The HEALTH

of Australia's **MALES**

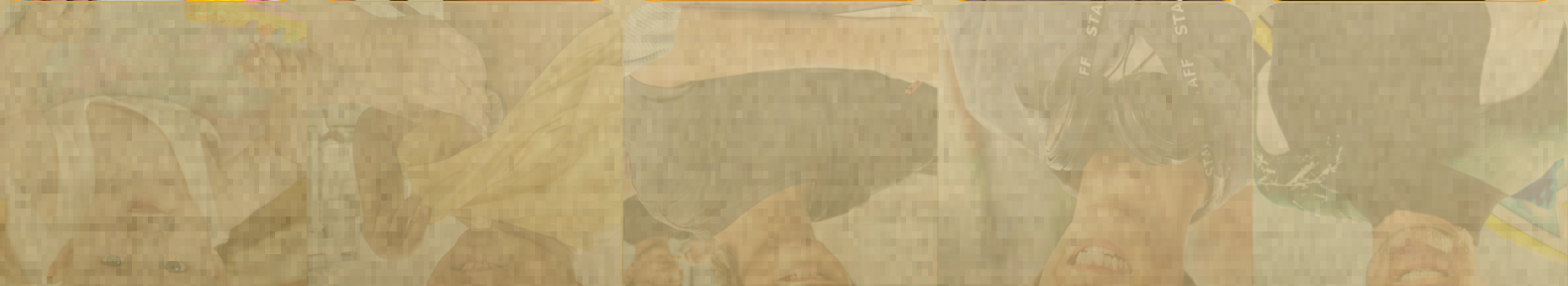## From **birth to young adulthood** (0–24 years)

Australian Government

Australian Institute of Health and Welfare

The HEALTH of Australia's MALES

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CONTENTS

ACKNOWLEDGMENTS

ABBREVIATIONS

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
ANZAC	Australian and New Zealand Army Corps
BEACH	Bettering the Evaluation and Care of Health
BMI	body mass index
dmft	decayed, missing or filled deciduous teeth
DMFT	decayed, missing or filled permanent teeth
DoHA	Department of Health and Ageing
DS NMDS	Disability Services National Minimum Data Set
GP	general practitioner
HIV	human immunodeficiency virus
HPV	human papillomavirus
ICD	International Classification of Disease
MP	Member of Parliament
NAPLAN	National Assessment Program—Literacy and Numeracy
NDA	National Disability Agreement
NDSS	National Diabetes Services Scheme
NHS	National Health Survey
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
STI	sexually transmissible infection

SUMMARY

The years from birth to young adulthood (ages 0–24) encompass a breadth of life stages in which males undergo major developmental changes and acquire important social and health behaviours. In 2011, 3.7 million males (more than one-third of the Australian male population) were aged 0–24. Consequently, the health status of this population group is important both for the individuals concerned, and for the health and productivity of the future adult population.

This report is the third in a series funded under the National Male Health Policy (DoHA 2010). It builds the evidence base for the health of young males in Australia, focusing on those health conditions and risk factors that are age-specific (such as congenital anomalies) and those where large sex differences are observed (such as injury).

Life, birth and death

- Male babies born in 2009–2011 can expect to live to the age of 79.7, nearly 5 years less than female babies born the same year (84.2). Male babies are also more likely than female babies to be born before 37 weeks gestation, have a high birthweight, or have a congenital anomaly.

- There were 52 deaths per 100,000 males aged 0–24, nearly twice that among females of the same age (30 per 100,000). Males were nearly 3 times as likely to die from land transport accidents, the major cause of death for males aged 1–24.

Healthy living

- The proportion of males aged 2–24 in a healthy weight range decreases with increasing age.

- As a general trend, younger males (5–16) are more active and more likely to meet physical activity guidelines than older males (17–24).

- More than half of males aged 5–15 brush their teeth at least twice a day. By age 14, more than half of males have at least one permanent tooth affected by decay.

Risky living

- About 6% of males aged 14–19 smoke tobacco daily and are less likely than females of the same age to do so. More than 2 in 5 (43%) males aged 14–19 were at risk of injury resulting from a single occasion of drinking alcohol.

- Males aged 0–24 were more likely to be hospitalised for injury, and more likely to die from injury, than females of the same age.

- Chlamydia is the most commonly notified infectious disease among young males. More than half (53%) of chlamydia notifications among males were for those aged 15–24.

Health status and health service use

- Almost 1 in 4 (23%) males aged 16–24 had experienced symptoms of a mental disorder, and 4 in every 1,000 males aged 18–24 had been diagnosed with a psychotic disorder. In spite of this, rates of help seeking among young males are low (13%).

- About 193,400 males aged 0–24 (8%) have a disability, and about 78,000 accessed selected disability services.

1 INTRODUCTION

Background

Childhood, adolescence and young adulthood are broad life stages that span a wide range of life events, milestones and transitions. During this period, young people undergo physical, emotional and intellectual changes. Important skills and social behaviours are acquired and health patterns, both positive and negative, can be established. During this period, sex differences emerge in many measures of health.

In 2011, about one-third (34%) of the male population was aged 0–24, a total of 3.7 million males (ABS 2012a). Examining the health of this group is important, not only for the individuals concerned, but also for the health and productivity of the future adult population. The 2010 National Male Health Policy identified improved health for males at different life stages as a priority area for action (DoHA 2010).

Accordingly, this report focuses on male health from birth to young adulthood, defined as ages 0–24. It covers health conditions and risk factors that are age-specific (such as congenital anomalies) and those where large sex differences are observed (such as injury).

This report is the third in a series designed to build the evidence base on male health in Australia (Box 1.1). A fourth report (AIHW forthcoming) will focus on males aged in their twenties and beyond.

Box 1.1: The story so far…

In May 2010, the Australian Government launched Australia's first National Male Health Policy (DoHA 2010). This policy sets the scene for this series of reports. The series brings together a wide range of data sources to provide a health snapshot of males as a distinct population group.

The first report, *The health of Australia's males*, presented a broad-brush picture of male health and described health determinants, conditions and service use among Australia's males (AIHW 2011d).

The second report, *The health of Australia's males: a focus on five population groups*, provided more detailed information for five male subpopulations with distinct and special health needs (AIHW 2012f). These subpopulations were characterised by Indigenous status, remoteness, socioeconomic disadvantage, region of birth and age.

A conceptual framework for male health

This report takes a holistic view of health as a state of complete physical, mental and social wellbeing. As such, the scope of male health is very broad and made even more so because it encompasses males from birth to age 24. The term 'male' has been used throughout this report in preference to 'man' or 'boy', to recognise that the age when a boy is considered an adult (man) depends upon cultural norms around gender, roles and ageing.

A conceptual framework can help define the 'universe' of male health (Figure 1.1). This framework was also presented in the two previous reports and the structure of this third report focuses on the 'individual physical and psychological make-up' component of the framework and incorporates elements from 'social roles'.

The report also highlights data and information gaps, including where data are:

- not yet available but are being developed or collected
- available but need to be updated, or where data linkage may facilitate their use and interpretation
- not available and data development or research is required.

The rationale and importance of these data gaps are discussed.

The relevance of particular subject matter to each age group means that not all age groups are represented in each section of the report. For example, physical activity is not relevant for newborn babies and neonatal mortality is not applicable to males aged 18–24. The scope of some data collections and the availability of data by sex and smaller age groups are also limitations in the presentation of some data.

Where do I go for more information?

A number of Australian Institute of Health and Welfare (AIHW) reports cover the health and welfare of young males and females in Australia. The following reports focus on the age groups listed:

- 0–12 years: *Headline indicators for children's health, development and wellbeing 2011* (AIHW 2011c)
- 0–14 years: *A picture of Australia's children 2012* (AIHW 2012j)
- 12–24 years: *Young Australians: their health and wellbeing 2011* (AIHW 2011f).

Policies, strategies and interventions

Prevention and health promotion, early intervention, treatment and care, rehabilitation, palliation and policies targeting other areas

Resources, systems and research

Broad features of society

Culture

Affluence

Social cohesion

Social inclusion

Media

Language

Environmental factors

Natural

Built

Geographical location

Remoteness

Latitude

Socioeconomic characteristics

Education

Employment

Income and wealth

Family, neighbourhood

Access to services

Housing

Migration/refugee status

Food security

Social roles

Partner, parent, carer, employee, friend, other

Knowledge, attitudes and beliefs

Health literacy

Health behaviours

Tobacco use

Alcohol consumption

Physical activity

Dietary behaviour

Use of illicit drugs

Sexual practices

Vaccination

Psychological factors

Stress

Trauma, torture

Resilience

Safety factors

Risk taking, violence

Workplace Health & Safety

Biomedical factors

Birth weight

Body weight

Blood pressure

Blood cholesterol

Glucose tolerance

Immune status

Health and wellbeing over time

Life expectancy, mortality

Subjective health

Functioning, disability

Illness, disease

Injury

Individual physical and psychological make-up

Genetics, prenatal environment, gender, ageing, life course and intergenerational influences
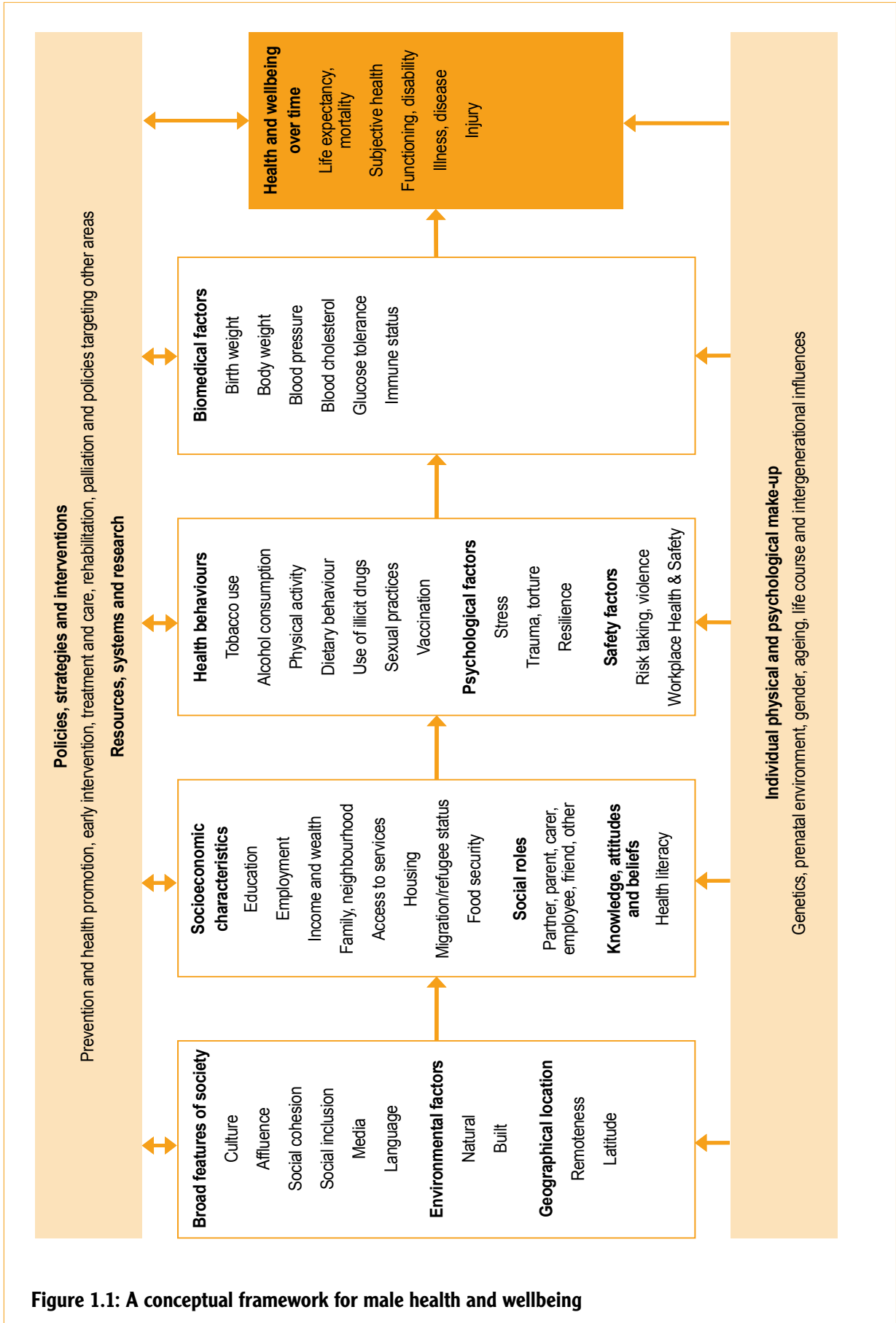
Figure 1.1: A conceptual framework for male health and wellbeing

2 FROM BIRTH TO YOUNG ADULTHOOD AT A GLANCE

> **Key findings**
>
> - In June 2011, there were 3.7 million males aged 0–24, making up one-third (34%) of the male population. This proportion is projected to decline to 28% by the end of the 21st century.
> - In 2011, 5% of males aged 0–24 were Indigenous, 30% lived in regional and remote areas and 14% were born overseas.
> - Although rates of school attendance are similar for males and females, males perform better on numeracy tests and females generally perform better on literacy tests. In 2010, 83% of females and 73% of males had attained Year 12 level of education.

This chapter looks at some of the key demographic and social characteristics of males aged 0–24, and important themes in the literature surrounding this broad age group. In many cases, these characteristics and themes have implications for health and may define periods of risk and opportunity.

The span of ages 0–24 covers major developmental phases, and periods of rapid and gradual growth. In both personal and demographic terms, it is a rich time of life. Aside from the moment of birth, key milestones can include physical growth spurts, starting school, puberty, starting tertiary education, gaining employment and moving away from home. While both males and females experience these milestones, it is useful to examine gender differences, particularly as social experiences and expectations may diverge.

It is useful to break down this broad age group into smaller categories. Methods of grouping include single, 5- or 10-year age groups, or groupings that reflect broad developmental stages, for example:

- before birth and newborn (perinatal)
- early childhood (0–4)
- middle childhood (5–12)
- adolescence (13–17)
- young adulthood (18–24).

In this chapter, the section on demographic characteristics is supplemented with data that in most cases is readily available by age and sex. The section on social characteristics draws largely on literature, as data are less readily available. An overview of the complex interplay of social factors that influence the health of young males is presented. It is not intended to be comprehensive or complete, but to provide context for the more detailed analyses of health status and service use in the following chapters.

Demographic characteristics

Age distribution

In June 2011, males aged 0–24 comprised 34% of the total male population:

- 7% (748,100) were in early childhood (0–4)
- 10% (1.1 million) were in middle childhood (5–12)
- 7% (729,000) were in adolescence (13–17)
- 10% (1.1 million) were in young adulthood (18–24) (Figure 2.1).

The number of people in these age groups is constantly changing due to births, deaths and migration, and ageing from one category to the next. For example, there were about 152,700 male babies born and 1,940 deaths among males aged 0–24 in 2010 (ABS 2011c; ABS 2011d).

Based on assumptions about births, deaths and migration, the Australian Bureau of Statistics produces projections about what the population might look like in the future. While males aged 0–24 comprised 34% of the male population in 2011, projections suggest this will decrease to 29% by midway through the 21st century and to 28% by its end (ABS 2008b). This is because the Australian population is ageing—a trend driven by sustained periods of low fertility and increasing life expectancy.

Source: AIHW analysis of 2011 estimated resident population (ABS 2012a).

