CHAPTER 10

The health and individual human development of Australia’s adults

WHY IS THIS IMPORTANT?
Reaching adulthood — the longest stage of the human lifespan — is a significant milestone for an individual. A number of physiological changes mark the entry and journey through adulthood, and the level of health is an important factor. However, it is the social and emotional development of an individual that shapes the experiences and progress through this period. Understanding the complexities of this stage of the lifespan can make the transition through each stage easier.

KEY KNOWLEDGE
3.1 the different classifications of the stages of adulthood (pages 310, 318, 322)
3.2 characteristics of physical development during adulthood, including the physiological changes associated with ageing (pages 310–11, 318, 322–3)
3.3 the social, emotional and intellectual development associated with the stages of adulthood and ageing (pages 311–17, 319–21, 323–6)
3.4 the health status of Australia’s adults, including the similarities and differences between adult males and females (pages 327–31).

KEY SKILLS
• describe the stages of adulthood and ageing
• describe the characteristics of development during adulthood
• interpret data on the health status of Australia’s adults.
KEY TERM DEFINITIONS

**adulthood** a stage of the human lifespan that starts at 19 and ends at death. It can be divided into early, middle and late adulthood.

**early adulthood** the period of the lifespan between 19 and 40 years of age

**emotional development** refers to developing the full range of emotions and learning appropriate ways of dealing with and expressing these emotions

**health status** an individual's or a population’s overall health, taking into account various aspects such as life expectancy, amount of disability and levels of disease

**risk factors**

**intellectual development** the processes that occur within and to the increasing complexity of the brain

**in-vitro fertilisation (IVF)** is a process by which egg cells are fertilised by sperm outside the body, in vitro (in a test tube). IVF is a major treatment in infertility when other methods of assisted reproductive technology have failed.

**late adulthood** the final stage of the lifespan; the period from 65 years of age until death

**middle adulthood** the period of the lifespan between 41 and 64 years of age

**physiological changes** changes that occur to the physical and biomedical functions of the human body

**social development** the increasing complexity of behaviour patterns used in relationship with other people (VCAA study design)

**spouse** a partner in marriage, a husband or a wife
10.1 Early adulthood: physical, social, emotional and intellectual development

KEY CONCEPT Characteristics of physical, social, emotional and intellectual development during early adulthood, including the physiological changes associated with ageing

Adulthood is the longest stage of the human lifespan, starting at 19 years of age (the end of the youth stage) and ending at death. The first stage, early adulthood, ends on your 41st birthday. The impact of biological, behavioural and environmental determinants can have a huge impact on the ageing process.

Physical development

Early adulthood is a time when physical growth is completed and development of the muscles, internal organs and body systems should be at their peak condition. Physical changes that occur to the functioning and appearance of the human body as it ages are known as physiological changes (figure 10.3). These include the following:

- Maximum adult height is reached. Young adults finish growing and their height remains constant throughout early adulthood.
- Cells continue to divide for the replacement, repair and maintenance of body tissue, rather than for growth.
- Peak bone mass is achieved. Normal ageing is accompanied by the loss of bone tissue throughout the body which begins in the late 30s.
- Sensory organs are at their sharpest (ears, eyes, nose, mouth, skin).
- Muscular strength reaches its peak.
- Reflexes of the nervous system are at their peak.
- Women’s reproductive function has an impact on the changes experienced during this stage. It is usually in early adulthood that women go through childbearing, and their bodies will change physically to carry out this function.

Most people in early adulthood see themselves as being at their peak in terms of health, lifestyle, sex life and physical condition. Estimates from the 2007–08 National Health Survey show that almost two-thirds (64 per cent) of 24–34 year
olds rated their health as excellent or very good, and this proportion declined as age increased (Australia’s health 2010). These figures have not changed since 2007–08.

Social development

Social development during adulthood includes acquiring new roles, responsibilities and expectations, both within the family (e.g. as parents and grandparents) and outside it (e.g. at university and in the work environment).

Gaining independence and developing identity become the main focus of social development during early adulthood. This could include:

- career development. In developing their independence, young adults are faced with many decisions. Starting a career is seen as important for both males and females and will often include completing their secondary education and possibly continuing on to further study. Being part of a new environment requires individuals to adapt to new roles and the expectations linked to those roles. Whether they are entering a tertiary institution or moving straight into a job, individuals will form new relationships with other students, lecturers, tutors, work colleagues and employers. Good communication skills and the ability to work well with others are critical requirements for a successful work life.

- selecting a life partner. Finding a permanent partner and being involved in an intimate relationship is a common goal for most young adults. The establishment of a stable long-term relationship is linked to a range of positive attitudes such as confidence and acceptance. Intimacy requires an individual to sacrifice some of their independence for another person. Taking on the role of spouse or partner requires many social skills, and having good role models improves the chances of success in a relationship.

- managing a home. More young adults are staying in the family home longer and delaying living independently than in the past. Moving out of the family home and living independently (whether in a share house, cohabitating with a partner or living alone) is another developmental milestone of early adulthood. The individual takes on responsibilities such as paying bills, rent or a mortgage; maintaining a clean living environment; establishing the expectations of each
member of the household; developing relationships with neighbours and learning to be part of a community.

- **starting a family.** Starting a family is also an important developmental milestone for most individuals. The role of a parent is linked to many societal and legal expectations including registering the birth; providing a name for the child; and the giving of appropriate care, love and support. The decision to take on the role of parenthood is also influenced by society and technology. Individuals have many choices, including the choice of whether or not to have children. Contraception allows couples to plan their decision to conceive, while in-vitro fertilisation (IVF) technology gives couples who may have remained childless the chance to have children. These technological developments have allowed couples the freedom to make choices and develop their independence.

### Emotional development

**Emotional development** is the development of a full range of emotions and learning the appropriate ways of dealing with and expressing these emotions (figure 10.7). It is closely linked to self-concept, the way an individual views themselves.

As previously outlined, the most significant changes that occur in early adulthood include:

- career development
- selecting a life partner
- managing a home
- starting a family.

These changes will all impact on emotional development, and a young adult’s ability to cope with these changes will also depend on their emotional development. The availability of good role models at work, at home and in the community will help to foster an individual’s self-concept, thus impacting their emotional development.

Young adults still living at home need to adapt to the changing nature of family relationships. In some cases, the way parents treat their children when they reach early adulthood will not change even though their children may be financially independent. Parents not only provide role models for their adult children, they also need to provide the necessary support and encouragement to allow their children to successfully develop into well-adjusted young adults.

Forming and maintaining relationships, in particular intimate relationships, in early adulthood will affect the development of self-concept. Failed relationships or lack of support and encouragement from family, work or the community can lead to poor self-concept, impacting emotional development.

Good emotional development is the ability to understand and control the emotions, and to respond well to the changes taking place around and within the individual. This is not always easy but it is important for emotional growth. Formulating an identity and developing a sense of self are key components of early adulthood. Establishing a career and learning new roles and expectations will impact on employment status, job satisfaction, financial security and self-concept.

### Intellectual development

**Intellectual development** involves an increase in knowledge and the ability to think and reason. The foundations of intellectual development are formed during the early stages of the lifespan, when language skills are developed, knowledge gained, memory skills formed and the ability to understand and reason are developed. All these skills are further developed during early adulthood. Attending university or training programs usually involves learning the skills and acquiring the knowledge...
for their chosen career or job, thus improving their intellectual development. In the work environment, new employees will be inducted into the workplace and taught the necessary skills and information essential to carrying out their tasks, and improve intellectual development.

The roles acquired by an individual as they move through early adulthood further add to their experiences and provide them with knowledge and understanding. How an individual deals with this information is considered part of emotional development, but acquiring the knowledge and meaning is linked to intellectual development.

