children (regardless of age) usually resident in the family</td>
</tr>
<tr>
<td>Couple family without children</td>
<td>A couple family with no children usually resident in the family (i.e. includes families where children have left home)</td>
</tr>
<tr>
<td>One-parent family</td>
<td>A parent with no resident partner (married or de facto), with at least one child (regardless of age) usually resident in the family</td>
</tr>
<tr>
<td>Step family</td>
<td>A couple family containing at least one child who is the stepchild of either parent, and no children who are the natural children of both parents</td>
</tr>
<tr>
<td>Blended family</td>
<td>A couple family containing both natural and stepchildren (i.e. at least one child is the natural child of both parents, and one child is the step-child of either parent)</td>
</tr>
</tbody>
</table>

Many factors have contributed to changes in family compositions, including:

- **Divorce.** The introduction of the *Divorce Law Act* in 1975 meant that it became easier for married couples to divorce. In 2013, 47,638 divorces were granted in Australia. Of these divorces, 47.4 per cent involved children. Divorce has resulted in increases in single-parent families and in step and blended families as individuals with children meet and develop new relationships with each other.

- **Careers.**
- **Contraception.**
- **Increasing costs of living.**

![Factors impacting on family composition](image-url)
• **Careers.** As increasing numbers of women are employed in higher paid positions, many are choosing to focus on their careers and consequently not having children.

• **Contraception.** The availability of the contraceptive pill has resulted in women being able to decide whether or not to have children, when to have children and how many children to have. As gaining a post-school qualification has become more desirable, more women are postponing having children. Consequently, a greater proportion of women have remained childless into their 30s and 40s.

• **Increasing costs of living.** As the costs of living increase, more children are delaying leaving home, preferring to be supported by their parents. This has also resulted in people choosing to delay parenthood or deciding not to have children at all.

There are many advantages and disadvantages associated with each family type that need to be considered according to individual family circumstances. An appropriate example might be a couple family with children where the parents are constantly in conflict. The financial support that may come from both parents working or from one parent financially supporting the family is an advantage. However, the constant conflict and arguments are a disadvantage that may lead to mental health issues for individuals within the family.

The composition of families can have a positive and/or negative impact on health and individual human development. For instance, a couple family with children may be financially secure, enabling them to access resources such as nutritious food and health care. This reduces the risk of diet-related conditions and impacts positively on the physical health and development of all family members. The loving relationships that develop between the parents and the children will promote the social and mental health and individual human development of the adults within the family. Adults who feel connected to their family are more likely to experience positive mental health and will therefore be more inclined to pursue activities that promote their intellectual development.

Another example might be a single parent who has the responsibility of raising children who may face significant financial pressure. Limited income affects the food selection of adults because cheaper foods are more readily available, and tend to be higher in saturated fats, salt and sugar — significant factors in the development of diet-related diseases/conditions such as obesity, cardiovascular disease, colorectal cancer and type 2 diabetes. Having to care for children may limit the time available for the single parent to participate in physical activity. Poor nutritional intake and lack of physical activity can reduce muscle mass and bone density and increase the risk of overweight and obesity. The single parent may experience considerable stress from the effort of meeting the financial, emotional and social needs of the children. The opportunities for social occasions may be limited by lack of finances to pay for such activities as well as the limited time available due to being the sole caregiver of the family. This can impact on the maintenance or development of social skills for the adult. This type of family situation may also reduce the chances of pursuing further education or even partaking in activities that informally promote the attainment of knowledge and the development of intellectual skills.

**Work–life balance**

Work–life balance refers to the working conditions of parents/guardians being conducive to ensuring that the social and emotional needs of all family members are being met as well as enabling adults to pursue their own recreational/leisure
activities. For many Australian parents/guardians, the amount of hours they are required to work impacts significantly on their capacity to effectively balance the needs of their families with their work commitments. Approximately 15 per cent of employed persons worked more than 50 hours per week in 2010 (ABS, 2010).