Figure 2.1: Age distribution, males and females aged 0–24, June 2011
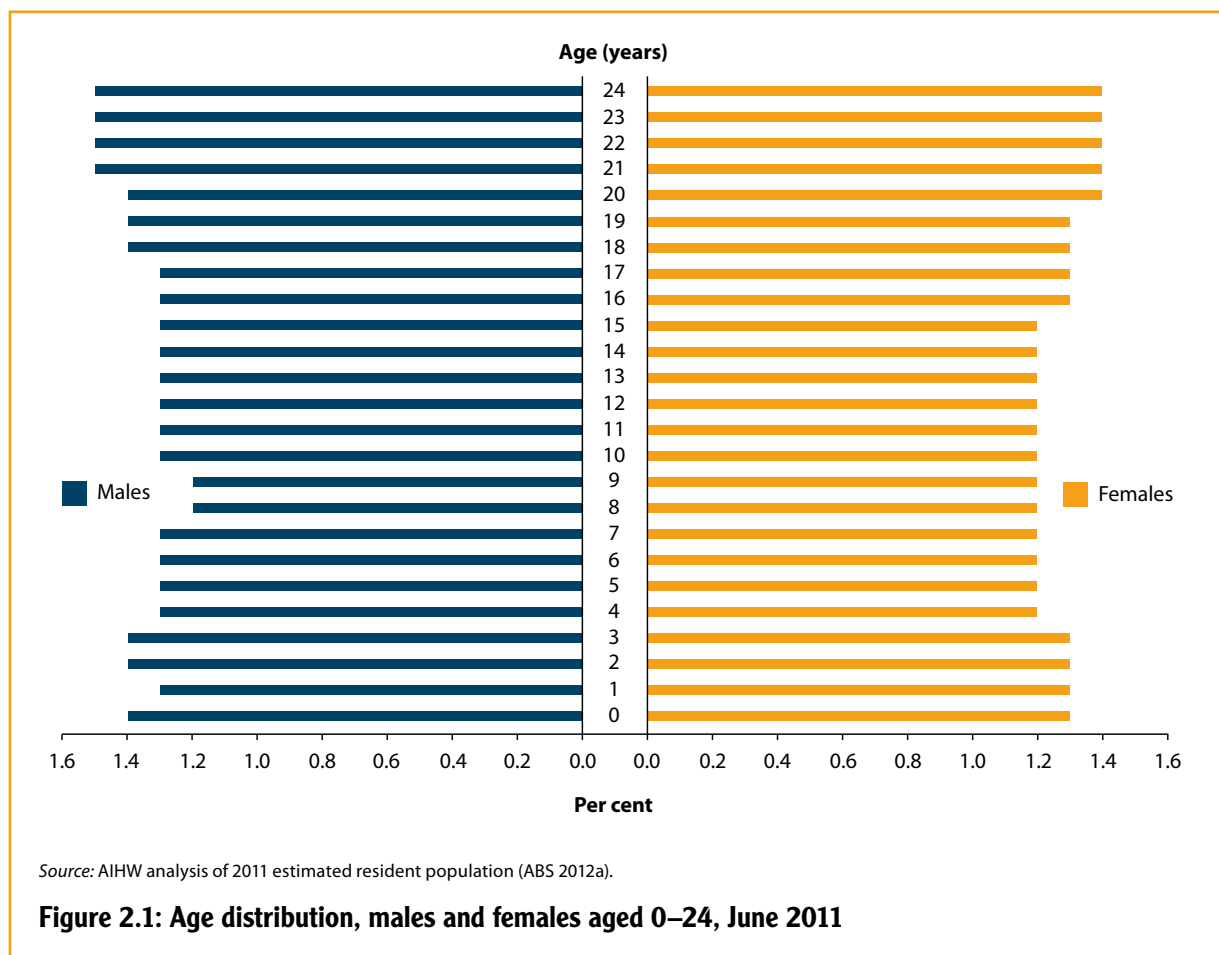
The sex ratio

As of June 2011, there were more males than females in the 0–24 age group, with 105 males for every 100 females (ABS 2012a). In contrast, there were 96 males for every 100 females aged 25 or over. In the older age groups, much of this difference is due to females living longer.

More males are born in Australia than females. In 2010, males made up 51% of all births, resulting in 7,575 more male babies born than female babies (ABS 2011c). The reasons for this are complex and may include genetic, environmental, parental and social factors.

Other demographic characteristics

Aboriginal and Torres Strait Islander status

Aboriginal and Torres Strait Islander males, as a population group, experience disproportionate levels of disadvantage and poorer health compared with other Australians (AIHW 2012f). They also have a much younger age distribution, with proportionally more boys and fewer older men than the overall Australian population.

In the 2011 Census of Population and Housing, there were nearly 154,300 Indigenous males aged 0–24, accounting for more than half (57%) of the total Indigenous male population. Overall, 4.5% of males aged 0–24 were Indigenous (Figure 2.2). This was higher than for all males (2.7%) and males aged 25 or over (1.7%), and similar to females aged 0–24 (4.6%). The proportion of males who were Indigenous decreased with age, from 5.0% for males aged 0–4 to 3.3% for males aged 20–24.
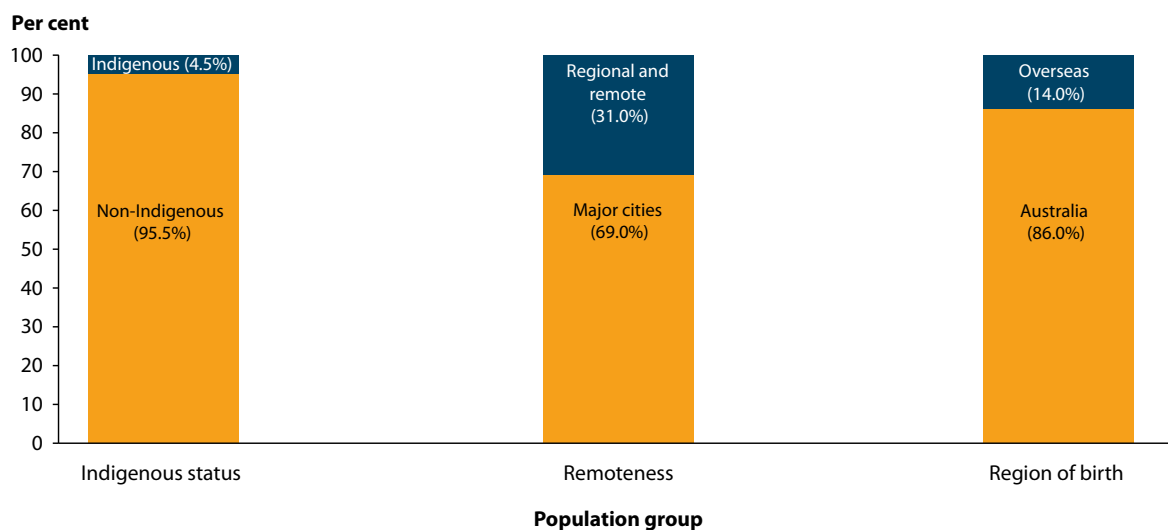
Source: AIHW analysis of ABS estimated resident populations and the Census of Population and Housing.

Figure 2.2: Distribution of males aged 0–24, by broad population group, 2011

Region of birth

A person's country of birth can be used to distinguish people of different cultural backgrounds and this measure is frequently found in health-related data collections. In many cases, males born overseas enjoy health that is as good, if not better than, that of the Australian-born male population (AIHW 2012f). However, males born overseas also bring a unique health profile and set of challenges for Australia and its health system.

In 2011, 14% of males aged 0–24 were born overseas, however, this proportion varied widely within this broad age group (Figure 2.2). It increased from 4% among males aged 0–4 to 28% among males aged 18–24. The higher proportion of overseas-born males in the older age groups reflects migration practices for education or employment.

Among males born overseas aged 0–24, New Zealand was the most common region of birth (13%), followed by the United Kingdom (11%), China (11%) and India (9%).

Remoteness of residence

Remoteness and health status are associated, with health status generally decreasing with increasing remoteness (AIHW 2012f). Those living in regional and remote areas may face social and geographic barriers to good health, such as difficulties accessing health services, higher costs and less availability of fresh food, harsher environmental conditions and relative social isolation.

In 2011, 69% of males aged 0–24 lived in *Major cities*, 28% in regional areas and 3% in remote areas (Figure 2.2). A higher proportion of young adult males (74% aged 20–24) lived in *Major cities* due to the educational or employment opportunities available.

Social, economic and environmental determinants of health

Many factors influence male health and wellbeing from childhood to young adulthood. While the family environment plays a fundamental role throughout this period, the strength of social and community influences increase as boys gain independence and mature into young adults.

This section examines a select, but not exhaustive, list of social, economic and environmental determinants of male health and wellbeing. These do not occur in isolation and their effects may be the result of a complex interplay between factors, as highlighted in the conceptual framework in Figure 1.1.

What are the social determinants of health?

There has been increasing interest in recent years about the social determinants of health: a term that encompasses the social, economic, political, cultural and environmental influences on health. Put simply, they are the conditions into which people are born, grow, live, work and age (WHO 2011b). These conditions and the social inequalities that stem from them play a major role in producing health inequalities.

People who are disadvantaged live shorter lives, have higher rates of illness, disability and death, and often have limited access to health-care services (AIHW 2010a). Disadvantage can take many forms, and young males (and females) who are financially dependent on their parents will share the same social and economic disadvantage as their parents.

Health status within a population generally follows a gradient, with overall health tending to improve with each step up the socioeconomic ladder (WHO 2011b). This is commonly known as the social gradient of health. Gradients can be observed for tobacco smoking, physical inactivity, obesity, cancer survival, oral health, health literacy and self-assessed health status, among others (AIHW 2012a).

The example in Figure 2.3 presents a social gradient for tobacco smoking and socioeconomic status, showing that as socioeconomic status increases, tobacco smoking decreases. In 2010, 25% of all people aged 14 and over living in the most disadvantaged areas (lowest socioeconomic status) smoked tobacco, twice the rate of people living in the least disadvantaged areas (highest socioeconomic status) (AIHW 2011a).

Source: AIHW 2011a.

Figure 2.3: Prevalence of current tobacco smoking, people aged 14 and over, 2010
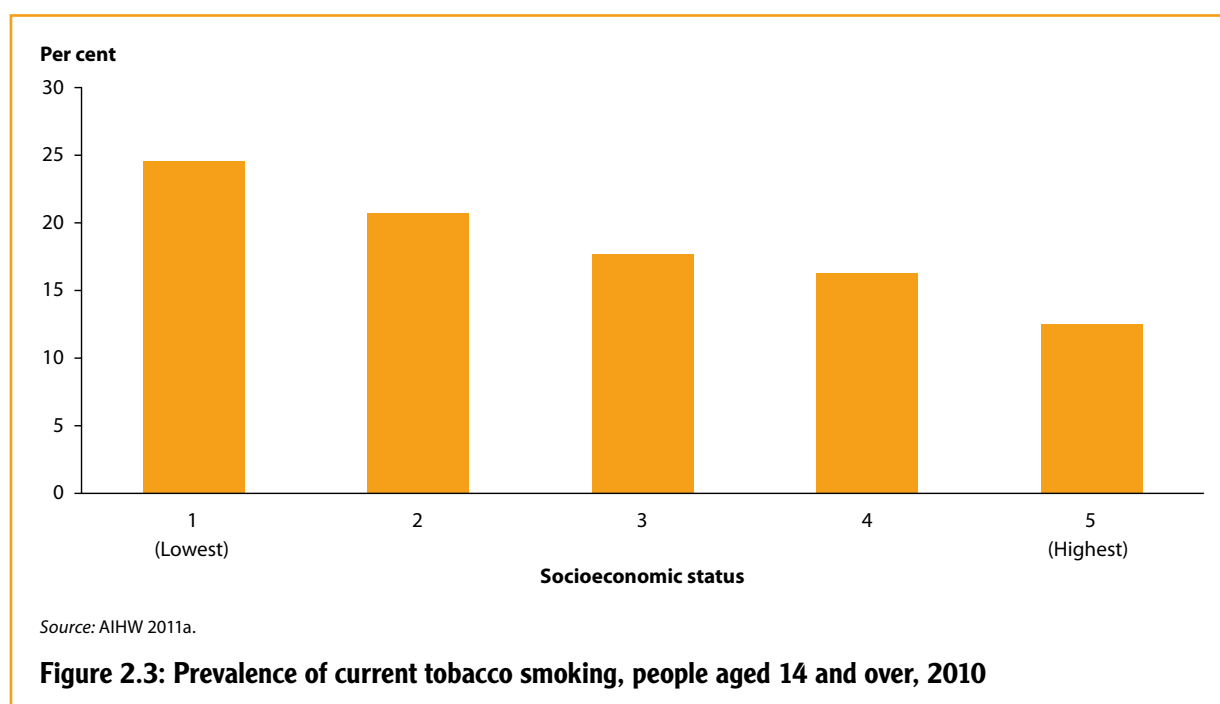
The family environment

Families play a crucial role in the lives of children and young people, providing them with physical, emotional and economic support (AIHW 2011c; AIHW 2011f). Children are more likely to have better health and educational outcomes when the family environment is nurturing, stimulating and safe (McCain & Mustard 2002).

In 2009–10, most children aged 0–17 in Australia lived in couple families (82%). About 1 in 6 (18%) lived in one-parent families, and of these, about 3% lived with a lone father (ABS 2011e).

Fathering

In recent years, there has been more flexibility in parenting arrangements and fathers are playing a greater role in caring for their children. The weight of evidence suggests that fathers make unique and direct contributions to their children's wellbeing. Simply being present is not enough for fathers to make a meaningful contribution. The benefits occur when fathers have a close relationship with their children and are committed, responsive and supportive (Lees 2007).

Fathers can become positive role models for their children and support the development of their physical, emotional and social skills (McCann 2000). Fathers' behaviours and personal characteristics contribute (positively or negatively) to family income, family social status and stability, and opportunities for children to access health care and education.

Good fathering has a positive impact on children, fathers and the broader family and community. It can also be intergenerational, in that good fathers become good role models for their sons to father the next generation.

Education

Education is an important contributor to health and wellbeing throughout life and is associated with health, health literacy and service use (AIHW 2011c). An individual's education level can affect his or her own health and that of their family, particularly dependent children. Education also influences other social determinants of health, including employment, income and living conditions (Bloom 2007). Because education, learning and development are lifelong and ongoing, the effect and importance of education on the 0–24 age group is a broad and complex subject. Consequently, this section focuses on:

- early childhood education and school readiness
- primary and secondary school attendance and attainment
- transitioning from school.

Early childhood education and school readiness

There are strong intergenerational effects between parental education level and a child's health and education outcomes: this is evident in the association between the educational achievement of mothers and the health, survival and educational attainment of their children (Cleland & van Ginneken 1988). These effects are critical in the early years of child development, where informal learning activities such as shared book reading and attendance at formal pre-school programs can affect school readiness in children.

Children who start school with developmental vulnerabilities are more likely to experience difficulty in the transition to school, have lower academic achievement and be at greater risk of mental health problems, criminal activity and poorer employment opportunities (Farrar et al. 2007).

A 2009 report on the Australian Early Development Index found that while the majority of children performed well in each of five developmental domains—health and wellbeing, social competence, emotional maturity, cognition and communication skills—males were more likely than females to be developmentally vulnerable in one or more domains (30% compared with 17%, respectively) (AIHW 2012a).

Primary and secondary school attendance and attainment

School attendance is important to help children acquire the basic building blocks for learning and educational achievement as well as the social skills for a successful life.

In 2010, while primary and secondary school attendance rates were similar for males and females, attainment rates differed by sex (ACARA 2012).

The National Assessment Program—Literacy and Numeracy (NAPLAN) shows that, in general, females perform better on tests of verbal skills (reading, writing) and males perform better on tests of numerical skills (mathematics and some science). These differences were more marked at the secondary levels.

Students who have attained Year 12 are more likely to undertake further study, particularly in higher education, and to enter the workforce. This helps to develop a skilled workforce, which contributes to ongoing economic development and improved living conditions. In 2010, 73% of males aged 20–24 had attained Year 12 (ABS 2011b). This was lower than among females of the same age (83%), and may reflect greater opportunities for young males to enter full-time work and to participate in vocational education and training programs (ABS 2011b).

At-risk groups

Children whose parents have not completed secondary school and those from remote areas, lower socioeconomic areas, and/or Indigenous backgrounds do not perform as well as other children in NAPLAN testing (ACARA 2012). This reflects the longer-term influence of parental education on the educational outcomes of their children, and population groups where interventions could be targeted.

Many young people who live in remote communities do not achieve the same levels of basic literacy and numeracy as those in cities (Goodrick 2012). Social issues such as alcohol and drug use, and a lack of options or enthusiasm for employment, further education or training may also influence school attendance and performance. Those who are not engaged in education or work are at a greater risk of long-term future disadvantage.

Young people with a chronic disease or disability may also have difficulty reaching their full social or educational potential. For example, attention deficit and hyperactivity disorder, anxiety or depression have implications for the psychosocial development, educational and employment outcomes for children and adolescents, as well as their encounters with the justice system (Bhatia & Bhatia 2007).

Helping males to succeed at school

There is evidence that males regard their school experience less favourably than females (Slade 2002).

Males generally learn better by doing rather than listening or watching (Nagel 2005). For example, physical activities such as sport enable males to learn and practise a wide range of skills and behaviours.

A number of emerging education programs focus on individual needs to ensure school-based learning is engaging and relevant to experiences outside the school. Mentoring also cultivates a desire by younger males to look up to older students and has been shown to benefit both parties (Martin 2002). These approaches have been shown to also benefit younger females.

International comparisons

The Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) evaluates education systems worldwide by testing the skills and knowledge of people aged 15. PISA is run every 3 years and focuses on one subject (reading, mathematics or science). In 2009, the focus was on reading.

It is estimated that 80% of males aged 15 in Australia were proficiency level 2 and above in reading—that is, above the baseline level that allows people to participate effectively and productively in life (OECD 2010b). This is better than the OECD average (75%) and places Australia eighth out of 34 OECD countries. Similar to all participating countries, males in Australia were outperformed by females (87% at proficiency level 2 and above).

While Australia is one of the top-performing countries, our reading performance has declined since 2000, both in terms of ranking and average student performance (OECD 2010a). On average, performance among Australian males declined by 3.3% and females by 2.4%.

Transitioning from school

The completion of schooling is an important time in the lives of young males (and females). Continuing participation in education or starting employment helps develop individual capability and a socially inclusive society. Although the majority make a successful transition, there is a small proportion who are not in employment, education or training. These young males may experience social and economic disadvantages at this time and in the future.

In 2009, 86% of males aged 15–19 and 80% of males aged 20–24 were fully participating in education and/ or employment (AIHW 2011c). The proportions were slightly less for females—83% aged 15–19 and 76% aged 20–24 were fully participating.