An adult's ability to reason, solve problems and strategise are all important components of intellectual development. It is experience gained over time that leads to a better understanding of the world around us.

**TEST your knowledge**

1. List the main physiological changes that occur during early adulthood.
2. Define social development.
3. (a) Identify the main developmental milestones that have a significant impact on social development during early adulthood.
   (b) Select one of the developmental milestones identified in part (a) and explain how it impacts on social development during early adulthood.
4. Define emotional development.
5. Using an example relevant to early adulthood, explain how emotional and social development are interrelated.
6. Define intellectual development and give an example that is relevant to young adults.
7. Using the table below, describe four characteristics of physical, social, emotional and intellectual development for the lifespan stage of early adulthood.

```markdown
<table>
<thead>
<tr>
<th>Characteristics of development in early adulthood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
</tr>
<tr>
<td>Social</td>
</tr>
<tr>
<td>Emotional</td>
</tr>
<tr>
<td>Intellectual</td>
</tr>
</tbody>
</table>
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**APPLY your knowledge**

8. Damian, 22 years old, has just finished his electrical apprenticeship and is planning to leave his parents’ home and move in with his girlfriend.
   (a) Describe the predicted physical development of a male in Damian’s stage of the lifespan.
   (b) Identify examples in the case study that might have impacted on Damian’s social development.
   (c) Select one of the examples from part (b) and explain how it might have affected Damian’s social development.

9. Use the Ageing narcissist links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.

10. The following is a profile from an internet dating site: Hi, I am a happy, good-natured person who enjoys all the good things life has to offer, especially good friends, good conversation, good coffee, good food and good health. I enjoy travelling, keeping fit and golf, but all these things would be sweeter and more enjoyable if they were shared with someone special. I am looking for someone who has a good sense of humour, and is friendly, warm, caring, honest, loyal, trustworthy, independent, empathetic and most of all enjoys life.
    (a) Suggest reasons why many adults are keen to find a partner.
    (b) The ability to develop good relationships is a key aspect of social development. Identify the skills required to form good relationships.
    (c) Explain how finding a life partner could impact on an individual's emotional development.

11. Find the employment section of a newspaper or an employment website.
    (a) Select two careers and identify the main characteristics that you would need to be successful in these careers.
    (b) Using the letters I and E, mark each selected characteristic as being linked to intellectual or emotional development.
    (c) Share your ideas with the class.
10.2 Middle adulthood: physical, social, emotional and intellectual development

KEY CONCEPT Characteristics of physical, social, emotional and intellectual development associated with middle adulthood, including the physiological changes

**Physical development**

**Middle adulthood** is the period from 41 to 64 years of age. The changes in physical development are continuous and vary greatly between individuals, but a gradual decline in many physiological functions may be evident from the age of 30. Generally, in middle adulthood the following physical changes are expected (figure 10.8):

- Bone density is lost. Bone loss, which can begin in the late 30s, accelerates in the 50s — especially for women after menopause. This will have an impact on the strength and mobility of an individual.
- The metabolic rate decreases and fat deposits accumulate. Weight gain can be partly linked to changes in the metabolic rate, which tends to slow down in this phase, and reduced levels of exercise, which lower the overall energy needs of an individual. Unfortunately, many adults do not reduce their food intake to match the lowered energy needs and gain weight as a result.
- The number of active cells decreases, leading to decreased need for energy.
- The cardiovascular system goes through significant structural changes as it ages. The combination of the changes to the heart and the circulatory system (described below) result in a gradual decrease in a person's ability to cope with physical exertion, especially aerobic exercise.

![Figure 10.8](image-url)

**FIGURE 10.8** The physiological changes of middle adulthood
• The heart muscle stiffens from tissue changes. By the late 40s and early 50s, the healthy muscle tissue is replaced by connective tissue, which causes thickening and stiffening of the heart muscle and valves. These changes reduce the amount of muscle tissue available to contract the heart and the remaining muscles need to work harder. The amount of blood that the heart can pump declines from 5 litres per minute at age 20 to about 3.5 litres per minute by the age of 70.

• The circulatory system becomes less efficient. The walls of the arteries harden as a result of calcification of the arterial walls and the replacement of elastic fibres with less-elastic fibres.

• Sense of hearing declines. This occurs gradually at first but accelerates after the age of 40. The speed at which hearing is lost can be linked to environmental factors such as exposure to constant loud noise. Many work environments provide protective gear for the ears to reduce the impact of prolonged exposure to noise. This may explain why men generally experience greater hearing loss than women as they age. This decline in hearing can have quite an impact on effective communication and therefore social development.

• Eyesight starts to deteriorate. At about the age of 40, the structure of the eye changes in a way that results in less light passing through the eye. Consequently, the individual requires more light to complete tasks such as reading. The eyes also become slower to adapt to changes in light that occur when moving from a well-lit area to a dark area (e.g. at a cinema).

• Wrinkles start to appear due to loss of skin elasticity. Skin wrinkling is one of the first outward signs of ageing. The process is quite complex and involves the skin getting thinner and becoming more fragile. Collagen fibres in the middle layer lose their flexibility, making the skin less able to regain shape after it has been pinched. The layer of fat under the surface of the skin, which helps to keep the skin smooth, also starts to diminish.

• Greying of hair occurs due to loss of pigmentation. Hair can also start to thin in both men and women.

• Women experience menopause as they move from the reproductive to the non-reproductive phase of their life. Menopause occurs when the ovaries cease releasing eggs. The changes begin in the late 40s as the menstrual cycle begins to become irregular, and is usually complete by the age of 50 to 55. The time of transition is known as perimenopause. A variety of physical and psychological symptoms may accompany perimenopause and menopause. These include the gradual loss and eventual cessation of monthly periods accompanied by decreases in oestrogen and progesterone levels, changes in the reproductive organs, changes in sexual functioning, hot flushes, night sweats, headaches, mood changes, difficulty concentrating, vaginal dryness and general aches and pains. The range and type of symptoms experienced will vary from woman to woman.

• Males experience a slight decrease in the production of sperm and testosterone. Men do not experience the complete loss of the ability to have children, but sperm production declines by approximately 30 per cent between the ages of 20 and 60. Sperm quality also declines, although a man at 80 is still capable of fathering a child.

Social development

Some aspects of social development that traditionally occurred in early adulthood are increasingly becoming part of middle adulthood due to the delay in selecting a life partner or getting married, setting up and managing a home and starting a family.
Learning how to relate to a spouse/partner and developing a successful relationship is a major aspect of social development in early and middle adulthood. The increase in divorce rates over the past years has generated a rise in single-parent households, second marriages and de facto relationships. Some adults become grandparents and provide child-care for their grandchildren in this stage, while others their age are still engaged in parenting their own children and preparing them to become responsible and happy adults.

The range of possible lifestyles during this stage of the lifespan is endless. Adults will develop socially from their career achievements, meaningful relationships with their partner and other significant friendships, commitments that they have to various community or social groups (e.g. school, church, sporting groups) and enjoyable interactions with others. These interactions with family, work and community allow adults to develop their communication skills and make a valuable contribution to the improvement of their environment. Establishing, and maintaining an economic standard of living is an important aspect of adulthood and drives many decisions relating to work/career, housing and other material possessions. As children leave home, life priorities often change and relationships with family and friends are redefined.