The inability to effectively balance work and family life impacts on the health and individual human development of adults. Work-related stress can occur for a range of reasons. One of these reasons is pressure from the demands of the job in terms of amount of hours worked or level of responsibility. Extended working hours impacts significantly on the individual’s capacity to meet the needs of their family and to pursue recreational/leisure activities. Symptoms of work-related stress include:

- depression
- anxiety
- feelings of not being able to cope
- reduced work performance
- sleeping difficulties
- reduced ability to concentrate
- fatigue
- headaches
- heart palpitations
- gastrointestinal problems such as diarrhoea
- increased aggression.

Work-related stress can result in a deterioration of personal relationships and, in the long term, can increase the risk of cardiovascular disease.

Over the past two decades there has been a significant increase in the number of hours worked by full-time employees, and more children are growing up in families in which both parents work. Another factor that is contributing to the difficulty of achieving work–life balance is the fact that people are spending more time commuting to work. Information and communication technology allows work to intrude on family life via mobile phones and email.
Indicator Survey conducted by Relationships Australia in 2008 found that at least 50 per cent of respondents had indicated work pressure and a lack of time to spend with their partner as key factors that could impact negatively upon partner relationships.

Many adults are in the situation of simultaneously caring for children and ageing parents. This may cause increased stress as they take on the additional responsibilities of ensuring that the health and individual human development needs of their parents are being met. Nutrition, physical activity, social interaction, health care, housing and transport are examples of factors that need to be considered when caring for ageing parents.

**TEST your knowledge**

1. What is the ABS definition of ‘family’?
2. What factors have impacted on the changing composition of families?
3. Outline the advantages and disadvantages of each type of family.
4. Explain what is meant by ‘work–life balance’.
5. What are the symptoms of work-related stress?

**APPLY your knowledge**

6. George and Maria are both in their mid-40s and have been married for 15 years. They have two teenage children, Sarah and Michael, who both attend the local secondary college. George is a successful businessman for a large company and often works late in the evening and on weekends. Maria works one day a week in the local supermarket and tends to spend a lot of time driving the children to their sports and music lessons, as well as their part-time jobs.

(a) What type of family is represented in this case study?
(b) In what ways can this particular family composition impact on the health and individual human development of George and Maria?
(c) Explain the possible impacts that George’s working life may have on his and Maria’s health and individual human development.

7. Choose one family type and explain how it can impact on the health and individual human development of family members.

Weblink: Australians unhappy with work–life balance?
KEY SKILL  Explain the determinants of health and individual human development and their impact on adults, using relevant examples

In order to demonstrate this skill, a thorough understanding of the determinants of health and individual human development and how they relate to Australian adults is essential. The ability to use relevant examples to demonstrate this understanding is expected. When outlining the determinants of health, it is important to remember the following:

• There is a significantly large range of determinants that impact on the health and individual human development of a population. Select those determinants that are listed in the study design because these are considered to be the most relevant.

• Focus on determinants that are relevant to the adulthood stage of the lifespan and ensure that the discussion makes reference to how the selected determinant impacts on adults.

• In order to clearly demonstrate an understanding of the impact of a selected determinant on the health and individual human development of adults, it is important to first outline what the determinant is.

• The determinants of health and individual human development help to explain or predict trends in health. When outlining the impact of a selected determinant, explain the way in which it impacts on the physical, social and mental health of the individual. When referring to the effects on individual human development, it is important to also consider the possible impact on each type of development — physical, social, emotional and intellectual.

• Where possible, use relevant statistics that outline the impact of the selected determinant on the health and individual human development of an adult.

In the following example, the role played by physical activity as a behavioural determinant of health and individual human development is explained.