Workforce participation and income

Workforce participation and income, along with educational attainment, are important and interrelated contributors to health and wellbeing for individuals and their families (AIHW 2011b). The effect and importance of workforce participation and income on the 0–24 age group is a broad and complex subject. Consequently, this section focuses only on the following health-related aspects of workforce participation and income:

- entry to the workforce
- precarious employment and unemployment
- resources for health and wellbeing.

Information on occupational illness and injury among young males is in 'Chapter 10 Injury'.

Entry to the workforce

For young males, entering the workforce as casual or part-time employees, trainees or apprentices provides the opportunity to gain financial independence, broaden their social and support networks, enrich their skill base—including financial management, responsibility and socialisation—and enhance their future employability. Risks to health and wellbeing arise when workforce participation is a necessity to supplement family income, or support independent living, and takes precedence over education and longer-term opportunities for financial stability, health and wellbeing (Skattebol et al. 2012).

Precarious employment and unemployment

Full-time, secure employment that is meaningful and offers fair financial recompense provides the most benefit in terms of health and wellbeing for males and their dependants. The 2007–08 National Health Survey showed that males aged 15–24 who were employed were more likely to rate their health as excellent or very good (69%) than males who were unemployed (58%).

Other forms of workforce participation that pose risks to individual and family health and wellbeing include:

- overemployment—working more hours than preferred
- precarious employment—unstable or insecure working arrangements
- underemployment—working insufficient hours or below skill level
- unemployment—actively seeking, but not able to find, work (EMCONET 2007).

Overemployment is known to impinge on family and leisure time and result in poor mental and physical health resulting from stress, isolation and relationship breakdown (ABS 2011a). In 2007, about 7% of males aged 15–24 were overemployed (ABS 2011a).

Precarious employment (insecure, casual, temporary), underemployment (insufficient hours or below skill level) and unemployment pose serious risks to health and wellbeing through financial insecurity, increased risk of poverty, social exclusion and isolation, increased stress and diminished self-worth (Brunner 1997; Artazcoz et al. 2004). Unemployment of parents, particularly fathers, may also be detrimental to the health and wellbeing of children and adolescents (Sleskova et al. 2006). In 2007–08, 4% of males aged 15–24 had experienced personal stress in the previous 12 months as a result of not being able to find a job or from involuntarily losing their job. About 9% rated their health as fair or poor, compared with 5% of employed males of the same age.

Resources for health and wellbeing

Employment is a means of generating income, which in turn translates to resources for health and wellbeing. Low income may affect nutritional status, access to health care, levels of stress in the family, the quality and stability of care, and the provision of housing, heating and clothing (Adler & Newman 2002). Children living in families without adequate income are at greater risk of poor health and poor educational outcomes (Barnett 2008). In 2007–08, there were an estimated 500,400 low-income households with children aged 0–12 (AIHW 2011c).

There are also flow-on effects of low family income for education and employment among young males (and females), which include:

- reduced educational opportunities, both in a formal education setting (the cost of school uniforms, books and materials) and in informal or extracurricular activities (enrolment fees, transport and equipment costs)

- pressure for young people to work to supplement family income or to fund their own educational opportunities (Skattebol et al. 2012).

Psychological factors

Male mental wellbeing is important in its own right, as well as having direct and indirect effects on health. Psychological factors can affect how males seek care and look after themselves, their attitudes towards risks, and their relationships and support networks. In some cases, there is also a direct relationship between mental wellbeing and physical health. For example, there is strong evidence that depression and social isolation are associated with coronary heart disease (Bunker et al. 2003).

More recently, poor mental health has been viewed as a cause and consequence of adverse social, economic and environmental conditions (WHO 2009). For example, poor mental health can lead to loss of employment and income, and being unemployed and living on a low income can influence mental health.

This section briefly examines a number of issues related to the mental wellbeing of males aged 0–24.

School-related bullying

School-related bullying is the deliberate psychological, emotional and/or physical harassment of one person by another person (or group) at school or in the transition between school and home (Kids Helpline 2012). It may involve violence, threats of violence, intimidation or exclusion from peer groups.

The impact of bullying on children and young people (and their families) can be devastating (Weir 2001; Gini & Pozzoli 2009; AIHW 2011f). Young people who are bullied may experience higher levels of absenteeism, physical harm, anxiety, depression, alcohol and substance use and increased risk of suicide.

While there are limited national data on the prevalence of bullying in Australia, it has been estimated that more than 20% of males and 15% of females aged 8–18 are bullied at least once a week (Rigby & Slee 1999). Males and females may express bullying behaviour in different ways. Males are more likely to engage in physical forms of bullying, while females are more likely to engage in verbal, emotional and social bullying (Kids Helpline 2012).

Resilience

Child education and information programs are increasingly focused on building resilience—the ability to adapt to adversity. Children (and adults) who are resilient are able to bounce back from trauma or tragedy more quickly, or to cope with stressful situations that may include poverty, family dysfunction and bullying (among others). They may also be better able to manage feelings of anxiety and uncertainty during periods of transition and change.

Resilience and good general mental health may confer protection against poor health and harmful health-related behaviours (WHO 2009). This may be particularly important for children from low-income families. Among these children, those with resilient characteristics perform better on a range of indicators than their peers.

Social media

Social media is a term commonly associated with online platforms that allow users to create, share and interact with digital content. Some common examples are social networking sites (such as Facebook, Twitter and MySpace), video sharing websites (such as YouTube), and blogs, chat rooms and forums.

The relationship between social media and male (and female) health, both in physical and mental terms, is not yet well understood. Areas of interest may include:

- the prevalence and impact of cyber-bullying among young people
- the impact of social media on relationships, support networks, social interactions and feelings of connectedness
- the potential of social media to increase health literacy and convey health promotion messages.

What is missing from the picture?

The social determinants of health are an important and emerging area of data analysis. However, only limited data are available to draw definitive conclusions on specific male health issues at a national level in Australia.

Many health data collections do not include meaningful measures of an individual's socioeconomic status, which limits the extent of analysis on the relationship between socioeconomic status and health. The National Longitudinal Study on Male Health may allow examination of these relationships over time.

There are many other gaps in our knowledge about the determinants of male health and wellbeing. Some examples are listed below; others are explored in later chapters.

- The role of fathering is often left out of the picture (for example, surveys may interview mothers only).
- Teenage fatherhood is rarely examined, although it is likely to affect the health, education and economic future of the father and his children.
- There are no national data available on bullying due to definition and measurement difficulties.
- The relationship between social media and health is unclear and requires further exploration.

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3 LIFE AND DEATH

Key findings

- Males have a lower life expectancy than females: 79.7 and 84.2 years, respectively, for babies born in 2009–2011.

- In 2010, there were more than 1,900 deaths among males aged 0–24, a rate of 52 deaths per 100,000 males. This was higher than the female rate of 30 deaths per 100,000 females.

- Males aged 0–24 were 3 times as likely as females of the same age to die from suicide.

Life expectancy

Life expectancy data provide an indication of the number of years of life remaining from a given point in time. These figures change over the course of a life, reflecting that risk factors and protective factors change with age.

Males born in 2009–2011 had a life expectancy of 79.7 years (Table 3.1). A female born in 2009–2011 could expect to live 4.5 years longer, to 84.2.

This average 'age at death' increased slightly at age 1: to 80.1 for males and 84.5 for females. This is a reflection of higher mortality rates during the perinatal period (see 'Chapter 4 Perinatal health'). Thereafter, gains in life expectancy among males are smaller and less frequent, for example, another 0.2 years of life are gained by age 15 (80.3 years).

Table 3.1: Life expectancy among males, by selected year of age, 2009–2011

| | | Average expected age at death (years) | |
Age (years)	Male life expectancy (years of life remaining)	Males	Females
0	79.7	79.7	84.2
1	79.1	80.1	84.5
15	65.3	80.3	84.6

Note: Expected age at death is calculated by adding age to the age-specific life expectancy.

Source: ABS 2012c.

International comparisons

Life expectancy at birth among males in Australia compares favourably with other countries. In 2010, Australian male life expectancy of 79.5 years ranked fourth out of 24 OECD countries, behind Switzerland (80.3), Israel (79.7) and Japan (79.6) (OECD 2011).

Mortality

Analysis of mortality data—age at death and the conditions that males are dying from— provides an insight into health status. Mortality data help to measure health and disease, to understand the disease process in a population, to assess interventions, to improve disease outcomes, and to plan for future health service needs.

In 2010, there were more than 1,900 deaths among males aged 0–24, a rate of 52 deaths per 100,000 males. This was much lower than the rate for males aged 25 or over (986 per 100,000), and higher than for females aged 0–24 (30 per 100,000).

In 2010, the male infant death rate—incorporating neonatal deaths and those occurring up to 1 year of age— was 5 deaths per 1,000 live births. This was higher than the female infant death rate (3 per 1,000) and equates to 150 male infant deaths for every 100 female infant deaths (ABS 2011d).

Following the higher rate of deaths in the first year, the death rate declined for males aged 1–4 (22 per 100,000) and 5–12 (11 per 100,000), then increased again among males aged 13–17 (32 per 100,000) and 18–24 (64 per 100,000) (Figure 3.1). The pattern was similar for females.

Within the 0–24 age group, males were more likely to die than females at all ages, with the exception of ages 7 and 9. The difference in death rates by sex was most notable from age 15–24, with males in this age group 2.4 times as likely to die as females. The greatest proportional difference was at age 18, when males were 3.5 times as likely to die as females.

Deaths per 100,000 population

Notes

1. Deaths per 100,000 based on the June 2010 estimated resident population, by sex and age.
2. Mortality data for 2010 are preliminary and are subject to revision.
3. These data have not been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010. For more detail please refer to Technical note 3 in Causes of death, Australia, 2010 (ABS 2012b).

Source: Analysis of AIHW National Mortality Database.

Figure 3.1: Deaths among males and females aged 0–24, by age, 2010

Leading causes of death

In the 3 years from 2008 to 2010, the leading cause of death among males aged 0–24 was conditions originating in the perinatal period (10 deaths per 100,000 males), followed by land transport accidents (9 per 100,000) and suicide (6 per 100,000). Congenital malformations, deformations and chromosomal abnormalities, and sudden infant death syndrome (SIDS) completed the top 5 leading causes of death (Table 3.2).

Table 3.2: Leading causes of death among people aged 0–24, by sex, 2008–2010

Leading cause of death[a]	Males		Females		Rate ratio[c]
	Number	Rate[b]	Number	Rate[b]	
Certain perinatal conditions	1,067	9.6	779	7.4	1.3
Land transport accidents	964	8.7	314	3.0	2.9
Suicide	667	6.0	211	2.0	3.0
Congenital malformations, deformations and chromosomal abnormalities	642	5.8	524	5.0	1.2
Sudden infant death syndrome	154	1.4	97	0.9	1.5
Accidental drowning and submersion	145	1.3	51	0.5	2.7
Accidental poisoning	137	1.2	51	0.5	2.5
Assault	108	1.0	50	0.5	2.0
All causes	**5,789**	**52.3**	**3,266**	**31.1**	**1.7**
Event of undetermined intent[d]	*181*	*1.6*	*60*	*0.6*	*2.9*
Other ill-defined causes[d]	*162*	*1.5*	*87*	*0.8*	*1.8*

(a)   Leading causes of death are classified according to an AIHW modified version of the classification by Becker et al. 2006.

(b)   Rates are calculated per 100,000 population, using the 2008–2010 ABS estimated resident populations by age and sex.

(c)   The rate ratio compares the male and female mortality rate for each cause. A rate of 1.0 indicates that males and females are similarly likely to die from that cause, a ratio greater than 1.0 indicates males are more likely to die from that cause compared with females, and a ratio less than 1.0 indicates males are less likely to die from that cause compared with females.

(d)   Deaths classified as 'event of undetermined intent' refer to ICD-10 Y10–Y34 and 'other ill-defined causes' refer to ICD-10 R00–R94, R96–R99, I46.9, I95.9, I99, J96.0, J96.9, and P28.5.

Notes

1.   While mortality data for 2008 are final, the data for 2009 and 2010 are revised and preliminary respectively and are subject to revision.

2.   These data have not been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010. For more detail please refer to Technical note 3 in Causes of death, Australia, 2010 (ABS 2012b).

Source: Analysis of AIHW National Mortality Database.

Compared with females aged 0–24, males were:

• 3 times as likely to die from suicide

• nearly 3 times as likely to die from land transport accidents, accidental drowning and submersion, and accidental poisoning

• twice as likely to die from assault.

In 2008–2010, the leading causes of death among males also differed by age group (Figure 3.2). For example, the leading causes of death were:

• perinatal conditions, followed by congenital malformations and SIDS, among males aged under 1

• land transport accidents, followed by brain cancer and congenital malformation, among males aged 5–12

• land transport accidents, suicide and accidental poisoning, among males aged 18–24.

Rank	Under 1 year	1–4 years	5–12 years	13–17 years	18–24 years	0–24 years
1	Perinatal conditions 48	Land transport accidents 12	Land transport accidents 15	Land transport accidents 26	Land transport accidents 31	Perinatal conditions 18
2	Congenital malformations 25	Drowning 11	Brain cancer 10	Suicide 20	Suicide 24	Land transport accidents 17
3	SIDS 7	Congenital malformations 8	Congenital malformations 7	Leukaemia 3	Accidental poisoning 6	Suicide 12
Total	**2,168**	**395**	**356**	**652**	**2,218**	**5,789**

Notes

1. Total deaths are presented as the total number of deaths in each age group from 2008 to 2010. Numbers in the cells represent the percentage of deaths in each age group that were due to the specified leading cause.

2. Leading causes of death are classified according to an AIHW modified version of the classification proposed by Becker et al. 2006.

3. While mortality data for 2008 are final, the data for 2009 and 2010 are revised and preliminary respectively and are subject to revision.

4. These data have not been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010. For more detail please refer to Technical note 3 in Causes of death, Australia, 2010 (ABS 2012b).

Source: Analysis of AIHW National Mortality Database.

Figure 3.2: Leading causes of death among males aged 0–24, by age group, 2008–2010

4 PERINATAL HEALTH

Key findings

- Among males born in Australia in 2010, there were 1,446 perinatal deaths, comprising 948 fetal deaths and 498 neonatal deaths. There were 124 male deaths for every 100 female deaths in this period.

- The cause of 1 in 3 male perinatal deaths was unspecified.

- Congenital anomalies were present in more than 15,000 births in 2002–03, with 59% of these in males.

Mortality

Perinatal mortality includes fetal and neonatal mortality, defined as deaths occurring from at least 20 weeks gestation or with a birthweight of at least 400 grams (fetal) and from birth until 28 days (neonatal) (Figure 4.1). Fetal and perinatal death rates are calculated as a proportion of *all* births, while neonatal death rates are calculated as a proportion of *live* births only. Infant deaths include deaths in the neonatal period (from birth) and up to 1 year of age.

Figure 4.1: Defining fetal and infant deaths, Australia
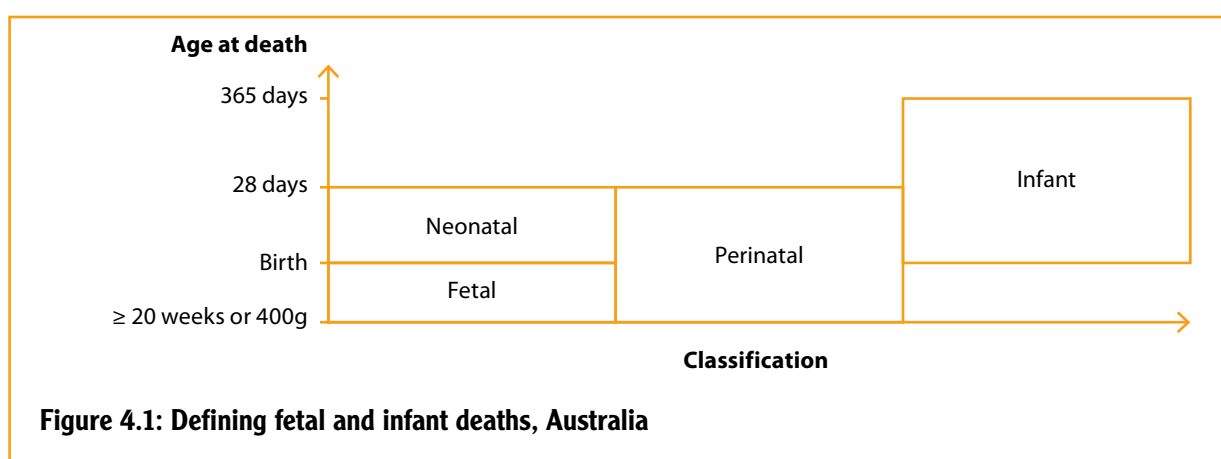
In 2010, there were 1,446 perinatal deaths among males, a rate of 9 deaths per 1,000 births. Male deaths in this period comprised 948 fetal deaths (6 per 1,000 births) and 498 neonatal deaths (3 per 1,000 live births) (ABS 2012b). Overall, males were more likely than females to die in the perinatal period, with 124 male perinatal deaths for every 100 female perinatal deaths.