**Emotional development**

Middle adulthood is ideally characterised by self-confidence and an acceptance by the person of who they are and what they want to achieve (figure 10.10). By this stage, an individual will have already experienced many successes and failures. The way they coped with these situations will have shaped their emotional development, and future experiences will continue to affect this. Interactions with family, work and community can influence self-concept. Factors such as an unsuccessful relationship, job dissatisfaction and difficulty coping with the demands of parenthood can have an impact on the emotional development of an individual and affect their health status.

Adults need to cope with many challenges during this stage of their lives. They may face the possibility of unemployment or retrenchment and the significant impact it could have on their family. Males in particular feel the pressure to provide for their family, although as women increasingly take on the role of main breadwinner they begin to face the same pressures. Adults who develop enjoyable leisure activities are better able to cope with the pressures of work and family, and are more likely to lead a healthy lifestyle.

Accepting, and adjusting to the physiological changes associated with ageing can be challenging. The community expectation to look younger and somehow slow down the ageing process is having an impact on many adults’ social and emotional development. Advancements in medical technology have seen the development of cosmetic surgery and a surge in its use, while a variety of creams, potions and lotions all promise the fountain of youth (figure 10.11).

**Intellectual development**

As discussed earlier, intellectual development involves the increased ability to think and reason and the development of knowledge and skills. Research suggests that the rate of decline in our ability to think and reason is fairly gentle. During middle adulthood, knowledge is still being gained and the capacity to store knowledge and further build permanent memories is limitless. The ability to process information and solve problems will generally improve during this stage.
of the lifespan. Life experiences and maturity often give older people more wisdom than the young.

**TEST your knowledge**
1. Explain how changes in an individual’s metabolic rate can be linked to weight gain in middle adulthood.
2. What impact do the changes to the cardiovascular system have on an adult’s ability to be physically active?
3. Both eyesight and hearing gradually decline as an individual ages. Outline how these physiological changes may impact on social and emotional development in the middle-adulthood stage of the lifespan.
4. What is menopause?
5. Outline the main physical changes that take place during menopause.
6. Suggest how the physical changes during menopause can affect a female’s social and emotional development.
7. Females experience menopause, but do males go through any changes in their reproductive functioning? Explain.
8. Define intellectual development and provide three examples relating to middle adulthood that illustrate the definition.
9. Use *The time of our lives: episode 1* links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.
10. Use the *Ageing disgracefully* links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.

**APPLY your knowledge**
11. Read the following case study and answer the questions:
   Domenica and Mario are both 44 years old and have been happily married for 16 years. They have two children, Matthew aged 14 and Chiara aged 10. Domenica works casually for a department store and enjoys the interaction with a variety of people, including her work colleagues. Mario works for a large company as their head of IT. He has just been promoted to manager of his department. Mario has worked hard to gain this promotion and is both excited and anxious about this new role and how it will affect him and his family. On the weekends both Domenica and Mario are busy trying to coordinate and cater to everyone’s needs. Chiara plays netball on Saturday mornings and Matthew plays football on Sundays.
   (a) Identify the main aspects of social development for Mario and Domenica’s stage of adulthood.
   (b) Identify the main aspects of emotional development for Mario and Domenica’s stage of adulthood.
   (c) Identify the main aspects of intellectual development for Mario and Domenica’s stage of adulthood.
   (d) Predict possible changes in Mario and Domenica’s lives over the next ten years that may have an impact on their social development.
12. Becoming a grandparent is a milestone for many during middle adulthood.
   (a) How might becoming a grandparent impact on their individual human development?
   (b) What positive contributions can grandparents make to their families?
10.3 Late adulthood: physical, social, emotional and intellectual development

**KEY CONCEPT** Characteristics of physical, social, emotional and intellectual development associated with late adulthood, including the physiological changes associated with ageing

**Physical development**

**Late adulthood**, the final stage of the lifespan, is the period from 65 years of age until death. During this stage the efficiency and working of the body systems continue to decline, and the physiological changes of older adulthood become more visible. In 2012, Australia's life expectancy was 79.9 years for males and 84.3 years for females, so many adults could spend 18 years or more in late adulthood. Factors such as genetics, quality of diet, level of physical activity and other lifestyle choices will determine the impact and speed of the changes associated with ageing. Physiological changes of late adulthood include the following (figure 10.13):

- Body systems experience a continued and gradual weakening and decline.
- The senses experience a continued decline. Eyesight, hearing, taste, smell and touch all become less acute.

![Figure 10.13 The physiological changes of late adulthood](image)

**Aerobic capacity** since early adulthood drops by up to 70 per cent by age 65.

**Rate of cell replacement** slows down and in some cases stops.

**Proportion of fat on the body increases and body shape changes**.

**Spine starts to compact, decreasing height**.

**Muscle tone decreases, together with muscular strength, ability and endurance**.

**Bone density continues to decline**.

**Gums recede and teeth deteriorate and start to fall out**.

**Proportion of fat on the body increases and body shape changes**.

**Facial hair starts to appear on women**.

**Skin thins and continues to lose elasticity as more wrinkles and age spots appear**.

**Hair continues to lose pigmentation (go grey) and thin**.

**For men, the prostate gland enlarges, becomes stiffer and may obstruct the urinary tract**.

**Eyelids thicken and eye sockets appear more hollow**.

**Hair continues to lose pigmentation (go grey) and thin**.

**Facial hair starts to appear on women**.

**Skin thins and continues to lose elasticity as more wrinkles and age spots appear**.

**Hair continues to lose pigmentation (go grey) and thin**.

**Facial hair starts to appear on women**.
• By the age of 65, the average adult has experienced a 60 to 70 per cent decline in aerobic capacity since early adulthood. Maintaining fitness throughout adulthood could reduce this decline to as little as 20 to 25 per cent.
• Physical appearance continues to change, including height, weight and shape:
  – The spine starts to compact, causing older adults to lose height.
  – The proportion of fat on the body increases and muscle tone decreases, thus changing the shape and appearance of the body.
  – Weight can vary from weight gain to weight loss depending on individual circumstances such as level of activity, level of health and the impact of certain physical changes on the adult’s ability to eat and enjoy food. These changes include a decline in the senses of taste and smell and the quality of the adult’s teeth.
• Rate of cell replacement slows down and some cells stop being replaced altogether. Healing times after an injury became slower.
• Bone density continues to decline. Once the process begins, women tend to lose bone density more rapidly than men. The gender difference can be linked to women having less bone mass than men in early adulthood, and the depletion of oestrogen after menopause (which accelerates the process of bone loss). As bones lose mass, they become hollow inside, turning more porous and becoming more susceptible to breakage.
• Muscular strength, ability and endurance decline (impacting on motor skills and reflexes) (figure 10.14).
• Teeth deteriorate and gums recede.
• Eyelids thicken and eye sockets appear more hollow.
• Hair continues to lose pigmentation (go grey) and thin.
• Facial hair grows on women.
• Skin continues to lose elasticity, creating more wrinkles. It becomes thinner and age spots appear.
• For men, the prostate gland enlarges and becomes stiffer, and may obstruct the urinary tract.

Social development