Physical activity is considered to be an important behavioural determinant in promoting the health and individual human development of adults. Physical activity involves body movement or exercise that may vary in intensity (e.g. walking, swimming, cycling and competitive sport). Australia’s Physical Activity and Sedentary Behaviour Guidelines give the minimum levels of physical activity required for good health. It is recommended that adults do at least 30 minutes of moderate-intensity physical activity on most, preferably all, days. Examples of moderate-intensity activity include a brisk walk or cycling. Short sessions of different activities of 10–15 minutes can be combined for a total of 30 minutes or more. Regular, more vigorous exercise that makes the adult ‘huff and puff’ will have further health and fitness benefits.

The benefits of regular physical activity to the health and individual human development of adults have been well documented and include: improved long-term health, reduced risk of heart attack, better weight management, lower blood cholesterol and blood pressure, better sleeping patterns (physical health); stronger bones and muscles (physical development); promotion of feelings of happiness and being relaxed (mental health); improved social relationships and the development of social skills (social development); and improved confidence and self-concept (emotional development).

According to the Get Moving Tasmania program, regular moderate physical activity can reduce the risk of a coronary event such as heart attack by up to 40 per cent, while regular, more vigorous exercise can reduce the risk by up to 50 per cent. The risk of stroke can be reduced by up to 30 per cent with regular moderate levels of physical activity.
In the following example, the impact of alcohol consumption as a behavioural determinant of health and individual human development is explained.

Alcohol impacts on the health and individual human development of adults. It is often related to social issues such as domestic violence, assault and unemployment, as well as being linked to a range of physical health concerns. When consumed, alcohol is metabolised in the liver; however, the liver can metabolise only a small amount of alcohol at a time. Alcohol that is not metabolised is circulated around the body via the circulatory system. It can have a toxic effect on the central nervous system and cause changes to an adult’s metabolism, heart function and blood supply. The absorption of thiamine (an important nutrient for brain function), may be affected by the consumption of alcohol, and wastage of brain cells may occur due to the dehydrating effects of alcohol.

In order to address the many alcohol-related health issues, the National Health and Medical Research Council has developed the Australian Alcohol Guidelines to Reduce Health Risks from Alcohol (2009), which recommends that both women and men drink no more than two standard drinks a day over their lifetime if they want to reduce their risk of being harmed by an alcohol-related injury or disease.

High levels of alcohol consumption increase the risk of a range of conditions such as heart and vascular diseases, cirrhosis of the liver, and some cancers. One of the many conditions that may occur as a result of the overconsumption of alcohol is alcohol-related brain impairment (ARBI). More than 2500 Australians are treated for ARBI every year and it is estimated that over two million Australians are at risk of ARBI due to their level of alcohol consumption. The effects of ARBI can range from mild to very severe, and may include changes in cognition (the ability to think and reason), difficulties with movement and coordination, and a range of medical and neurological disorders.

PRACTISE the key skills
1. What does the acronym ARBI stand for?
2. How many people are treated for ARBI annually in Australia?
3. Approximately how many Australians are at risk of ARBI?
4. Alcohol consumption is one of the many behavioural determinants of health and individual human development. Outline three more behavioural determinants.
5. Outline the effects that the overconsumption of alcohol can have on the health and individual human development of an adult.

Key skills exam practice
6. Refer to table 11.10 to answer some of the following questions.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Males Per 100 encounters</th>
<th>Females Per 100 encounters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>10.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Lipid (cholesterol) disorders</td>
<td>5.6</td>
<td>6.9</td>
</tr>
<tr>
<td>Acute upper respiratory infection</td>
<td>4.9</td>
<td>5.7</td>
</tr>
<tr>
<td>Diabetes</td>
<td>5.0</td>
<td>5.1</td>
</tr>
<tr>
<td>Depression</td>
<td>4.8</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Source: AIHW 2010, Australia’s Health 2010, cat. no. AUS 122, Canberra, p. 315.
Key skills The determinants of health and individual human development of Australia’s adults

(a) Outline one determinant of the health and individual human development that might account for the difference between male and female rates of hypertension.

(b) Explain how cholesterol levels contribute to stroke.