In 2010, nearly 8 in 10 deaths among males during the perinatal period were attributed to 'certain conditions originating in the perinatal period'. The most common causes of death within this broad group were:

- 'fetal death of unspecified cause', accounting for 32% of male perinatal deaths

- 'disorders related to short gestation and low birthweight, not elsewhere classified' accounting for 28% of male perinatal deaths (ABS 2012b).

Nearly 2 in 10 deaths were attributed to 'congenital malformations, deformations and chromosomal abnormalities'. Congenital anomalies are described further in the next section.

Congenital anomalies

Congenital anomalies are rare conditions that occur during fetal development and are major causes of miscarriage, stillbirth and neonatal and infant mortality and morbidity. These conditions lead to high rates of hospitalisation and disability and require specialist medical care, surgical intervention and rehabilitation to manage. As a result, they can place a high emotional and economic burden on families. These conditions may be diagnosed during pregnancy, at birth, or sometime later. In some cases, the more severe congenital anomalies result in an early and spontaneous abortion. In others, the condition is detected through screening and the pregnancy medically terminated (Abeywardana & Sullivan 2008).

In 2002–03, more than 15,000 births were affected by one or more congenital anomalies. Male babies comprised 59% of all reported congenital anomalies in that period (Abeywardana & Sullivan 2008). The most common anomaly among males born in 2002–03 was hypospadias—in which the urethra opens on the underside, rather than the end of the penis—with nearly 1,200 cases, at a rate of 47 per 10,000 births (Table 4.1). Other common anomalies among males were:

• Trisomy 21, also known as Down syndrome, (12 per 10,000 births)

• cleft lip, with or without cleft palate (11 per 10,000)

• polydactyly, having more than five fingers or toes on each hand or foot, (10 per 10,000).

More than half of all cases of the 10 most commonly reported congenital anomalies were for males, with the exception of cleft palate without cleft lip (43% male).

Table 4.1: Ten most common congenital anomalies in 2002–2003

Anomaly	Males		Sex ratio[c]
	Number[a]	Cases per 10,000 births[a][b]	
Hypospadias	1,198	46.5	n.a.
Trisomy 21	304	11.7	1.1
Cleft lip with or without cleft palate	295	11.4	1.7
Polydactyly	260	10.0	1.3
Cleft palate without cleft lip	177	6.8	0.7
Renal agenesis/dysgenesis	159	6.1	1.7
Hydrocephaly	134	5.2	1.2
Cystic kidney	134	5.2	1.4
Transposition of great vessels	132	5.1	1.6
Limb reduction defects	98	3.8	1.1

n.a. not applicable.

(a)   Data exclude Northern Territory.

(b)   Based on all births in 2002–2003 with at least 20 weeks of gestation or at least 400 grams birthweight.

(c)   Ratio of male rate divided by female rate: a ratio greater than 1 indicates the condition is more common among males, a ratio less than 1 indicates the condition is more common among females.

Source: Abeywardana & Sullivan 2008.

Although not in the 10 most commonly reported conditions, hypoplastic left heart syndrome was nearly 3 times more common among males than females (2.3 per 100,000 births, compared with 0.9 per 100,000) and diaphragmatic hernia was more than twice as common among males (3.5 per 100,000, compared with 1.5 per 100,000).

Females were more than twice as likely as males to have encephalocele, a condition where the brain is exposed through a defect in the skull (0.7 per 100,000 births, compared with 0.3 per 100,000).

What is missing from the picture?

Data on the number of congenital anomalies in Australia are incomplete, with data collection practices differing by state and territory, and the most recent available data being 10 years old. Reasons for incomplete data include:

- some anomalies result in a spontaneous abortion early in pregnancy and are not diagnosed or reported

- other anomalies are detected early and the pregnancy terminated before reporting is mandatory (at 20 weeks gestation)

- other anomalies that are present in live-born babies and not detected until infancy or early childhood may not be reported.

For more information on the data set, see *Congenital anomalies in Australia 2002–03* (Abeywardana & Sullivan 2008).

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5 GESTATIONAL AGE AND BIRTHWEIGHT

Key findings

- Male babies are slightly more likely to be born pre-term (before 37 weeks gestation) than female babies (8% compared with 7%).
- Male babies weigh more, on average, than female babies at birth (3,431 grams compared with 3,313 grams).

Gestational age and birthweight have implications for the health of the baby, the labour and delivery process and can reflect the health of the mother (AIHW 2010b; Li et al. 2011). These data come from the National Perinatal Data Collection, and are for live-born babies only.

Gestational age

A baby's gestational age, calculated at the time of birth, is based on the number of completed weeks of gestation. A baby is considered to be born 'at term' if it is born at 37 weeks gestation or more. A baby is considered to be pre-term if it is born at 36 weeks of gestation or less. Babies born pre-term are at increased risk of dying, and of a number of complications including respiratory distress, problems with feeding, blindness, developmental delays and difficulties regulating their temperature (Khashu et al. 2009; van Baar et al. 2005). As gestational age increases, these outcomes decrease in severity (Hoffman et al. 2004).

In 2009, the majority of male babies (91.9%) were born at term or post-term. Among the 8.1% of male babies born pre-term:

- 6.8% were born at 32–36 weeks (mild prematurity)
- 0.8% were born at 28–31 weeks (moderate prematurity)
- 0.5% were born at 27 weeks or less (extreme prematurity).

There was a similar pattern of gestational age among female babies, although they were slightly less likely than male babies to be born pre-term (7.2%).

Birthweight

A baby's birthweight, measured immediately after birth, is an important measure of health. Both low birthweight (less than 2,500 grams) and high birthweight (more than 4,000 grams) are associated with increased risk of illness, disability and death (Dobbins et al. 2012). Birthweight is closely associated with gestational age, and examining birthweight in the context of gestational age, known as 'weight-for-age' analysis, is a more reliable measure of fetal growth and development than birthweight alone. This analysis should also be adjusted for the many maternal factors that are known to contribute to low infant birthweight, including poor nutrition, low socioeconomic status, smoking and alcohol intake during pregnancy, age, ethnicity, higher pre-pregnancy body mass index and inadequate weight gain during pregnancy (Olhsson & Shah 2008). The data presented below are for all live-born babies, regardless of gestational age, as current weight-for-age data were not available.

Per cent

Notes

1. Live-born babies only.

2. Provisional data were provided by Victoria for 2009.

Source: AIHW (unpublished) National Perinatal Data Collection.

Figure 5.1: Birthweight among live-born babies, by sex, 2009
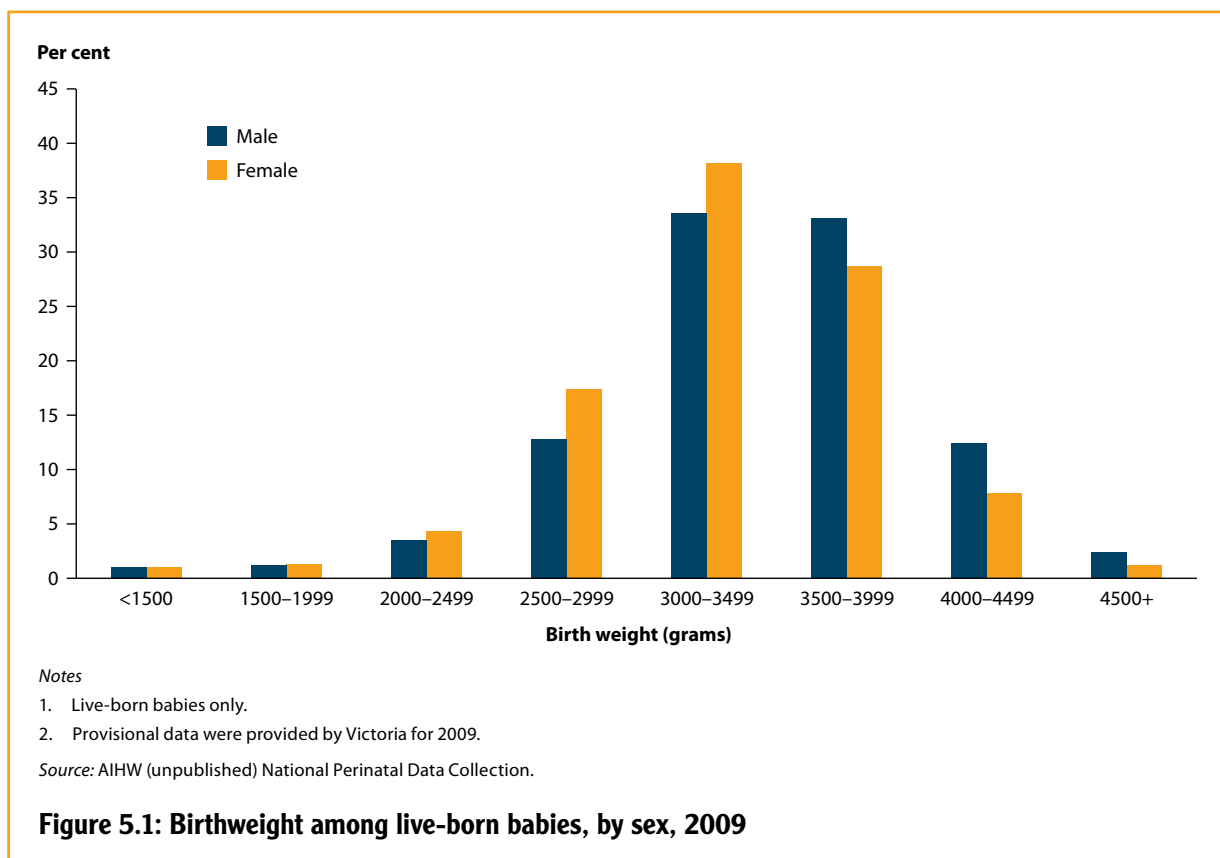
In 2009, the majority of male babies (79%) were in the normal birthweight range (2,500–3,999 grams), 15% had a high birthweight (more than 4,000 grams) and 6% had a low birthweight (less than 2,500 grams) (Figure 5.1). Among those male babies born with low birthweight:

• 8 in 10 had a birthweight of 1,500–2,499 grams (low birthweight)

• 2 in 10 had a birthweight of less than 1,500 grams (very low or extremely low birthweight).

Male babies were heavier than female babies, with an average birthweight of 3,431 grams compared with 3,313 grams (Li et al. 2011). Compared with female babies, male babies were 1.6 times as likely to be a high birthweight.

6 BODY WEIGHT

Key findings

- Australia ranks eighth among OECD countries for overweight and obesity among males aged 5–17 (22%).

- As a general trend, the proportion of males who were in the healthy weight range decreased with increasing age.

Males aged 2–16

- Within this broad age group, males and females aged 9–13 were least likely to be in a healthy weight range (69% and 65%, respectively).

- Males and females in this broad age group had a similar distribution of body weight.

Males aged 17–24

- Within this broad age group, more than 1 in 3 males were carrying excess weight: 26% were overweight and 13% were obese.

- Males in this broad age group were slightly more likely to be overweight than females of the same age.

Excess body weight is an important health concern. Those who are overweight or obese have higher rates of illness and disability than those with a body weight in the healthy range. Cardiovascular disease, high blood pressure, Type 2 diabetes, sleep apnoea and osteoarthritis are all more common among males who are overweight or obese (AIHW 2010a). Measures of overweight and obesity include waist circumference and body mass index (BMI), and are age- and sex-specific. The BMI is the most commonly used measure and presented in this section.

The data for this section come from two distinct sources, each providing the best available national data for the selected age group:

- 2007 Children's Nutrition and Physical Activity Survey (ages 2–16)
- 2007–08 National Health Survey (ages 17–24).

Children and adolescents (2–16)

In 2007, more than 7 in 10 males aged 2–16 were in a healthy weight range. Males aged 4–8 were most likely (78%) and those aged 9–13 were least likely (69%) to be a healthy weight. Overall, about 5% of males were underweight, 17% were overweight and 5% were obese. There was a similar distribution of body weight for females aged 2–16.

Among males aged 2–16:

- males aged 2–3 were least likely to be obese (4%)
- males aged 4–8 were least likely to be underweight (4%) or overweight (13%)
- males aged 9–13 were most likely to be underweight (6%) or obese (7%)
- males aged 14–16 were most likely to be overweight (19%) (Figure 6.1).

Males aged 9–13 were less likely to be overweight (18%) than females of the same age (23%).

Per cent

Notes

1. Data for ages 2–16 and 17–24 come from different data sets and, although based on the same measurements, are not directly comparable.

2. Body mass index categories based on measured data and categorised using age- and sex-specific cut-off points.

3. Excludes records where height or weight were missing or not stated.

Sources: Table 21, CSIRO et al. 2008; AIHW analysis of ABS NHS 2007–08.

Figure 6.1: Body mass index among males and females, aged 2–16 (2007) and 17–24 (2007–08)

Young adults (17–24)

In 2007–08, slightly fewer than 6 in 10 males aged 17–24 were in a healthy weight range (57%): 4% were underweight, 26% were overweight and 13% were obese (Figure 6.1). This means that nearly 2 in 5 males in this age group were carrying excess weight.

Females aged 17–24 were more likely than males to be in a healthy weight range (59%). They were also more likely to be underweight (7%), similarly likely to be obese (14%) and slightly less likely to be overweight (21%).

International comparisons

International comparisons are somewhat limited due to different methods of data collection between countries, and data not being as up to date for some countries.

The International Association for the Study of Obesity compared rates of overweight and obesity among 28 OECD countries and showed that Australia was ranked sixteenth highest, with 22% of boys aged 5–17 being overweight or obese (OECD 2011). In this comparison, values among OECD countries ranged from 11% (Turkey) to 45% (Greece).

7 PHYSICAL ACTIVITY AND SCREEN TIME

Key findings

- As a general trend, younger males (5–16) are more active and more likely to meet physical activity guidelines than older males (17–24).

Children and adolescents (ages 5–16)

- The majority of males (7 in 10) met physical activity guidelines, and were more likely than females to do so.

- In contrast, about 7 in 10 males engaged in more than the recommended maximum of 2 hours screen time each day, and were more likely than females to do so.

Young adults (ages 17–24)

- Although just over half (55%) of males aged 17–24 met physical activity guidelines, they were more likely to do so than males aged 25 or over (52%) or females aged 17–24 (49%).

Physical activity

Physical activity is important for overall health and wellbeing, and is associated with healthy body weight and lower risk of injury and many chronic conditions (AIHW 2010a). Physical activity guidelines make recommendations on the number, duration and intensity of sessions of physical activity Australians should undertake each day for good health, and there are different sets of recommendations for different age groups.

The data for this chapter come from two distinct sources, each providing the best available national data for the selected age group:

- 2007 Children's Nutrition and Physical Activity Survey (ages 2–16)

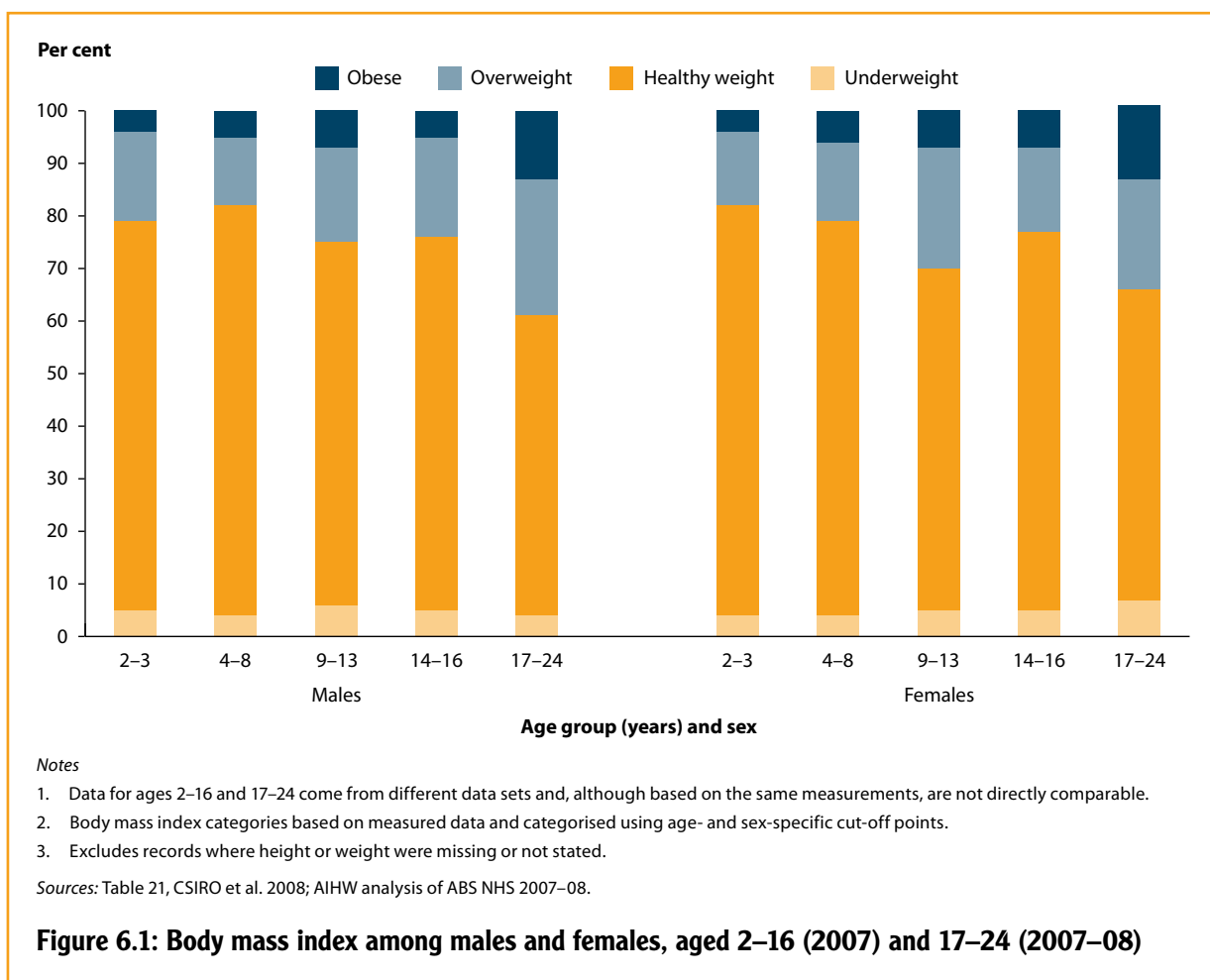- 2007–08 National Health Survey (ages 17–24).