In late adulthood, social development could be stimulated by retirement. This major life event is an exciting culmination of a lifetime of work. Retirement can also impact negatively and contribute to loss of social contact. Many decisions and adjustments need to be made — coping with a reduced income, deciding what to do with the extra time, re-establishing the relationship with their partner (if they have one), and redefining household roles to ensure harmony. Many adults enjoy this new-found freedom and spend their time on home improvements, travelling, sporting interests established earlier or just started, community activities and volunteering. Physical changes during late adulthood can also have a significant impact on an individual’s social development. If their mobility is limited, it could lead to isolation and reduced contact with friends. The loss of a spouse could also affect an individual’s motivation to interact socially. How individuals spend their time in late adulthood is dependent on many factors including level of health, financial status and connectedness to family and friends.

Emotional development
Coping with the many changes associated with ageing is a challenging time during late adulthood. The transition from work to retirement is a significant social change (as discussed earlier) and the impact on emotional development can be enormous. For many, coping with the change in routine, feelings of boredom, loneliness and
loss requires a difficult adjustment. Adults who plan and prepare for retirement, including taking into account their financial situation, find it easier to make the transition.

Adjusting to decreasing physical strength and health can create challenges. For many, being unable to do the things they used to do and in the way they always did them can cause frustration and anxiety. Dealing with the death of a spouse can be a very emotional time, as the grieving person must learn to cope with life alone and adjust to a new lifestyle. Although this could happen at any time, it is most likely to occur in late adulthood (figure 10.15).

The care and support of family and friends is an important part of dealing with the stresses during this stage. An individual with a limited support system may face further challenges related to loneliness and isolation — major concerns for many older adults.

**Intellectual development**

During late adulthood, gains can still be made in intellectual development through life experiences, but there is a decline in information processing abilities. Most intellectual abilities will start to decline slowly from about 70 years of age. The rate of decline is affected by biological, behavioural and social determinants unique to the individual (see chapter 11). Research also suggests that the decline in intellectual ability — knowledge, memory and reaction times — will be affected by the physiological changes associated with ageing such as decline in eyesight and hearing. These changes can impact on the ability of the brain to receive the correct information and then respond appropriately and within a certain time. The ‘use it or lose it’ motto is apt: practice may not only preserve existing skills, but also revive supposedly lost or declining skills.

There are many activities that older adults can engage in that may assist in maintaining or improving their intellectual development. Examples include participating in bingo games, playing cards, volunteering as a guide for various historical centres like an art gallery or museum, or joining adult education classes to learn a new language or skill (figure 10.16).
Case study

Baby boomers to fill the gaps in life-stage wasteland

By Bernard Salt

I have always thought that the segments of the life cycle were unfair.

Life begins with infancy, which lasts for a year. Then there’s toddlers who run amok between one and three years. Then there’s the preschool, the primary school and the secondary school stages that take the life cycle to 17.

Superimposed on these bands are definitions such as pre- and post-puberty which roughly equate to before and after the age of 12. And then there’s the teenage years, which by definition stretch between 13 and 19. There’s even a time in life when newspapers refer to young males as ‘youths’ who seem to inhabit the 15-to-17 space.

And this age classification excludes exotic tribes such as hoodlums, hooligans and louts who, often in the company of youths, mill about the late teenage years. I’m not sure why, but there appear to be fewer life-stage tags for young women than for young men. Perhaps men are more aggressively tribal.

Beyond the late teens lie young adulthood, the newlywed and the young-parent phases in life. I could get all statistical on you here, but these micro phases generally extend from 20 to the early 30s.

The late 20s and early 30s are known as the ‘household formation’ stage in the life cycle whereas the 40s are often referred to as ‘mature family’. And then the concept of naming a group of years for a stage in the life cycle mysteriously stops.

Occasionally ‘mature family’ is extended to 54, but anything thereafter is known collectively as the over-55s. The only life forms to carve out separate existences beyond 55 are the grey nomads and the retirees.

Now this is what I find unfair. Life expectancy extends to the mid-80s, which means that all of life’s last 30 years are barely distinguishable.

No one under 50 cares about the personal growth that might take place between 65 and 70. To young people, this half-decade swishes about within a bigger grab-bag of old age. And yet in the under 40 space every few years is tagged and admired.

Well, I say enough’s enough. I may not be in the over-55s space, but I want to ensure that when I do cross the line I’m not lumped in with, you know, old people.

Look at the marketing of banks and insurance companies: they have special products with special marketing for the over-55s. Their logic seems to be, “now that you’re old, we’ve got some cool stuff”.

In the coming decade, I think baby boomers will reposition the over-55 market. No longer will this be a wasteland inhabited by the old and the decrepit but instead we will see a finer focus. Consider some of the life stages that boomers are likely to forge in the last 30 years of life.

• Portfolio Lifestyle (55–64): There are 2.5 million Australians in this life stage now; this number is expected to rise by 18 per cent over the coming decade. The portfolio lifestyle stage is a new concept invented by baby boomers as a precursor to retirement. In this stage, boomers partly work and partly focus on lifestyle. They resign and come back to work as a consultant, a contractor, a mentor or, ultimate boomer fantasy, a non-executive director. Ahhh, directors’ fees for doing not that much. You do realise that public company boards are set to explode with boomers all scrambling for a seat.

• Active Retirement (65–74): There are 1.6 million Australians in the active retirement stage of life at the moment, but by 2020 this number will be 47 per cent higher. Active retirees are interested in wellness, wellbeing, travel (includes grey nomads), connecting with adult children (using new technology) and sharing time with grandchildren. Active retirees pursue clubs, volunteering opportunities and spiritual growth.

(continued)
10.3 Late adulthood: physical, social, emotional and intellectual development

Case study review
1. Describe how Bernard Salt identifies the following age groups:
   (a) the late 20s to early 30s
   (b) the 40s
   (c) the over-55s (last 30 years of life).
2. With life expectancy increasing to over 80 years, much more time is spent in the late adulthood stage of the lifespan.
   (a) What suggestions have been made to redefine some of the subgroups within this stage of adulthood?
   (b) Identify the current and projected statistics for each of these groups.
   (c) Identify the key characteristics suggested for each group and categorise them as physical, social, emotional or intellectual development by placing a P, I, E or S next to each one.

TEST your knowledge
1. Describe the characteristics of physical, social, emotional and intellectual development in late adulthood.

APPLY your knowledge
2. Use The time of our lives: episode 2 links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.

• Going Solo (75–84): There are 994,000 people in this age group now; by 2020, this number will rise by 33 per cent. Most Australians die in this decade, which means there will be a shift from older couple households to older single households.

Going solo is fine and dandy at 25; at 80 it's a different story. A wider circle of friends evaporate or, more properly, die off by this stage. Work contacts have long since withered. What is left is a tight circle based around children and young adult grandchildren.

The challenge in this stage of the life cycle is maintaining solo living, which requires an involved extended family and broader community support.

• Frail (85-plus): There are 401,000 people aged 85-plus in Australia now; by 2020, this number is expected to be 547,000. By this stage in life, many people are utterly alone in the sense that few friends survive. Life partners are also unlikely to survive in tandem: typically, one outlasts the other. Social circles and physical mobility close ranks. The 85-plus-year-old is largely, if not entirely, reliant upon family and institutional support.