(c) Explain how two behavioural determinants of health and individual human development contribute to one of the conditions listed in the table.

(d) Explain, with reference to specific nutrients, the role of nutrition as a risk factor for coronary heart disease.

7 Refer to figure 11.53 to help answer the following questions.

**FIGURE 11.53** Prevalence of selected health risk factors in people aged 25–44, by sex, 2011–12

Source: AIHW 2014, Australia’s health 2014 — in brief, p. 29
(a) Explain the relationship between food intake, exercise and overweight/obesity.

(b) Select five risk factors from the table and describe one disease related to each risk factor.

(c) Provide two reasons why it is important for the health and individual human development of an adult to enjoy a wide variety of nutritious foods.

(d) Many studies show that people or groups who are socially and economically disadvantaged have reduced life expectancy, premature mortality, increased disease incidence and prevalence, increased biological and behavioural risk factors for ill-health, and lower overall health status (AIHW 2008, Australia’s health 2008, cat. no. AUS 99, Canberra, p. 65).

(a) Explain the term ‘socioeconomic status’.

(b) Explain the relationship between education, employment and income.

(c) Explain one behavioural and one biological determinant of health and individual human development that puts individuals from lower socioeconomic status backgrounds at greater risk of ill-health.

(d) Explain two diseases/conditions that individuals from lower socioeconomic status backgrounds are at greater risk of developing.
Chapter summary

- The biological determinants that impact adult health and individual human development include genetics, body weight, blood pressure and blood cholesterol levels.
- Two examples of genetic conditions that impact on adults health and individual human development are Alzheimer's disease and Huntington's disease.
- Genetic predisposition can be a significant risk factor in the development of diseases such as cancer and type 2 diabetes.
- The body weight of adults is largely determined by the combination of genes that are inherited from the biological parents as well as lifestyle and behaviours such as physical activity levels and food intake.
- Overweight and obesity significantly increase the risk of a range of illnesses and conditions, such as type 2 diabetes, cardiovascular disease and stroke.
- Blood pressure measures the force of the blood on the walls of the arteries and is recorded as systolic and diastolic measurements.
- High blood pressure is a major risk factor for coronary heart disease, stroke, heart failure and kidney failure.
- High blood pressure becomes more common with age due to the arteries becoming more rigid.
- Cholesterol is a type of fat that has a range of functions within the human body. It produces hormones, assists with digestion through the production of bile acids, and is an essential component of cell membranes.
- Low-density lipoprotein (LDL) cholesterol is referred to as 'bad' cholesterol as it contributes to atherosclerosis.
- High-density lipoprotein cholesterol (HDL) is referred to as 'good' cholesterol because it can help unclog arteries.
- A range of behavioural determinants impact on the health and individual human development of adults.
- In Australia, the risk of skin cancer as a result of too much sun exposure needs to be balanced with the need to maintain adequate vitamin D levels.
- There are three types of skin cancer: squamous cell carcinoma, basal cell carcinoma and melanoma. Melanoma is the most dangerous form of skin cancer.
- Tobacco smoking is the single most preventable cause of ill-health and death in the Australian population.
- Tobacco smoking is a major risk factor for a range of illnesses including cancer, cardiovascular disease and stroke.
- The most common form of cancer that is caused by smoking is lung cancer.
- The risk of dying from coronary heart disease is 70 per cent greater for a smoker than for a non-smoker.
- It is recommended that adults be involved in at least 30 minutes of moderate-intensity physical activity on most (preferably all) days.
- The overall level of physical activity for Australian adults is below what is recommended. Low levels of physical activity can lead to cardiovascular disease, type 2 diabetes, obesity and poor mental health.
- By the adulthood stage of the lifespan, growth has ceased and, as a result, nutrients for the maintenance of body tissue rather than growth become more important.
- Certain nutrients can act as a risk or protective factor for specific diet-related diseases. A risk factor increases the likelihood of a disease occurring whereas a protective factor helps guard against the development of a disease.
- One of the main issues related to dietary intake in the Australian population is an inadequate consumption of fruit and vegetables.
- A safe level of drinking for adults is no more than two standard drinks per day.
- The level of alcohol consumption among adults has decreased.
• Excessive alcohol consumption is associated with many diseases, illnesses and injuries, violence and drowning.