Children and adolescents

In 2007, more than 7 in 10 males aged 9–16 met physical activity guidelines of at least 60 minutes of moderate to vigorous activity, on any given day. Males aged 9–13 were more likely to meet the guidelines (80%) than males aged 14–16 (64%) (Figure 7.1). There was a similar pattern of physical activity by age among females, but males were more likely in each age group to meet the guidelines than females.

Per cent

Notes

1. Data for ages 9–16 and 17–24 come from different data sets and cover different periods and are not directly comparable.

2. In 2007, males and females aged 9–16 who did at least 60 minutes of moderate to vigorous physical activity on any given day met the guidelines.

3. In 2007–08, males and females aged 17 who did at least 60 minutes of moderate to vigorous physical activity in at least 5 sessions in a week, and males and females aged 18–24 who did at least 30 minutes of moderate to vigorous physical activity in at least 5 sessions in a week, met the guidelines.

4. Excludes records in 2007–08 where data were missing or not stated.

Sources: Table 14, CSIRO et al. 2008; AIHW analysis of ABS NHS 2007–08.

Figure 7.1: Physical activity levels among males and females, aged 9–16 (2007) and 17–24 (2007–08)

Another measure of physical activity is the number of steps taken each day. In 2007, the proportion of males meeting or exceeding the recommended number of steps decreased with increasing age. More than half (55%) of males aged 5–8 met or exceeded the recommended 13,000 steps each day, with a mean step count of 13,815. Males aged 9–13 and 14–16 were less likely to meet or exceed the recommended number of steps (46% and 26%, respectively) and took fewer steps, on average, each day (12,961 and 10,877, respectively).

Converse to the data for physical activity guidelines, males were less likely than females in each age group to meet or exceed the recommended number of steps each day, noting that the recommended steps for females were lower at 11,000 steps per day.

Young adults

In 2007–08, more than half (55%) of males aged 17–24 did sufficient physical activity to confer a health benefit. This was higher than among males aged 25 and over (52%) and females aged 17–24 (49%). There were differences in activity levels by age and sex:

• males aged 17–19 (51%) were less likely to meet the guidelines than males aged 20–24 (57%)

• males were more likely than females to meet physical activity guidelines, in each age group (Figure 7.1).

Screen time

While increasing physical activity levels is important for overall health, it is also important to minimise time involved in sedentary activities each day (AIHW 2011e). One measure of sedentary activity is 'screen time', which refers to time spent watching television, playing video games or using the computer each day. Australian guidelines recommend that children engage in no more than 2 hours (120 minutes) of screen time each day (DoHA 2004a; DoHA 2004b). These results come from the 2007 Children's Nutrition and Physical Activity Survey.

In 2007, 30% of males aged 9–13 and 24% of males aged 14–16 met the screen time guidelines on any given day. The mean number of minutes of screen time was 233 (nearly 4 hours) and 272 (4.5 hours), respectively. The majority of screen time was television viewing, followed by video games and computer use.

Males were less likely to meet screen time guidelines than females, and males aged 9–13 spent twice the amount of time on video games as females of the same age.

What is missing from the picture?

While screen time is a good proxy measure for sitting time, these data are only currently available for children aged 9–16. The forthcoming Australian Health Survey will include sitting time data for all ages, and allow analysis of sitting time by other health risk factors, health status indicators and demographic information.

For more information on the Australian Health Survey, visit:
<www.abs.gov.au/websitedbs/D3310114.nsf/home/australian+health+survey>.

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8 ORAL HEALTH

<div style="border: 2px solid orange; padding: 10px;">

Key findings

- In 2002–2004, more than half of males aged 5–15 brushed their teeth twice or more each day, and about 9 in 10 spat and rinsed after brushing.

- Males were less likely than females to brush twice each day.

- By age 14, more than half of males had at least one permanent decayed, missing or filled tooth.

</div>

Having good oral health means being able to eat, speak and socialise without discomfort or embarrassment and without active disease that affects overall wellbeing. Good oral health is important to good general health, while poor oral health can cause pain, difficulties with eating, and social and psychological issues (VCAMS 2010; Armfield & Spencer 2012). The oral health of males (and females) aged 5–15 can be affected by their eating and brushing habits, and also by their parents' oral health (and behaviours) and ability to afford dental care (AIHW 2012e).

Dental health behaviours

The most common sign of poor dental and oral health is dental caries (also known as tooth decay). This is preventable through good dental behaviours—brushing teeth with fluoride toothpaste, flossing, using a mouthwash and reducing the amount of sugary foods eaten. It is recommended that children (and adults) brush their teeth regularly (at least twice a day) with fluoride toothpaste, and spit out the toothpaste slurry in preference to swallowing, without rinsing.

The data in this section are from the 2002–2004 dental health behaviours report on 17,500 children aged 5–15 and living in Queensland, Victoria, South Australia and Tasmania (Armfield & Spencer 2012). Based on these data, it is estimated that in 2002–2004:

- more than half of males aged 5–15 brushed their teeth twice or more each day, and this was lowest for males aged 5 (56%), and highest for males aged 14 (71%)

- about 7 in 10 males aged 5, and 9 in 10 males aged 6–15 spat and rinsed, or just spat after brushing (Figure 8.1).

Males were less likely than females to brush their teeth twice or more each day, at ages 5, 7, 8, 10, 11 and 13 (Figure 8.1). At other ages, males and females had similar brushing behaviours. There were no large sex differences in rinsing behaviours.

Per cent

* Indicates a statistically significant difference in the brushing behaviours of males and females.

Source: Unpublished data from the AIHW Dental Statistics and Research Unit.

Figure 8.1: Children brushing twice or more each day, by sex, ages 5–15, 2002–2004
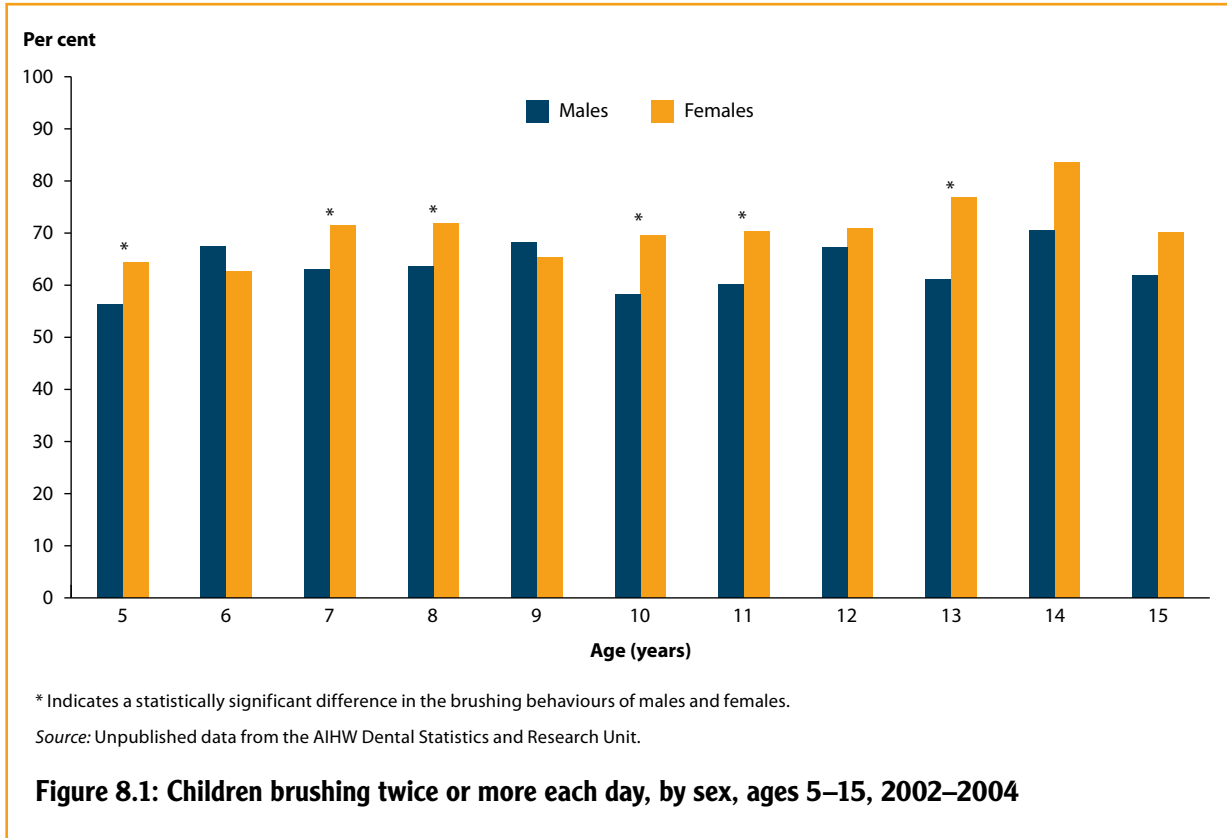
Poor oral health

One measure of dental health among children and young people is the decayed, missing or filled teeth index, which indicates the number of teeth that have some decay, are missing due to decay or have been filled because of decay. The index is available for both deciduous (baby) teeth (dmft) and permanent teeth (DMFT). The data in this section are from the 2007 Child Dental Health Survey Australia and refer to males aged 5–15 (Mejia et al. 2012).

In 2007, the proportion of male children with at least one tooth affected by decay generally increased with age (Figure 8.2). The exception was the proportion of males with at least one deciduous tooth affected by decay, which increased from 42% at age 5 to 58% at age 9, and then decreased to 50% among males aged 10. By age 7, at least half of males had at least one deciduous tooth affected by decay.

The proportion of males aged 6–15 with at least one permanent tooth affected by decay ranged from 3% among males aged 6 to 55% among males aged 15 (Figure 8.2). By age 9, more than 1 in 4 males had at least one permanent tooth affected by decay, and by age 14, more than half of males had at least one permanent tooth affected by decay.

The pattern of decay experience for both dmft and DMFT was similar among females.

Per cent

■ Deciduous dmft ≥1   ■ Permanent DMFT ≥1

dmft = decayed, missing or filled deciduous teeth.

DMFT= decayed, missing or filled permanent teeth.

Notes

1. Males (and females) aged 11–15 have usually lost their deciduous teeth, and therefore data on dmft are not presented for this age group.

2. Males (and females) aged 5 do not usually have permanent teeth, and therefore data on DMFT are not presented for this age.

Source: Mejia et al. 2012.

Figure 8.2: Proportion of males aged 5–15 with at least one decayed, missing, or filled tooth, deciduous and permanent teeth, 2007

Toothache and avoiding certain foods due to oral problems are also indicators of poor oral health. The 2010 National Dental Telephone Interview Survey provides information on the oral health of Australian children aged 5–15.

In 2007, 8% of males aged 5–15 had experienced toothache 'very often, often or sometimes' and 11% had avoided certain foods due to oral problems (AIHW 2012e). Females had a similar experience of oral health problems.

9 TOBACCO, ALCOHOL AND DRUGS

Key findings

- In 2010, among males aged 14–19, 6% smoked tobacco daily, 65% had recently consumed alcohol and 18% had recently used an illicit drug.

- Males aged 14–19 were less likely than females of the same age to smoke tobacco daily, to have recently consumed alcohol or used any illicit drug.

- More than 2 in 5 (43%) males aged 14–19 were at risk of injury on a single occasion of drinking alcohol.

Tobacco smoking, risky alcohol consumption and use of illicit drugs are associated with poorer health. Tobacco smoking is the single most preventable cause of poor health and death in Australia; excessive alcohol consumption contributes to some motor vehicle accidents, injuries and crime; and, illicit drug use is associated with poor mental health, crime and the spread of bloodborne viruses (AIHW 2011a). The data in this section come from the 2010 National Drug Strategy Household Survey, and are for males and females aged 14–19 only.

Use of tobacco, alcohol and drugs

Tobacco smoking

In 2010, 6% of males aged 14–19 smoked tobacco daily, compared with about 8% of females of the same age (AIHW 2011a). The proportion of males and females in this age group who had never smoked was similar (88%). Among recent smokers, males aged 14–19 smoked a higher number of cigarettes each week than females of the same age.

Alcohol consumption

In 2010, 1 in 3 (33%) males aged 14–19 had never consumed a full serve of alcohol. Males and females aged 14–19 had similar levels of recent alcohol consumption (65%). Of those males who were recent drinkers, 33% drank weekly. Females aged 14–19 were less likely to drink weekly (23%) than males.

In 2010, 43% of males aged 14–19 were at risk of injury from a single occasion of drinking, compared with 39% of females of the same age. The frequency of single-occasion risk from alcohol consumption also differed between the sexes, with males more likely than females to drink at risky levels at least weekly (16% compared with 11%) (Table 9.1).

Table 9.1: Risk of injury[a] on a single occasion of drinking, among males and females, 14–19, 2010

			Single-occasion risk (per cent)			
	Abstainers[b]	Low risk[c]	At least yearly[d]	At least monthly[e]	At least weekly[f]	Every day/ most days[g]
Males	35.4	21.2	7.6	17.1	16.2	2.4*
Females	35.4	25.8	8.6	18.4	11.2	0.6*

* Estimate has a relative standard error between 25% and 50% and should be used with caution.

(a) Risk level based on the 2009 NHMRC guidelines.

(b) Had not consumed alcohol in the previous 12 months.

(c) Never had more than 4 standard drinks on any occasion.

(d) Had more than 4 standard drinks at least once a year but not as often as monthly.

(e) Had more than 4 standard drinks at least once a month but not as often as weekly.

(f) Had more than 4 standard drinks at least once a week but not as often as most days.

(g) Had more than 4 standard drinks on most days or every day.

Source: Table A4.5 AIHW 2011a.

Illicit drug use

In 2010, 18% of males aged 14–19 had recently (in the previous 12 months) used illicit drugs (AIHW 2011a). Illicit drugs include illegal drugs (such as cannabis), pharmaceuticals (such as pain-killers) used for non-medical purposes and other substances (such as inhalants) used inappropriately (AIHW 2011a). Females aged 14–19 were similarly likely to have ever used illicit drugs. Illicit drug use among males in this age group has generally decreased over time: from 37% in 1995 to 18% in 2010.

# Attitudes to tobacco, alcohol and drugs

In 2010, the highest approval by both males and females aged 14–19 was for the regular use of alcohol (55% and 49%, respectively) (Figure 9.1). There was less than 20% approval for all other drugs. Males aged 14–19 were generally more likely to approve the regular use by an adult of licit and illicit drugs—including alcohol, tobacco, cannabis and hallucinogens—than females of the same age (Figure 9.1).

In 2010, males and females aged 14–19 had similar views on the form of drug thought to be of most serious concern for the general community. About:

- 1 in 3 nominated excessive alcohol consumption
- 1 in 5 nominated tobacco smoking
- 1 in 10 nominated cannabis use.

Males aged 14–19 were more likely to rate heroin as a serious community concern (10%) than females aged 14–19 (7%), while females were more likely to rate ecstasy as a serious concern (9%) than males (5%).