There are 30 years of life beyond 55 that are now available to many Australians. At the moment this space is a wasteland, but over the next decade I have no doubt it will blossom and yield a number of interesting submarkets. These submarkets might not get as microscopic as the stages that mark childhood, but surely there’s a need to realise that not everyone over the age of 55 is the same.

10.4 The health status of Australia’s adults

KEY CONCEPT The health status of Australia’s adults, including similarities and differences between adult males and females

Health status refers to the level of health of an individual, community or group. There are many ways in which health status can be measured. One of the common ways is life expectancy. According to the Australian Institute of Health and Welfare (AIHW), overall life expectancy at birth has increased by 2.5 years for men and 1.7 years for women over the last decade. However, life expectancy changes over the course of a person’s life due to changing patterns of mortality. Also, if a person reaches a particular age, their chance of reaching older age increases (see figure 10.18). Males at age 65 are expected to live to 84.2 years and females to 87.1 years. Females have a higher life expectancy than males at all stages of the lifespan, but they tend to spend more years in poor health (see figure 10.19).

Another method of determining health status is to ask people to rate their own health at a given point in time. This is referred to as self-assessed health status, and can provide a useful measure of the level of overall health of both an individual and the broader population.

In relation to the health status of adults, in 2011–12 over half of all Australians aged 19 years and over considered themselves to be in very good or excellent health. Older Australians generally rated themselves as having poorer health than younger people, with persons aged 75–84 years and 85 years and over recording the highest proportions of fair or poor health (31.4 per cent and 37.5 per cent respectively). There were no differences in the way males and females assessed their overall health (see figure 10.20).

For the Aboriginal and Torres Strait Islander population in 2010–12, life expectancy was estimated to be 10.6 years lower than of the non-Indigenous population for males (69.1 years compared with 79.7) and 9.5 years lower for females (73.7 years compared with 83.1).

Another method of determining health status is to ask people to rate their own health at a given point in time. This is referred to as self-assessed health status, and can provide a useful measure of the level of overall health of both an individual and the broader population.

In relation to the health status of adults, in 2011–12 over half of all Australians aged 19 years and over considered themselves to be in very good or excellent health. Older Australians generally rated themselves as having poorer health than younger people, with persons aged 75–84 years and 85 years and over recording the highest proportions of fair or poor health (31.4 per cent and 37.5 per cent respectively). There were no differences in the way males and females assessed their overall health (see figure 10.20).
10.4 The health status of Australia’s adults

Health status of young adults aged 19–24

Obtaining specific data on the health status of young adults aged 19–24 can be difficult as it is commonly inclusive of the ages 15–24. However, individuals in early adulthood generally experience good health. According to the Australian Institute of Health and Welfare, 69 per cent of young adults aged 20–24 were found to be ‘very satisfied’ with their lives.

In 2011, new cases of diabetes in the 20–24 year age group were estimated at 13 per 100 000 for type 1 and 15 per 100 000 for type 2. During young adulthood, the levels of psychological distress can be quite high, especially the levels of depression and anxiety. In the ABS 2011–12 Australian Health Survey, an estimated 258 100 (12 per cent) of young adults aged 18–24 reported ‘high’ or ‘very high’ levels of psychological distress.

As young adults, people aged 18–24 are exposed to a wide range of activities that carry a risk of injury, including driving, employment, socialising with alcohol, and participation in sport. Risk-taking behaviour in this age group (particularly among men) is common, and hazard perception and decision-making skills are still developing. As a result, the level of hospitalisation and death from injuries for young adults of this age is high. In 2012 there were 52 718 cases of young adults aged 18 to 24 hospitalised as a result of an injury. The injury rate for males is twice that of females. Injuries are also the leading cause of death in this age group (AIHW, Australia’s health 2014).

Health status of adults aged 25–64

People in the age group 25–64 years represent 53 per cent of the population. This group includes both early and middle adulthood, and is a period of the lifespan where many changes are taking place and where health issues are likely to emerge.
The health and individual human development of Australia’s adults

The health behaviours of individuals in the first 25 years of their lives will set the foundation for their future. Maintaining good health as an individual ages is a challenge because getting older is itself a risk factor for ill-health.

Given the diversity of health issues that arise in this age group, it is often examined in two age brackets: 25–44 and 45–64. The health of Australians in this stage of adulthood is important because it affects not only them, but their families, workplaces and society in general.

According to the Australian Institute of Health and Welfare, the most common chronic health conditions reported by adults aged 25–44 in 2011–12 were vision problems (with 25 per cent reporting being short-sighted and 12 per cent being long-sighted), hay fever and allergic rhinitis (22 per cent), and back pain (15 per cent). Some 12 per cent of adults in this age category suffered from mood problems such as depression and 5 per cent suffered from anxiety.

While people aged 25–44 suffered fewer long-term health conditions than older age groups, many were putting themselves at a greater risk of developing these conditions later in life through a range of health risk factors such as inadequate vegetable consumption, lack of physical activity, risky levels of alcohol consumption, and overweight and obesity.

In terms of mortality, people aged 25–44 made up only 3.5 per cent of all deaths in Australia in 2012 even though they represented 29 per cent of the Australian population. Men were almost twice as likely to die as women. Deaths occurring during early and middle adulthood are seen as premature given that life expectancy is high. In 2011, suicide was the leading cause of death for both males and females in this age group, with the rates for males being much higher than for females. This was followed by accidental poisoning, coronary heart disease and car accidents for males; compared with breast cancer, accidental poisoning and diseases of the liver for women (table 10.1).

Table 10.1 Leading causes of death(a)(b) in people aged 25–44 by sex, 2011(c)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Men</th>
<th>No.</th>
<th>%</th>
<th>Women</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Suicide</td>
<td>672</td>
<td>19.9</td>
<td>Suicide</td>
<td>199</td>
<td>11.0</td>
</tr>
<tr>
<td>2</td>
<td>Accidental poisoning</td>
<td>406</td>
<td>12.0</td>
<td>Breast cancer</td>
<td>173</td>
<td>9.6</td>
</tr>
<tr>
<td>3</td>
<td>Coronary heart disease</td>
<td>243</td>
<td>7.2</td>
<td>Accidental poisoning</td>
<td>103</td>
<td>5.7</td>
</tr>
<tr>
<td>4</td>
<td>Car accident</td>
<td>198</td>
<td>4.1</td>
<td>Diseases of the liver</td>
<td>63</td>
<td>3.5</td>
</tr>
<tr>
<td>5</td>
<td>Other forms of heart disease</td>
<td>118</td>
<td>3.5</td>
<td>Car accident</td>
<td>54</td>
<td>3.0</td>
</tr>
</tbody>
</table>

(a) Based on ICD-10 groupings.
(b) Excludes the category ‘Event of undetermined intent’ as these deaths are subject to a revision process by the ABS upon further information from the coroner.
(c) Deaths registered in 2011 are based on the preliminary version of cause of death data and are subject to further revision by the ABS.

For people aged 45–64, chronic diseases are more common than in the earlier stages of adulthood. In 2011–12, vision problems (affecting 90 per cent) and back pain (affecting 20 per cent) were commonly reported along with high blood pressure (17 per cent) and osteoarthritis (15 per cent). About 14 per cent of the 45–64 age group reported mood problems such as depression and 5 per cent reported experiencing anxiety-related problems.

In relation to mortality, the influence of health risk factors start to emerge with the major causes of death for men in 2011 being coronary heart disease, lung cancer, suicide, diseases of the liver and bowel cancer, compared to breast cancer, lung cancer, coronary heart disease, bowel cancer and chronic lower respiratory diseases for women (table 10.2).
### TABLE 10.2 Leading causes of death<sup>(a)</sup> in people aged 45–64, by sex, 2011<sup>(b)</sup>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Men</th>
<th>No.</th>
<th>%</th>
<th>Women</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coronary heart disease</td>