• Drug use may arise from an inability to cope with adult responsibilities.

• Cannabis is the most commonly used illicit drug and is associated with psychosis and other mental health disorders.

• The use of ice by young adults has increased, creating significant health problems.

• Decisions made about sexual practices during adulthood are a continuation of decisions and experiences made during youth.

• Unprotected sex is associated with sexually transmitted infections, in particular chlamydia, infertility and unwanted pregnancy.

• Housing stress occurs when the cost of housing (either rental or mortgage) is high in relation to household income.

• During the adulthood stage of the lifespan, more time is spent in the work environment, which means that there is a greater risk of workplace injuries and illnesses.

• While office jobs have a relatively low risk of injury, conditions related to overuse of technology are becoming more common.

• Shift work is a risk factor for work-related injury.

• Fears for personal safety within neighbourhoods can restrict adults’ participation in social occasions and reduce their trust in the community.

• Not all Australians have equal access to health care, with people living in rural and remote communities, those from low socio economic background and Indigenous people being most disadvantaged.

• Access to services such as BreastScreen and the National Bowel Cancer Screening Program can improve health outcomes.

• Mammography screening involves taking a low dose X-ray of the breasts to detect any changes in the breast tissue.

• Bowel cancer is a cancerous growth or growths that occur on the inside of the colon or rectum.

• If detected early, bowel cancer can be successfully treated, but only 40 per cent of bowel cancers are detected early.

• Bowel cancer screening is successful in the early detection of bowel cancer.

• All forms of media have the potential to influence the actions, beliefs, values, opinions and ideas of adults.

• Those from a high socioeconomic background tend to have the most resources, opportunities and power to make decisions compared with those from a low socioeconomic background.

• Unemployment has a significant impact on health status as it limits people’s capacity to access health resources and services, and it can have an effect on mental and social health.

• Poorer health, greater levels of disability and higher mortality tends to occur in people employed in low-skilled manual labour compared with those in managerial/professional occupations.

• The degree of connectedness or belonging that an adult feels to their community is determined by their level of engagement in community-based activities.

• Social capital refers to the connections between groups and individuals within society.

• Those who volunteer have lower mortality rates, greater functional ability, lower rates of depression and longer life expectancy than those who do not volunteer.

• Social support refers to the connections that an adult has with individuals and groups, including family, friends, work colleagues and other members of their community.

• Socioeconomically disadvantaged individuals are more likely to die sooner after serious illness than those who are socioeconomically advantaged.
A family is described as two or more persons, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who are usually resident in the same household.

There are many factors that have contributed to changes in family compositions and therefore living arrangements including divorce, careers, contraception and increased living expenses.

Work-life balance relates to the working conditions of parents/guardians being conducive to ensuring that the social and emotional needs of all family members are being met as well as enabling adults to pursue their own recreational/leisure activities.

For many Australian parents/guardians, the amount of hours they are required to work impacts significantly on their capacity to effectively balance the needs of their families with their work commitments.

Work-related stress can result in a deterioration of personal relationships and, in the long term, can increase the risk of cardiovascular disease.

More young adults are choosing to live longer with their parents.

Being single is associated with higher mortality than being married or in a de facto relationship.

**TEST your knowledge**

1. Outline the following determinants of health and individual human development in relation to adults and provide an example of each type:
   - (a) biological
   - (b) behavioural
   - (c) physical environment
   - (d) social.

**APPLY your knowledge**

2. Develop a brochure/web page that advises adults on ways of improving health. In your brochure/web page, make sure you refer to factors associated with each of the determinants of health and individual human development.