In 2010, about 1 in 3 males and females aged 14–19 nominated alcohol as the drug that directly or indirectly caused the most deaths. Males were more likely than females to nominate tobacco (34% compared with 27%), and females were more likely than males to nominate ecstasy (10% compared with 8%).
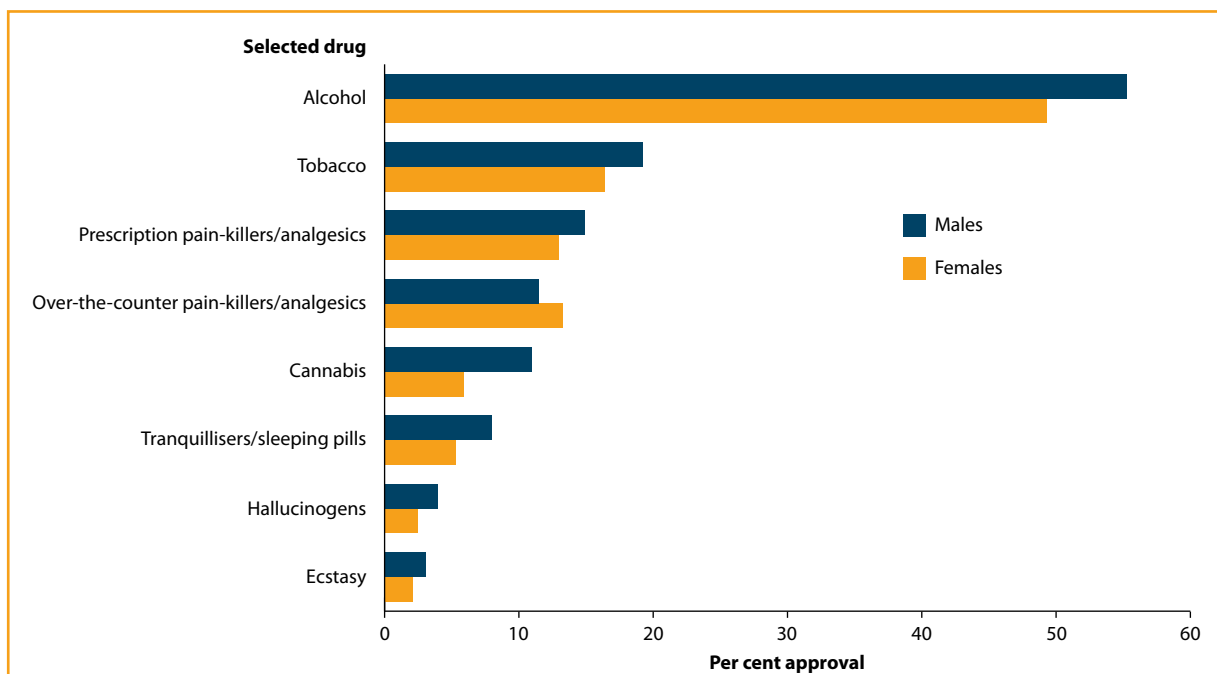
Notes

1. Selected drugs only.
2. Tranquillisers/sleeping pills, over-the-counter pain-killers/analgesics, prescription pain-killers/analgesics for non-medical purposes.

Source: Table A1.9 AIHW 2011a.

Figure 9.1: Approval of regular use of selected licit and illicit drugs by an adult, males and females, 14–19 years, 2010

What is missing from the picture?

While there are some data available on the consequences of alcohol consumption on other people, including the effects of violence and antisocial behaviour, there are only limited data available by both age and sex. There are also limited data on the associations between illicit drug use and social issues, such as child neglect, violence, financial difficulties and isolation.

For more information on data and information gaps related to tobacco, alcohol and other drugs, see AIHW 2012a.

10 INJURY

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Key findings

- Males aged 0–24 are more likely than females of the same age to be hospitalised for injury. Hospitalisations generally increase with age.

- Males aged 18–24 are most likely to die from an injury, followed by males aged under 1. At all ages males are more likely than females to die from injury.

- In 2009–10, 66,500 males aged 15–24 had a work-related illness or injury.

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Injury has a major impact on the health of young males. Depending upon its severity, injuries can result in time off school or work, hospitalisation, a long-term condition, disability, or death. Injuries are often preventable, and for this reason they form a National Health Priority Area for Australians of all ages.

This section examines injury, including poisoning, among males aged 0–24. Given the diversity of injuries and their severity, many different sources of data inform our understanding of this topic. Information in this section includes data from the AIHW National Hospital Morbidity Database, for admitted patients only, and the AIHW National Mortality Database.

Hospitalisations

Hospitalised injuries can range from simple fractures to catastrophic injuries (such as spinal cord injury). In 2010–11, there were more than 99,000 hospitalisations for injuries among males aged 0–24, at a rate of 27 per 1,000 males (Table 10.1). This was lower than the rate among all males (29 per 1,000) and higher than the rate among females aged 0–24 (14 per 1,000).

Injury hospitalisations generally increased with age: from 12 per 1,000 among males aged under 1, to 37 per 1,000 among males aged 18–24. Males aged 1–4 were slightly more likely to be hospitalised for injury than males aged 5–12.

Males were more likely than females to be hospitalised for an injury at all ages 0–24. The difference increased with age: from 1.3 times as likely at age under 1, to 2.3 times as likely at age 18–24 (Table 10.1).

Table 10.1: Injury among males aged 0–24, hospitalisations[a], 2010–11 and deaths[b], 2008–2010

	Hospitalisations			Deaths		
Age	**Number**	**Rate[c]**	**Sex ratio[e]**	**Number**	**Rate[d]**	**Sex ratio[e]**
Under 1	1,761	11.9	1.3	56	12.5	1.7
1–4	12,324	20.7	1.3	156	9.0	1.5
5–12	20,128	17.9	1.5	126	3.8	1.9
13–17	22,851	31.3	2.2	414	18.8	2.3
18–24	42,002	37.2	2.3	1,732	51.5	3.5
0–24	**99,066**	**26.6**	**1.9**	**2,484**	**22.4**	**2.8**
All males	**320,091**	**29.0**	**1.3**	**17,772**	**54.8**	**2.0**

(a) Injury hospitalisations defined as a principal diagnosis of any of ICD-10-AM codes S00–T75, T79, T80–T88.

(b) Injury deaths defined as any death with an underlying cause of any of ICD-10 codes V01–Y36, Y40–Y84, Y85–Y89.

(c) Rate (per 1,000) based on the 31 December 2010 male population, by age.

(d) Rate (per 100,000) based on the 30 June 2008–2010 male population, by age.

(e) Ratio of male rate divided by female rate: a ratio greater than 1 indicates a higher rate among males, a ratio less than 1 indicates a higher rate among females.

Notes

1. Hospital separations for which the care type was reported as Newborn with no qualified days, and records for Hospital boarders and Posthumous organ procurement have been excluded.

2. Deaths for 2009 and 2010 are revised and preliminary data respectively and are subject to further revision.

3. These data have not been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010. For more detail please refer to Technical note 3 in Causes of death, Australia, 2010 (ABS 2012b).

Source: Analysis of AIHW National Hospital Morbidity Database; Analysis of AIHW National Mortality Database.

Deaths

In some cases, severe injury can result in death. In 2008–2010, there were 2,484 deaths from injury among males aged 0–24, at a rate of 22 deaths per 100,000 males (Table 10.1). This was lower than the rate for all males (55 per 100,000) and higher than the rate among females aged 0–24 (8 per 100,000).

Males aged 18–24 were most likely to die from an injury (52 per 100,000), followed by males aged under 1 (13 per 100,000), and males aged 5–12 were least likely (4 per 100,000).

Males were more likely than females to die from an injury at all ages. The difference increased with age: from 1.1 times as likely at age under 1, to 3.5 times as likely at age 18–24.

Occupational injury and illness

The workplace environment can affect male health directly through personal injury, illness or death, or through medical expenses, lost income and the associated financial and interpersonal stress.

In 2009–10, 66,500 males aged 15–24 who had worked at some time in the previous 12 months had experienced a work-related injury or illness (ABS 2010b). The rate of work-related injury or illness for this age group was 59 cases per 1,000 workers. This was higher than the rate among all males (55 per 1,000) and among females aged 15–24 (54 per 1,000).

Males are also more likely than females to have a long-term injury as the result of a workplace injury. In the 2007–08 National Health Survey, more than 7% of males reported they had a long-term condition that resulted from a workplace injury, compared with less than 3% of females.

Data from Safe Work Australia show that in 2009–10 there were more than 11,500 workers' compensation claims for serious injury among males aged under 25. These claims accounted for 13% of all claims among males, at a rate of 12 per 1,000 male workers aged under 25. This rate was lower than that for males aged 25 and over, 17 per 1,000 workers.

In 2009–10, there were 21 work-related deaths among males aged 15–24, accounting for 10% of all work-related deaths among males (SWA unpublished).

The early employment experiences of adolescent and young adult males (and females) provide an opportunity to entrench safe work practices that can minimise their lifetime risk of sustaining injury or illness, or dying, in the workplace.

What is missing from the picture?

Information on less serious injuries that do not require hospitalisation (or result in death) is not routinely available in Australia. These injuries may result in time off school or work, and lost productivity, for males (and females) in this age group.

11 MEDICARE AND GP SERVICES

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Key findings

- In 2011–12, males aged 0–24 made 22.7 million Medicare claims.
- Males aged 15–24 claimed 5 Medicare services per person, half the rate for females of the same age (11 per person).
- The most frequently managed problem at general practitioner (GP) encounters with male patients aged 0–24 was respiratory problems, accounting for 29% of all problems managed.

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Medicare

Medicare collects information on medical services and tests subsidised by the Australian Government. Australian citizens and New Zealand citizens who are permanent residents of Australia are eligible for Medicare. In addition to this, visitors to Australia from a country that has a Reciprocal Health Care Agreement with Australia are also eligible for medically necessary treatment. Medicare covers services such as attendance at a general practitioner, some pathology and imaging tests, and some dental procedures.

In 2011–12, males aged 0–24 accessed 22.7 million Medicare services, accounting for 16% of Medicare services for all males. Females aged 0–24 accessed 29.7 million Medicare services in the same year. Males aged 0–4 were most likely to access services (9 per person, on average) and males aged 5–14 were least likely to access services (5 per person). Compared with males, females were less likely to access Medicare services at age 0–4, similarly likely at age 5–14 and twice as likely to access services at age 15–24 (Figure 11.1).
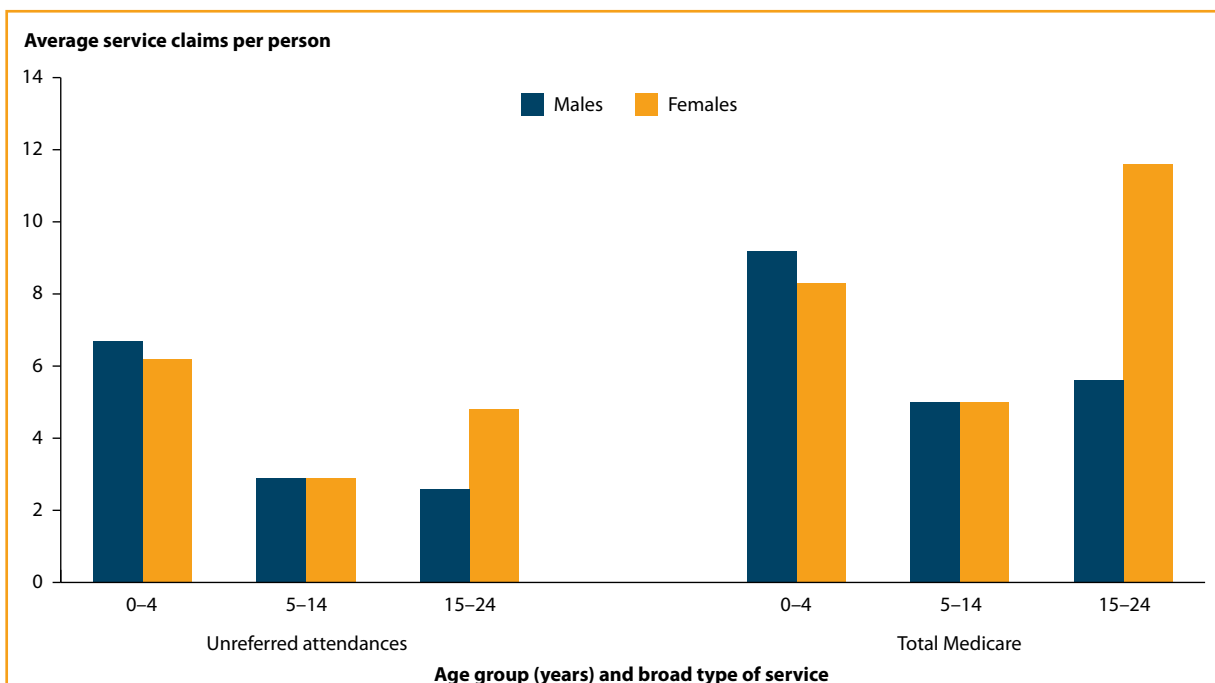
Note: Average service claims per person calculated using the December 2011 estimated resident population of males, by age group.

Sources: Medicare Australia 2012; ABS 2012a.

Figure 11.1: Medicare service claims for unreferred attendances and total Medicare, males and females by age group, 2011–12
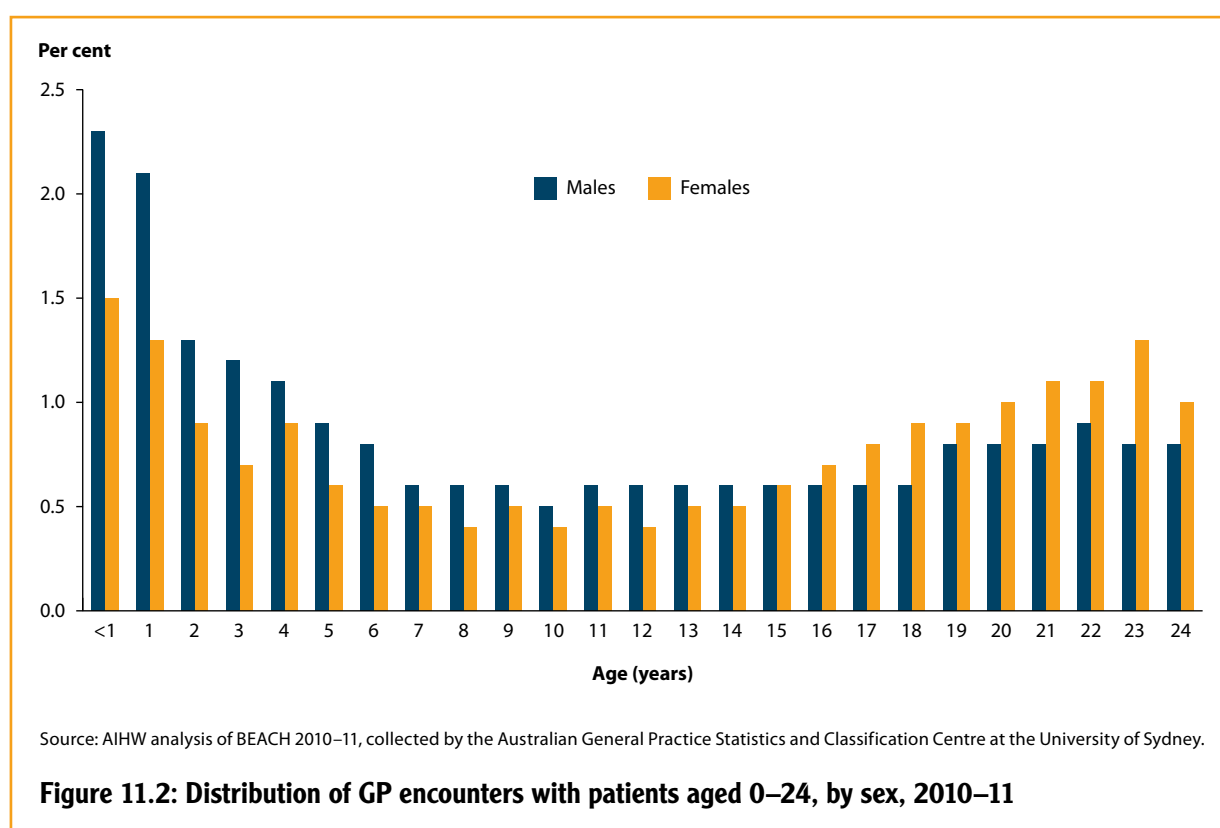
General practice

GPs are the front line of health care, and as such are often the first point of call for males (and females) with a health concern (RACGP 2006). Reasons for visiting a GP include having a general check-up, getting a prescription, having an immunisation and monitoring or managing a physical or mental health condition.

General practice data are available from the Bettering the Evaluation and Care of Health (BEACH) survey—a continuous cross-sectional national study of GPs who report on consecutive patient encounters. The 2010–11 BEACH data set contains information on 958 GPs and 95,800 patient encounters.

In 2010–11, there were about 8,900 GP encounters with male patients aged 0–24, accounting for 22% of all encounters with male patients and 46% of encounters for that age group. Compared with females, males were:

- more likely to visit a GP during childhood (0–14)
- less likely to visit a GP during adolescence (15–17) and young adulthood (18–24) (Figure 11.2).

Source: AIHW analysis of BEACH 2010–11, collected by the Australian General Practice Statistics and Classification Centre at the University of Sydney.

Figure 11.2: Distribution of GP encounters with patients aged 0–24, by sex, 2010–11

In 2010–11, there were nearly 10,700 problems managed by GPs during male patient encounters with males aged 0–24, a rate of 119 problems managed per 100 encounters. This was lower than the rate for females aged 0–24 of 125 problems managed per 100 encounters.

Among males aged 0–24, the most frequently managed problems were: respiratory problems (29%), general and unspecified problems (17%) and skin problems (17%). These were also the most frequently managed problems for females aged 0–24.