<td>1968</td>
<td>15.5</td>
<td>Breast cancer</td>
<td>999</td>
<td>13.0</td>
</tr>
<tr>
<td>2</td>
<td>Lung cancer</td>
<td>1174</td>
<td>9.3</td>
<td>Lung cancer</td>
<td>818</td>
<td>10.6</td>
</tr>
<tr>
<td>3</td>
<td>Suicide</td>
<td>549</td>
<td>4.3</td>
<td>Coronary heart disease</td>
<td>457</td>
<td>5.9</td>
</tr>
<tr>
<td>4</td>
<td>Diseases of the liver</td>
<td>541</td>
<td>4.3</td>
<td>Bowel cancer</td>
<td>348</td>
<td>4.5</td>
</tr>
<tr>
<td>5</td>
<td>Bowel cancer</td>
<td>463</td>
<td>3.7</td>
<td>Chronic lower respiratory diseases</td>
<td>306</td>
<td>4.0</td>
</tr>
</tbody>
</table>

<sup>(a)</sup> Based on ICD-10 groupings.
<sup>(b)</sup> Deaths registered in 2011 are based on the preliminary version of cause of death data and are subject to further revision by the ABS.

Source: AIHW National Mortality Database.

Source: AIHW, Australia’s health 2014, p. 250.

### Health status of adults aged 65 and over

For adults aged 65 and over, good health is a precious asset that allows them to enjoy a good quality of life, stay independent and participate fully in the community. The Australian population is getting older and the number of people aged over 65 is increasing. As a result, the demand for health-care services continues to increase. On a national level, the improvement in the health of older Australians is a priority. The prevalence of many health conditions is higher in adults aged over 65, and it increases with age. According to the Australian Institute of Health and Welfare, the most common long-term health conditions (excluding short- and long-sightedness) in this group in 2012 were arthritis (affecting 49 per cent), hypertensive disease (38 per cent) and hearing loss (complete or partial; 35 per cent). About 22 per cent of older adults reported having heart, stroke and vascular diseases, 15 per cent had diabetes, and 7 per cent had cancer. Falls, which can result in breakages, are also more common among older people, and the rate of falls and injuries increases with age in both males and females.

As the population ages, the possibility of having to cope with more than one chronic condition increases. The management of this is linked with increased health-care costs and a poorer quality of life. The term comorbidity is often used to describe more than one illness, health condition or disorder experienced by a person at the same time. Older people are also more likely than younger people to have multiple long-term health conditions. In 2009, around 49 per cent of those aged 65–74 had 5 or more long-term health conditions, increasing to 70 per cent of those aged 85 and over.

In terms of mortality, the two leading causes of death for both males and females in this age group were coronary heart disease and stroke. Dementia and Alzheimer’s disease was the third common cause of death for older females and the sixth for older males. Lung cancer and colorectal cancer were also prominent, along with prostate cancer for men and breast cancer for women. Age is a major risk factor for most of these diseases and, given that life expectancy for females is longer than for males, females are more likely than males to develop these diseases and die from them. With increasing life expectancy, the prevalence of dementia is expected to rise. It is a major health problem in Australia, with significant consequences for the health and quality of life of sufferers as well as for their families and friends.
Dementia is more common in older people and is characterised by the impairment of brain functions, including language, memory, perception, social awareness, reasoning and cognition. Sufferers eventually become dependent on their care providers for all areas of their daily living, and this places an economic burden on the community (table 10.3).

**TABLE 10.3** Estimated number of people with dementia, by age and sex, 2011

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Persons</th>
<th>Males</th>
<th>Females</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 65</td>
<td>11.1</td>
<td>6.1</td>
<td>8.0</td>
<td>12,600</td>
<td>11,300</td>
<td>23,900</td>
</tr>
<tr>
<td>65–74</td>
<td>22.3</td>
<td>15.6</td>
<td>18.1</td>
<td>25,200</td>
<td>28,900</td>
<td>54,100</td>
</tr>
<tr>
<td>75–84</td>
<td>35.2</td>
<td>31.1</td>
<td>32.7</td>
<td>39,800</td>
<td>57,500</td>
<td>97,400</td>
</tr>
<tr>
<td>85+</td>
<td>31.5</td>
<td>47.1</td>
<td>41.1</td>
<td>35,600</td>
<td>87,500</td>
<td>122,600</td>
</tr>
<tr>
<td>Total: 65+</td>
<td>88.9</td>
<td>93.9</td>
<td>92.0</td>
<td>100,700</td>
<td>173,400</td>
<td>274,100</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>113,300</td>
<td>184,700</td>
<td>298,000</td>
</tr>
</tbody>
</table>

(a) Numbers may not sum to the total due to rounding.

Source: AIHW, *Dementia in Australia, 2012*, cat. no. AGE70, Canberra, p. 25.

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**Case study**

**Losing your self**

Alzheimer’s is not just an old person’s disease — some sufferers begin to experience symptoms in their 40s. Miriam Cosic explores a world where logic fails and memories fade, but where there is still time to appreciate life.

“This narrative is us,” neurologist Oliver Sacks wrote. Who you are now is the sum total of what you’ve done and thought: your childhood and school days, your career, your marriage, your children, your friends, your likes and dislikes, your skills, what you’re hopeless at, your moral code.

So imagine if that narrative starts to unravel, if black holes appear in your happiest memories, your most intimate thoughts, your accumulated knowledge, even your most basic skills, so that you no longer know how the bread in your hand relates to the shiny appliance with the slots in front of you. And imagine how traumatic this process of unravelling would be if you’re in the prime of life, have just met the love of your life and are paying off a mortgage.

Garry Lovell, 50, knew in his late 30s that he had the gene that could lead to early-onset Alzheimer’s. His mother had got it at 51, and he nursed her until her death 10 years later. Tormented by not knowing his likely fate, he sought testing for the gene in 2001, very early in his relationship with his partner Mandy. “I said to her, ‘Look, it’s a horrible thing and it’s okay if you don’t want to go out with me any more,’” he says. “But she said, ‘I’m never going to do that.’”

That must be true love. “It is,” he replies seriously. “We love each other a lot.”

In 2010, changes in Garry’s short-term memory put the couple on alert. Just before Christmas, his annual test confirmed he had the disease. The gene had been expressed: he was 46, his wife was 39. A partner in a Melbourne landscaping business that planted indigenous trees, Garry soon had to quit his job.

While he misses his job, he still enjoys gardening. He’s a champion dishwasher stacker, Mandy says, though he has trouble remembering where things go afterwards. He still helps in the kitchen — chopping vegetables, for example — and safety is not an issue. But the logistics of cooking, such as juggling timing, are too hard. “We rely on our memories so much, we don’t even realise it,” says Mandy, who has scaled back her private psychology practice to support her husband.

“We have our dark times about this,” she continues, “where we notice the reality, when you notice something new that he can’t do. That’s the bit that scares me and I’m sure it scares Garry.”

(continued)
Alzheimer’s is the most common form of dementia — some 260,000 Australians are estimated to have the disease, a figure that some experts predict will quadruple in 20 years. While it is generally thought of as an old person’s disease, 10 per cent of sufferers get it while still young (by medical criteria, that means under age 65). There are several forms of early-onset dementia — Alzheimer’s is just one — and while most sufferers are in their 40s, 50s or early 60s, dementia can strike as early as the 20s or 30s, often due to head injury or AIDS, or as a side-effect of acute disease (one recent case was a teenager who got it as a dreadful aftermath of encephalitis).

Noel Hackett was diagnosed with Alzheimer’s six years ago, at the age of 59, after a year of small but mounting bafflements. He was working in a government counselling service for the long-term unemployed, half of whom were homeless. He knew something was seriously wrong when he couldn’t get his head around a new computer system. Small failures of memory had caught him out before, but this was like a brick wall. Sometimes his younger clients, weaned on screen-based technology, would help him out, cover for him, while they were in his office.

“I lost my sense of purpose and my sense of being capable,” he says, “I used to go to meetings and I’d be thinking, ‘I hope no one asks me a question about that.’ ”

He worried for a while, talked it over with his wife, thought it might be stress and reduced his working hours. On his first Friday off, in October 2007, he went to see his doctor, an old friend. Hackett was one of the fortunate ones: some people with younger-onset dementia struggle for years to find out what’s wrong. Hackett’s doctor was onto it straight away and sent him for a battery of tests, including those designed to preclude other possibilities that can cause dementia-like symptoms, such as vitamin B deficiency or a brain tumour. His doctor referred him to a neurologist, warning that it might be Alzheimer’s, but it took another year before that was confirmed. Hackett’s wife, Jenny Fitzpatrick, says: “It was a very long year, 2008.”