The most frequently managed problem differed for some ages, and was:

- general and unspecified problems for male infants aged under 12 months
- skin problems for males aged 14, 16 and 24.

What is missing from the picture?

In 2008–09, more than 1 in 5 (22%) males aged 15–24 who were enrolled with Medicare did not use any Medicare services, compared with 8% of females aged 15–24 (DHS 2012).

What we do not know is:

• Did these males experience good health, or the absence of illness, during this period?

• Did these males seek alternative therapies not covered by Medicare?

• Were there issues that prevented these males from accessing Medicare services?

Detailed data on use of alternative therapies, or barriers to accessing services are not currently available at a national level. Further, the number of males aged 0–24 who do not seek or are not able to access Medicare and general practice services is unknown.

Limited primary health-care information is an issue that is broader than male health. Despite its critical importance, the Australian primary health-care system has not experienced the same national focus on data capture, collation and reporting as other parts of the health system. As a result, there is no nationally coordinated approach to primary health-care data collection.

12 HOSPITALISATIONS

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Key findings

- In 2010–11, there were more than 552,500 hospitalisations for males aged 0–24.
- Males were more likely to be hospitalised than females at age 0–14, and less likely at age 15–24.
- Overall, males aged 0–24 were most commonly hospitalised for reasons related to injury and poisoning, while females were most commonly hospitalised for reasons related to pregnancy and childbirth.
- The leading reason for hospitalisation for males and females was chronic diseases of tonsils and adenoids (age 0–14) and embedded and impacted teeth (age 15–24).

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Hospitals are an important part of the Australian health system, and provide emergency department services and outpatient services for non-admitted patients, and emergency and planned (elective) care, maternity services, medical services and surgical services for admitted patients (AIHW 2012a). Hospital services can be provided on the same day, or require an overnight stay or longer. The data in this section comes from the AIHW National Hospital Morbidity Database, and refer to admitted patients only.
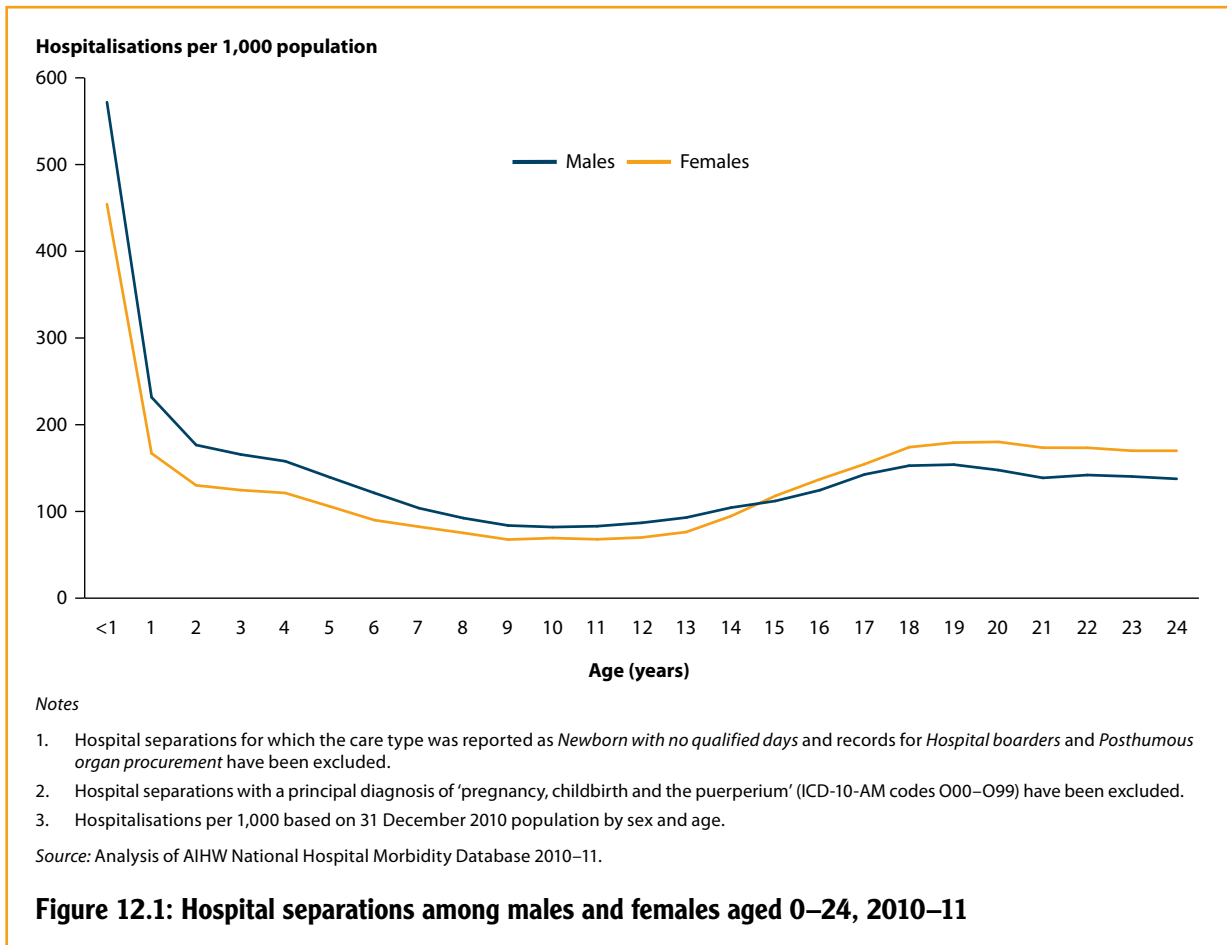
In 2010–11, there were more than 552,500 hospital separations (hospitalisations) for males aged 0–24, accounting for 13% of all male hospitalisations. Males in this age group were hospitalised at a rate of 148 per 1,000 males, and were less likely to be hospitalised than all males (382 per 100,000). When hospitalisations for pregnancy and childbirth were excluded, males aged 0–24 were more likely to be hospitalised than females of the same age (139 per 1,000).

The hospitalisation rate among males varied with age:

- males aged under 1 were most likely to be hospitalised (572 per 1,000)
- males aged 10 were least likely to be hospitalised (82 per 1,000) (Figure 12.1).

The pattern of hospitalisations by age was similar for males and females, however, there were differences in the rates. Males were:

- more likely to be hospitalised than females at younger ages (0–14), with 155 and 121 hospitalisations per 1,000 population, respectively
- less likely to be hospitalised than females at older ages (15–24), with 139 and 164 hospitalisations per 1,000 population, respectively (Figure 12.1).

Hospitalisations per 1,000 population

Notes

1. Hospital separations for which the care type was reported as *Newborn with no qualified days* and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.

2. Hospital separations with a principal diagnosis of 'pregnancy, childbirth and the puerperium' (ICD-10-AM codes O00–O99) have been excluded.

3. Hospitalisations per 1,000 based on 31 December 2010 population by sex and age.

Source: Analysis of AIHW National Hospital Morbidity Database 2010–11.

Figure 12.1: Hospital separations among males and females aged 0–24, 2010–11

Reason for hospitalisation

In 2010–11, males aged 0–24 were most commonly hospitalised for reasons related to injury and poisoning (27 hospitalisations per 1,000 males), and females aged 0–24 were most commonly hospitalised for reasons related to pregnancy and childbirth (29 hospitalisation per 1,000 females).

There were also differences in the rates and reasons for hospitalisation between males and females by broad age group (0–14 and 15–24).

Males and females aged 0–14 had the same leading reason for hospitalisation, chronic diseases of tonsils and adenoids, and shared the same top 10 reasons, including asthma, nonsuppurative otitis media (glue ear) and fractured forearm. Males had higher rates of hospitalisation for the top 10 reasons than females.

Males and females aged 15–24 had quite different reasons for hospitalisations, with 5 of the top 10 reasons for females relating to pregnancy and childbirth. When this group of reasons was excluded, males and females in this age group still had only 4 reasons in common:

• embedded and impacted teeth (leading reason for males and females)

• care involving dialysis

• abdominal and pelvic pain

• acute appendicitis.

Rates of hospitalisation for these common reasons were either similar for males and females (care involving dialysis, and acute appendicitis) or higher among females (embedded and impacted teeth, and abdominal and pelvic pain) (Table 12.1).

Table 12.1: Leading reasons for hospitalisation among males and females aged 15–24, 2010–11

Males				Females			
Reason[a]	No.[b]	Rate[c]	Comparison[d]	Reason[a]	No.[b]	Rate[c]	Comparison[e]
Embedded and impacted teeth	17,600	11.2	↓	Embedded and impacted teeth	28,000	18.7	↑
Care involving dialysis	6,900	4.4	↔	Abdominal and pelvic pain	13,600	9.1	↑
Fracture at wrist and hand level	5,900	3.7	↑	Care involving dialysis	6,600	4.4	↔
Internal derangement of knee	4,900	3.1	↑	Chronic diseases of tonsils and adenoids	6,600	4.4	↑
Fracture of skull and facial bones	4,700	3.0	↑	Eating disorders	4,500	3.0	↑
Acute appendicitis	4,500	2.9	↔	Acute appendicitis	4,100	2.7	↔
Abdominal and pelvic pain	3,700	2.3	↓	Depressive episode	4,000	2.7	↑
Other orthopaedic follow-up care	3,500	2.2	↑	Cholelithiasis	3,800	2.6	↑
Fracture of lower leg, including ankle	3,400	2.2	↑	Other gastroenteritis and colitis of infectious and unspecified origin	3,300	2.2	↑
Open wound of wrist and hand	3,100	2.0	↑	Reaction to severe stress, and adjustment disorders	3,000	2.0	↑
Total[f]	**219,100**	**139.4**	↓	**Total[f]**	**244,600**	**163.6**	↑

↓   Lower rate.

↑   Higher rate.

↔   Same or similar rate.

(a)   Based on ICD-10-AM 3-digit code grouping.

(b)   Rounded to nearest 100.

(c)   Number of hospitalisations per 1,000 males or females aged 15–24 at 31 December 2010.

(d)   Compared with rate for same reason for hospitalisation among females aged 15–24.

(e)   Compared with rate for same reason for hospitalisation among males aged 15–24.

(f)   Total is hospitalisations for the 15–24 age group, and excludes hospitalisations for a principal diagnosis of 'pregnancy, childbirth and the puerperium' (ICD-10-AM codes O00–O99).

Source: Analysis of AIHW National Hospital Morbidity Database 2010–11.

13 MENTAL HEALTH AND RELATED SERVICES

> **Key findings**
>
> - Almost 1 in 4 males aged 16–24 had experienced symptoms of a mental disorder in the previous 12 months. In spite of this, rates at which young males seek help are low.
>
> - About 7% of males aged 16–24 had a mental disorder and a physical condition at the same time.
>
> - In 2008–2010, 1 in 4 (26%) deaths among males aged 20–24 were attributed to suicide. Males aged 20–24 were more than 3 times as likely as females of the same age to die from suicide.
>
> - Poor mental health among males aged 12–25 costs the Australian economy $3.3 billion per year, or $387,000 per hour, in lost productivity.

The prevalence of mental health disorders

Mental health is an important component of holistic male health and wellbeing. Good mental health is characterised by a person's ability to recognise their strengths and values, cope with daily stressors and contribute to their community (WHO 2011a). Poor mental health comprises a spectrum of disorders with varying degrees of severity and can affect the individual, their family and society.

Data on the prevalence of mental health disorders come from two sources:

- information on experience of symptoms of a mental health disorder among males aged 16–85 come from the 2007 ABS National Survey of Mental Health and Wellbeing

- information on diagnosed and treated psychotic disorders among males aged 18–64 come from the 2010 Australian National Survey of Psychotic Illness.

In 2007, it was estimated that about 296,300 (23%) males aged 16–24 had experienced symptoms of a mental disorder in the previous 12 months (Figure 13.1) (ABS 2008a). This was higher than among all males (18%) and lower than for females aged 16–24 (30%). The most frequently reported type of mental disorder experienced by males aged 16–24 were substance use disorders (16%), followed by anxiety disorders (9%) and affective disorders (4%). Males were more likely to have a substance use disorder than females (Figure 13.1).

Per cent

Source: ABS 2008a.

Figure 13.1: Experienced symptoms of a mental disorder in previous 12 months, males and females aged 16–24, 2007
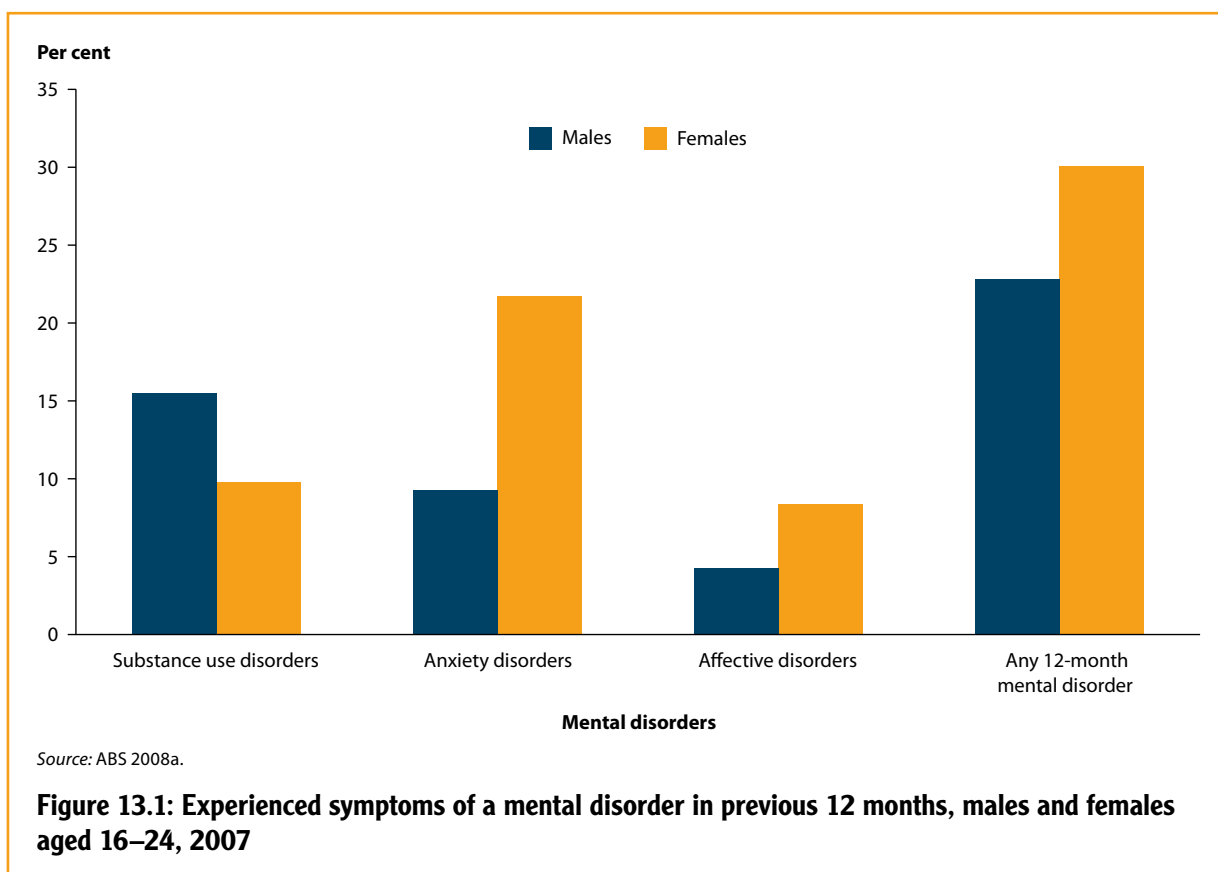
In 2010, it was estimated that more than 4,600 males aged 18–24 had a diagnosed psychotic disorder and had received treatment for that disorder in the previous 12 months (Morgan et al. 2011). This corresponds to a prevalence rate of 4.0 cases per 1,000 males aged 18–24 and is lower than among all males (5.4 per 1,000) and higher than among females aged 18–24 (2.3 per 1,000).

Males aged 18–24 represented 12% of all males with a diagnosed and treated psychotic disorder.

Comorbidity

Comorbidity is the occurrence of more than one condition or disorder at the same time. It is common among those with mental disorder, and can contribute to greater disability and higher use of health resources.

Almost 7% of males aged 16–24 had a mental disorder and a physical condition at the same time (compared with 12% of females) (AIHW 2012c). The most common comorbidity was substance use disorder combined with a physical condition, affecting 5% of young males. This was the exception to the general trend—the most common comorbidity affecting most other age and sex groups was an anxiety disorder combined with a physical condition.

Suicide

Suicide is a devastating occurrence with substantial costs for individuals, families and communities. The information in this section comes from AIHW analysis of the National Mortality Database, for the 3 years from 2008 to 2010. Suicide deaths in children (aged under 15) are a highly sensitive issue, and numbers are relatively low. Consequently, analysis of suicide deaths in this section does not include a detailed breakdown by age.