The final diagnosis felt like a “whack to the back of the head”, Hackett says. “I could see a very dark, long road.”

His concentration as he talks is palpable, as if he’s feeling his way from sentence to sentence, like walking in the dark, avoiding a steep drop.

Hackett and Fitzpatrick, a teacher who stopped work to care for her husband, live in a suburban flat in Sydney. They are fun to be with, all gentle banter and laughter. Conversation is halting, however, and Hackett often trails off mid-sentence. He likes to laugh so much it is difficult to know when he is parodying himself and when he has actually lost his train of thought. But away from the presence of outsiders, when they stop putting their best face on, there have been terrible moments of sadness and grief.

Earlier in his life, Hackett was a priest. Now his faith comes and goes. Sometimes, when he feels low, life just seems “bloody crappy”, he says. Other times, like when he sits on his balcony on a balmy day and listens to the birds sing, the world expands. “I think the big picture is immeasurable,” he says, adding that he doesn’t try to conjure God. “And I don’t chase grace,” he continues. “I don’t chase God to give me another year. I don’t think like that at all.”

Adrienne Withall, co-leader of Inspired, a research collaboration between the University of NSW, the University of Sydney and several major hospitals, says that behavioural problems are more common in younger-onset Alzheimer’s sufferers. Parents can appear apathetic to their children, as though they don’t love them. “People think if a person’s apathetic and just sitting in a chair, it’s not too much of a problem. But it is for children who don’t understand why their parent suddenly doesn’t seem to care about them. And the other parent often has to work two jobs to keep up the family finances and they become a bit more absent, too.”

Withall mentions an Australian woman in her 30s who was diagnosed with Alzheimer’s, a single mother with two young sons, both special-needs children. She is racing against the clock to raise her children as well as she can and ensure that they are provided for before the illness claims her. At least she was given time to prepare. Diagnosis for younger-onset patients can take years. When a 45-year-old comes in complaining of memory loss and strange behaviour, Alzheimer’s is the last thing most GPs think of. Work or marital stress, depression or menopause are what immediately come to mind, and antidepressants or hormone replacement therapy prescribed.

Alzheimer’s disease was first identified in 1906, when a German neurosurgeon, Alois Alzheimer, dissected the brain of a dead dementia patient and described the build up of amyloid proteins into plaques and the growth of neurofibrillary tangles. Since then our understanding has come a long way. Scientists can plot brain-cell death, brain lesions and atrophy, and know that they lead to memory loss, disorientation and hallucinations, and that eventually the brain will forget to direct basic bodily functions, such as chewing, breathing and expelling waste.

We once thought what we called senility was just a stage of being; now we know that Alzheimer’s is a terminal illness. We can see the affected areas on MRIs. We can test for a faulty gene in the cases that are genetic, but we still don’t know exactly why it happens or how to prevent or cure it. Younger-onset dementia is
the more inexorable condition: usually genetic and so both heritable and transmissible. Late-onset is a yet to be properly defined combination of genes, environment and general health.

That dementia comes in more than 100 forms, each with its own causes, presents problems for both diagnosis and research. At the top of the list are: Alzheimer’s disease, which accounts for more than 50 per cent of cases; vascular dementia, which relates to general vascular health; fronto-temporal lobar degeneration (most commonly seen in young-onset dementia), which causes behavioural problems including disinhibition; dementia caused by head injuries, including sporting injuries (being punch-drunk, for instance); and alcohol-related dementia. Withall shudders when she thinks of young people’s lifestyles choices. “I look at some of the drugs around at the moment, like ice, and I think it’s going to be really terrifying. Someone in the Inspired study is working with drug and alcohol services to see who this population is and how we are going to manage them later on.”

Keeping the mind active seems to delay onset, which is why those hoping to age gracefully are busy solving crosswords and Sudoku, and learning new languages. “We now know you can live with a degree of brain atrophy or tissue loss or amyloid load, and it’s variable as to how it affects people,” says David Ames, a Melbourne University professor who specialises in Alzheimer’s. “So you see people who have got significant brain atrophy on a scan, who are still performing quite well. And you see, particularly in young-onset cases, people who don’t look as though they’ve got much brain atrophy at all and yet they’ve got cognitive difficulties.”

More highly educated people seem to deteriorate more slowly and have more brain damage by the time they notice a decline in their faculties. A New York professor of clinical neuropsychology, Yaakov Stern, developed the “cognitive reserve” hypothesis. “If you’ve had the opportunity to be well-educated, you have more connections to damage, and you can cope with more injury to your brain before it becomes apparent,” says Ames. In other words, the more cells and connections your brain has made, the more it can afford to lose.

Researchers have isolated various gene abnormalities that can cause Alzheimer’s, but they don’t yet know what to do with the information. “I’ve been saying for 20 years there will be a cure in five, and we still don’t have it,” says Henry Brodaty, professor of ageing and mental health at the University of NSW. Billions of dollars are being pumped into clinical, epidemiological and drug research because the eventual pay-off will be astronomical. “It’s huge money,” Brodaty says, estimating that a cure could be worth $20 billion a year.

Even if it doesn’t strike us personally, Alzheimer’s will cast its shadow on many of us. “I’ve come to the realisation that when we talk about dementia to other groups, we’re actually talking about ourselves,” says John Watkins of Alzheimer’s Australia. “Because if you’re a woman, and you live to 95, one in two women will have dementia. So it’s something that’s going to impact many of us.”

Garry Lovell is making the best of what life has dealt him. He says he still enjoys his friends’ company, though conversation in large groups is impossible. He plays a bit of golf and has taken up tennis. “I’m just trying to live it up and not worry about what might happen,” Garry says. “If you kept thinking about it and think, ‘Why me’, you’re going to miss out on the next two years.”

Source: Good Weekend, Sydney Morning Herald, 2 March 2013.

Case study review
1. What is Alzheimer’s disease?
2. (a) How many Australians are estimated to have Alzheimer’s disease?
   (b) How is this expected to change in the next 20 years?
3. Identify some of the causes suggested for the early onset of dementia.
4. Identify two illnesses that produce dementia-like symptoms.
5. Describe how Alzheimer’s disease was first identified.
6. Dementia comes in many forms. List and explain some examples.
7. ‘Highly educated people seem to deteriorate more slowly and have more brain damage by the time they notice the decline.’ What reason is suggested for this observation?
10.4 The health status of Australia’s adults

TEST your knowledge
1 Referring to figure 10.18, explain why life expectancy increases as age increases.
2 Both males and females are living longer; however they are not necessarily in good health. Using the data from figure 10.19, suggest how poor health status may impact on individual human development.
3 What is meant by the term comorbidity? (a) How does it impact on the cost of health care in Australia? (b) What are the most common disease combinations?
4 Use the Dementia links in the Resources section of your eBookPLUS to find the weblink and questions for this activity.

APPLY your knowledge
5 (a) For adults aged 19–24, what are three major causes of morbidity, and what is the major cause of mortality? (b) For adults aged 25–44, what are three major causes of morbidity, and what is the major cause of mortality? Do causes of mortality differ for males and females in the age group? (c) For adults aged 45–64, what are three major causes of morbidity? What is the major cause of mortality for men and for women? (d) For adults aged 65 and over, what are the three major causes of morbidity? What are the two leading causes of death for males and females?
**KEY SKILL** Interpret data on the health status of Australia’s adults

The ability to interpret data is a vital skill in the study of health and individual human development. Data can be presented in a variety of forms (notably in tables and figures). It is important to have an understanding of what information is being presented and to learn how to interpret the information.

- The first step is to note the title of the data. This provides an indication of the type of information being presented.
- In the case of a table, identify the column headings and any subheadings that might be included.
- In the case of a figure (e.g., a line graph or bar graph), identify the horizontal and vertical axis labels.
- Pay attention to any notes about the data that might be included at the bottom of the table or figure.
- Note the units of measurement that are being used in the data.
- Once the data have been carefully observed, it is possible to identify trends and patterns; for example, a trend might be the decline in rates of smoking in developed countries since the 1980s.

Further consideration of data may generate a range of questions, such as:

(a) What factors may have led to this trend or pattern?
(b) What are some possible implications of this data? (Health data highlights areas of need and allows governments to focus their planning and use of resources.)
(c) Has the data supported popular thinking or provided new or unexpected insights?

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause of death</th>
<th>% of deaths</th>
<th>Cause of death</th>
<th>% of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coronary heart disease</td>
<td>15.6</td>
<td>Coronary heart disease</td>
<td>13.7</td>
</tr>
<tr>
<td>2</td>
<td>Lung cancer</td>
<td>6.6</td>
<td>Cerebrovascular diseases</td>
<td>9.5</td>
</tr>
<tr>
<td>3</td>
<td>Cerebrovascular diseases</td>
<td>5.9</td>
<td>Dementia and Alzheimer’s disease</td>
<td>9.2</td>
</tr>
<tr>
<td>4</td>
<td>Chronic obstructive pulmonary disease</td>
<td>4.4</td>
<td>Lung cancer</td>
<td>4.4</td>
</tr>
<tr>
<td>5</td>
<td>Prostate cancer</td>
<td>4.4</td>
<td>Breast cancer</td>
<td>4.1</td>
</tr>
<tr>
<td>6</td>
<td>Dementia and Alzheimer’s disease</td>
<td>4.3</td>
<td>Chronic obstructive pulmonary disease</td>
<td>3.6</td>
</tr>
<tr>
<td>7</td>
<td>Colorectal cancer</td>
<td>3</td>
<td>Diabetes</td>
<td>2.8</td>
</tr>
<tr>
<td>8</td>
<td>Diabetes</td>
<td>2.9</td>
<td>Heart failure</td>
<td>2.8</td>
</tr>
<tr>
<td>9</td>
<td>Cancer-ill defined</td>
<td>2.6</td>
<td>Colorectal cancer</td>
<td>2.6</td>
</tr>
<tr>
<td>10</td>
<td>Suicide</td>
<td>2.3</td>
<td>Cancer-ill defined</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: Adapted from AIHW, *Australia’s health 2014*, pp. 72–3.

The following trends can be identified in the leading causes of death in 2011 for males and females identified in Table 10.4:

- Coronary heart disease was the leading cause of death for both males and females.
- Lung cancer was the second most common cause of death in males and the fourth in females.
- Cerebrovascular disease was the second most common cause of death for females and third for males.
• Dementia and Alzheimer’s disease was the third leading cause of death in females and sixth in males.
• Suicide featured as the tenth leading cause of death in males but did not feature in the top 10 leading causes of death in females.

**PRACTISE the key skills**
1. Use the data in table 10.4 to identify two similarities and two differences in the leading causes of death of males compared to females.
2. Dementia and Alzheimer’s disease are a more common cause of death for females. Provide a possible reason for this trend.
Chapter summary

- Adulthood is the longest stage of the lifespan and can be divided into three stages: early (19–40 years), middle (41–64 years) and late (65+ years) adulthood.
- Early adulthood is when the body should be at its peak physical condition.
- Middle and late adulthood bring a steady decline in many physiological functions.
- Biological, behavioural and environmental (physical and social) determinants can have a major impact on the progress through the adulthood stage of the lifespan.
- The social development of adults is reliant on the quality of interactions an adult has with the people around them including family, partner, work, leisure and community.
- The ability to cope with the multitude of changes that occur in adulthood is an important part of emotional development.
- The ability to think, reason, and effectively use memory skills is part of intellectual development.

Health status refers to an individual's or a population's overall health, taking into account various aspects such as life expectancy, amount of disability and levels of disease risk factors.

- The life expectancy of Australian adults has increased by two years over the past decade for both men and women. Males at 65 years are now expected to live to about 84.2 years and females to about 87.1 years.
- Australian adults generally experience good health.
- The main cause of mortality for both men and women is coronary heart disease.

A POEM ON AGEING

When an old lady died in the geriatric ward of a small hospital near Dundee, Scotland, it was wrongly assumed that she had nothing left of any value. But later, when the nurses were going through her meagre possessions, they found this poem. Its quality and content so impressed the staff that copies were made and distributed to every nurse in the hospital.

Look closer
What do you see, nurses, what do you see?
What are you thinking when you're looking at me?
A crabby old woman, not very wise,
Uncertain of habit, with faraway eyes?
Who dribbles her food and makes no reply
When you say in a loud voice, 'I do wish you'd try!'
Who seems not to notice the things that you do, and
Forever is losing a stocking or shoe …

At forty, my young sons have grown and are gone,
But my man's beside me to see I don't mourn.

At fifty once more, babies play 'round my knee,
Again we know children, my loved ones and me.

Dark days are upon me, my husband is dead;
I look at the future, I shudder with dread.

For my young are all rearing young of their own,
And I think of the years and the love that I've known.

I'm now an old woman … and nature is cruel;
'Tis jest to make old age look like a fool.

The body, it crumbles, grace and vigour depart,
There is now a stone where I once had a heart.

But inside this old carcass a young girl still dwells,
And now and again, my battered heart swells.

I remember the joys, I remember the pain,
Remembering the vows that I promised to keep.

At twenty-five now, I have young of my own,
Who need me to guide and a secure happy home.

A woman of thirty, my young now grown fast,
Bound to each other with ties that should last.

Remember this poem when you next meet an old person who you might brush aside without looking at the young soul within. We will one day be there, too.

By Phyllis McCormack

Interactivities:
Chapter 10 crossword
Searchlight ID: int-2907
Chapter 10 definitions
Searchlight IDs: int-2908
TEST your knowledge
1. For each phase of adulthood, list two significant examples of physical, social, emotional and intellectual development. You might like to complete a table similar to the one shown below.

<table>
<thead>
<tr>
<th>Development/stage</th>
<th>Physical</th>
<th>Social</th>
<th>Emotional</th>
<th>Intellectual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early adulthood</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td>2.</td>
<td>2.</td>
<td>2.</td>
<td>2.</td>
</tr>
</tbody>
</table>

2. (a) Identify examples from *A poem on ageing* of changes that occur in each stage of adulthood.
   (b) Explain how the ‘old woman’ is feeling.
   (c) Provide two reasons why old age is perceived in a negative way.
   (d) Does reading this poem affect your perception of ageing? Explain.

APPLY your knowledge
3. Listen to the song ‘When I’m 64’ by the Beatles.
   (a) Is the perception of ageing in this song mainly positive or negative? Use examples from the song to support your response.
   (b) What changes could you recommend to make the song more representative of a 64-year-old today?

4. Research current media, songs and poems that are related to adulthood and ageing and select one.
   (a) Analyse the images of ageing that they are representing. Are they accurate? Explain, using examples to support your response.
   (b) Share your findings with the class.

5. Read the following case study and answer the following questions:
   Grace is a 68-year-old grandmother of two. She lives alone after the death of her husband four years ago. Grace tries to keep busy. She babysits her grandchildren, enjoys baking and feels good when she can help her two daughters cope with their busy lives. On three days a week she attends the local gym for the ‘Live longer, live stronger’ program. Her strength and physical endurance have improved significantly since she started six months ago. After the class, the participants (all over the age of 60) sit and have a drink together and socialise. Grace has participated in group activities with the class, including a ‘Christmas in July’ lunch and a trip to the local market. Grace has made some wonderful friendships and looks forward to these sessions.
   (a) Analyse Grace’s activities and identify the different types of development (physical, social, emotional and intellectual) that each would impact.
   (b) What other community resources are available for older adults to help keep them actively involved after their retirement?
   (c) Identify the main causes of mortality for females in Grace’s stage of adulthood.