In 2008–2010, there were nearly 670 suicide deaths among males aged 0–24, a rate of 6 per 100,000. Although this was lower than among males aged 25 and over (22 per 100,000), suicide accounted for a higher proportion of all deaths among males aged 0–24 (12%) than among those aged 25 and over (2%). One in 4 (26%) deaths among males aged 20–24 were attributed to suicide. Males aged 0–24 were about 3 times as likely to die from suicide as females of the same age.

Economic costs

Poor mental health has a substantial influence on an individual's ability to participate in education and employment. Research and modelling by the Inspire Foundation and Ernst & Young (2012) found that each year mental disorder in males aged 12–25 cost about $3.3 billion ($387,000 per hour). This cost includes direct health costs, disability welfare payments, unemployment benefits and the cost of imprisonment.

Young males with mental disorder have an average of 9.5 days out of their work or role each year and have much lower rates of educational attainment than their peers. This limits their capacity to find employment and reduces their long-term earning potential (Inspire Foundation & Ernst & Young 2012).

Mental health services

Some, but not all, young males will seek help using mental health services. In 2007, the rate of access to mental health services among males aged 16–24 was estimated at 13% (Inspire Foundation & Ernst & Young 2012). This is well below the 23% of males who had experienced symptoms of a mental disorder in the previous 12 months (ABS 2008a).

A variety of public and private providers operate mental health services in Australia and include general practice, hospital emergency departments, community care and supported accommodation assistance. The information on community mental health-care service use in this section comes from the AIHW Community Mental Health Care National Minimum Data Set.

In 2009–10, there were nearly 276,200 community mental health-care service contacts among males aged under 15 (123 contacts per 1,000 males) and more than 529,600 among males aged 15–24 (328 contacts per 1,000 males) (AIHW 2012i). There were differences in service contacts by age and sex:

- Males aged 15–24 were more likely than all males (321 per 1,000) and less like than females aged 15–24 (342 per 1,000) to have a community mental health-care service contact.
- Males aged under 15 were less likely than all males (321 per 1,000) and more likely than females aged under 15 (93 per 1,000) to have a community health-care service contact.

> **What is missing from the picture?**
>
> There are many gaps in our understanding of mental health among young males. This is in part due to scope restrictions and small sample sizes in mental health surveys, but also due to the sensitive nature of questions surrounding mental health issues.
>
> It is difficult to estimate the prevalence of mental disorders within population subgroups of males, for example, young males in more remote geographic regions or those in prisons.
>
> Further, the number of males aged 0–24 who do not seek or are not able to access mental health services is unknown.

14 DISABILITY AND RELATED SERVICES

> ### Key findings
>
> - In 2009, 8% of males aged 0–24 (about 293,400) were estimated to have a disability.
> - Among young people aged 0–14, rates of disability were higher among males than females.
> - In 2010–11, more than 78,000 males aged 0–24 accessed National Disability Agreement (NDA) services. Two-thirds (66%) of these accessed community support services.

Disability refers to the impairments, activity limitations or participation restrictions resulting from a dynamic interaction between an individual's health conditions and environmental and personal factors. It is not restricted to people in old age. Increasingly, disability is recognised as something that can affect people across the life course, and that is best understood as a continuum from having no impairment or limitation to the complete loss of functioning or ability to complete a task.

The prevalence of disability

In 2009, about 293,400 males aged 0–24 (8%) were estimated to have a disability in Australia (ABS 2010a). This was lower than males aged 25 or over (23%) and higher than females aged 0–24 (6%).

In 2009, about 5.5% of males aged 0–24 had a core activity limitation—that is they needed help, had difficulty, or used aids or equipment to assist with any of the core activities of daily living (mobility, self-care or communication) as a result of their disability. More than 143,000 (3.9%) males aged 0–24 had a severe or profound core activity limitation—that is, they sometimes or always needed help with one or more core activities of daily living. Another 61,000 (1.6%) had a mild or moderate core activity limitation—that is, they had difficulty or used aids or equipment to assist with core activities of daily living.

The severity of core activity limitation differed by age:

- males aged 5–14 were most likely to have a severe or profound core activity limitation (6.6%)—higher than males aged 0–4 (2.9%) and males aged 15–24 (1.9%)
- males aged 5–14 and 15–24 had similar rates of mild or moderate core activity limitation (2.0%)
- males aged 0–4 had the lowest prevalence of moderate core activity limitation (0.3%), and there were none in this age group with a mild core activity limitation (Figure 14.1).

This last point is likely a reflection of the fact that children aged 0–4 will require some level of help with mobility, self-care or communication.

Per cent

Source: ABS 2010a.

Figure 14.1: Severity of core activity limitation, males aged 0–24, by age group, 2009
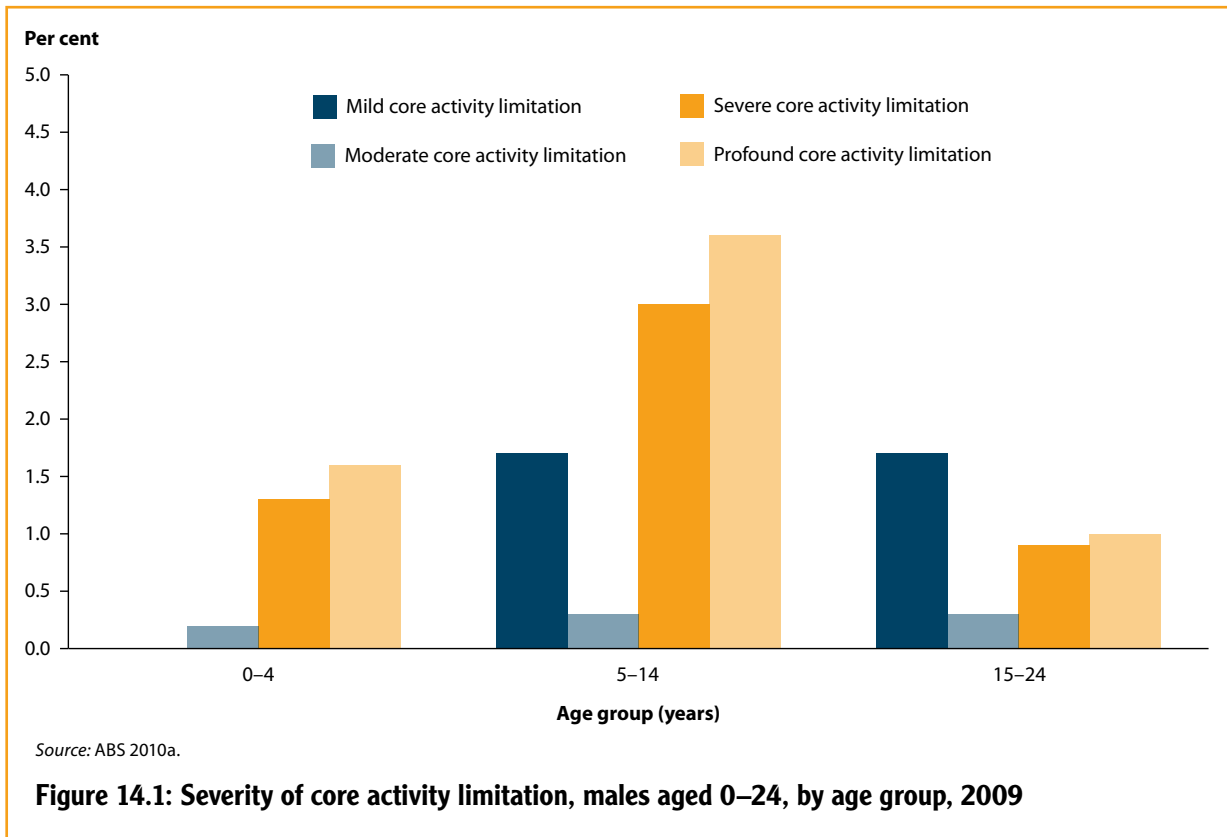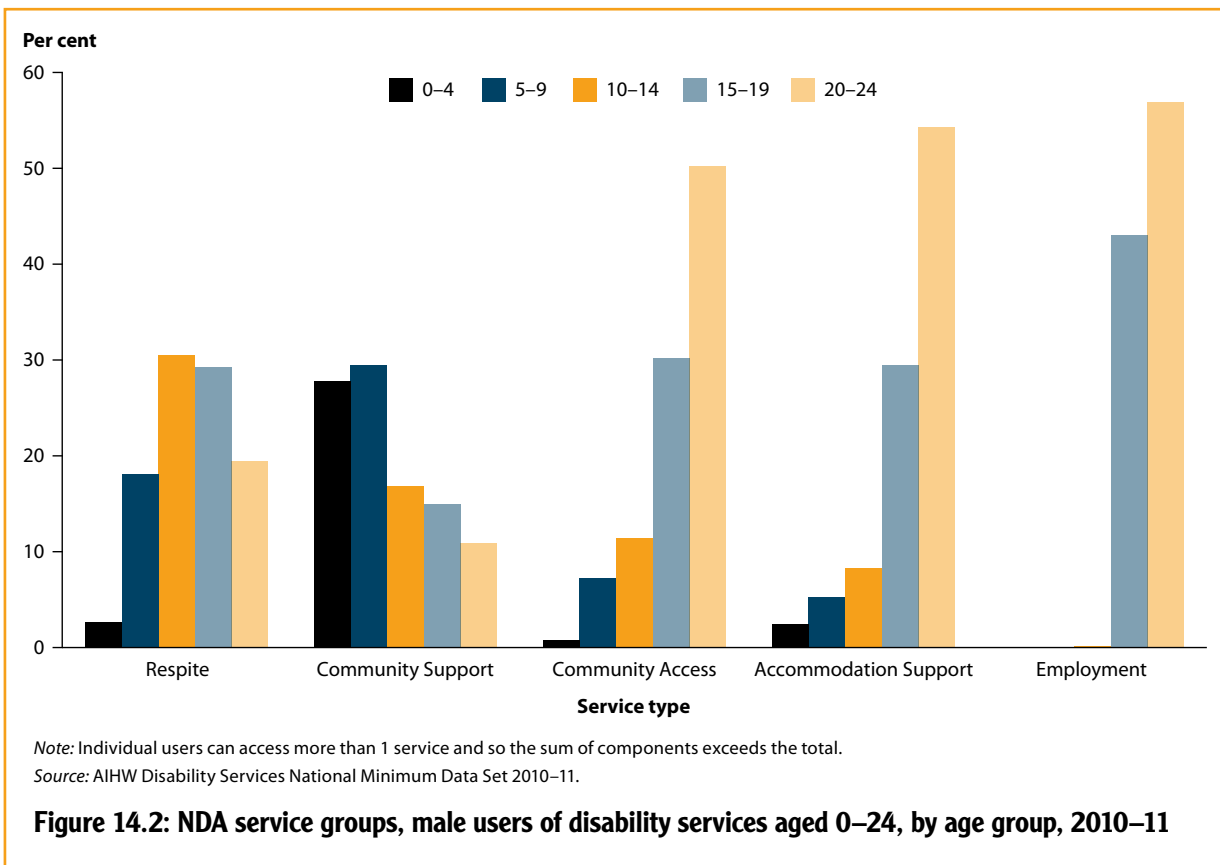
Disability services

Disability services may be needed to allow young males (and females) to carry out everyday activities and participate in education, employment and community life. Services may improve physical functioning, facilitate learning, support independent living (for adults) or prevent or reduce reliance on institutional care. These services are provided in mainstream or specialist settings.

The NDA began on 1 January 2009, and outlines the roles and responsibilities of Australian governments in delivering disability services. The NDA aims to ensure that 'people with disability and their carers have an enhanced quality of life and participate as valued members of the community' (COAG 2012). The following data relate to people with a disability who accessed services funded under the NDA and reporting in the Disability Services National Minimum Data Set (DS NMDS) in 2010–11.

In 2010–11, more than 78,000 males aged 0–24 accessed NDA services. Males aged 0–24 accounted for 42% of all male service users. Two in 3 (66%) service users in the 0–24 age group were male.

In 2010–11, 2 in 3 (67%) male service users aged 0–24 accessed community support services, 25% accessed employment support services (predominantly those aged 15 and over) and 16% accessed respite care services. There was a similar pattern among females aged 0–24. Among male service users aged 25 or over, the most common service was employment services (54%). The type of service used by males with a disability varied with age (Figure 14.2). Among males aged 0–24, the use of:

- respite services was most common among males aged 10–14 and 15–19

- community support services decreased with age, and was slightly more common among males aged 5–9 than males aged 0–4

- community access and accommodation support services increased with age

- employment services was not relevant to males aged under 10, limited among males aged 10–14, and was highest among males aged 20–24 (Figure 14.2).

Per cent

Note: Individual users can access more than 1 service and so the sum of components exceeds the total.

Source: AIHW Disability Services National Minimum Data Set 2010–11.

Figure 14.2: NDA service groups, male users of disability services aged 0–24, by age group, 2010–11
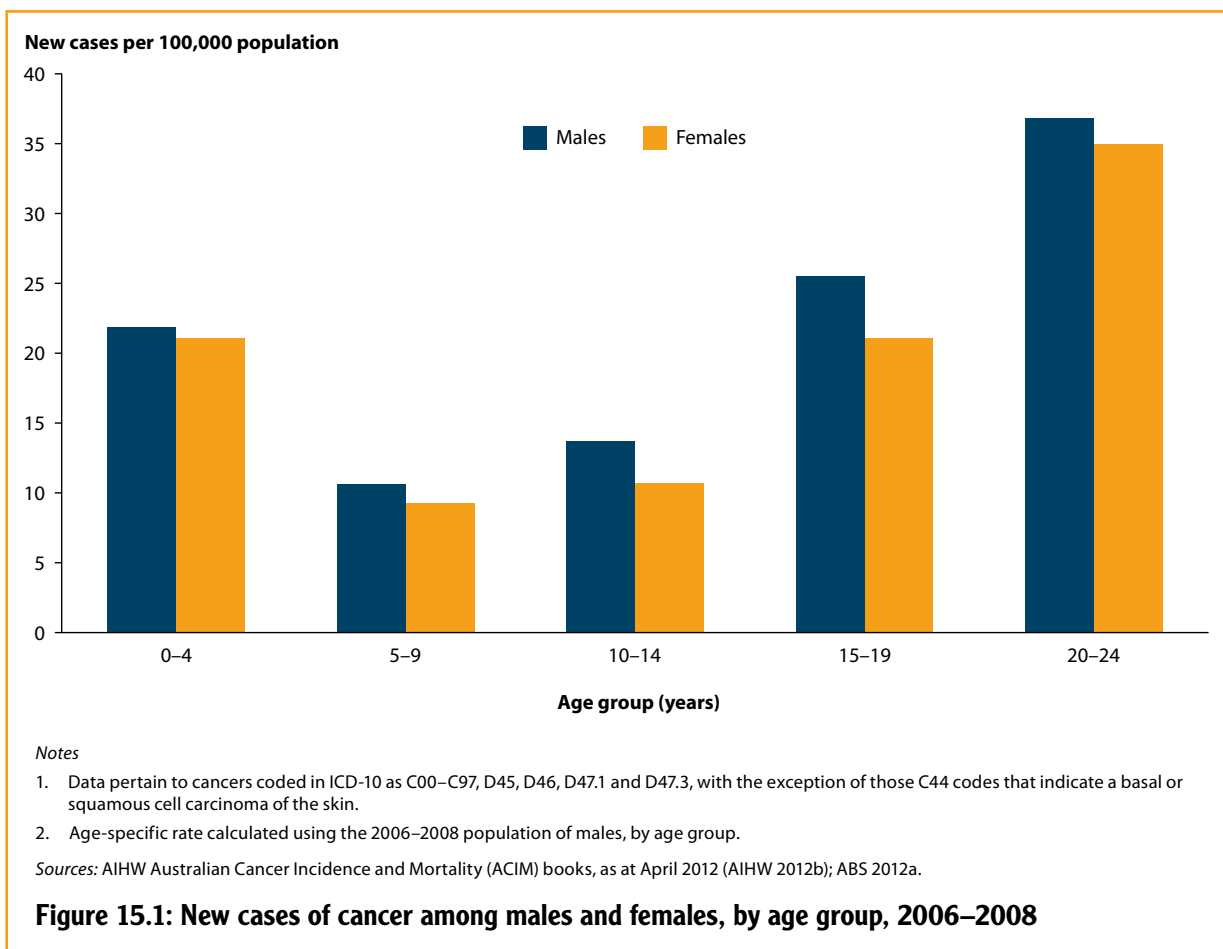
15 CANCER

Key findings

- In 2006–2008, nearly 2,400 males aged 0–24 were diagnosed with cancer, a rate of 22 per 100,000.
- Males were slightly more likely than females to be diagnosed with cancer in all age groups, with the difference greatest among those aged 10–14 and 15–19.
- Lymphoid leukaemias were the most commonly diagnosed cancer among males aged 0–24.

Cancer is the general term for a condition where defective cells in the body multiply out of control. Cancers are named by the type of cell involved or the location of the body where the condition begins. Some are easily diagnosed and treated, but most can be fatal. This section presents the number of new cancers diagnosed among young males and females. The data come from the AIHW Australian Cancer Incidence and Mortality books.

In 2006–2008, there were nearly 2,400 new cases of cancer diagnosed among males aged 0–24, at a rate of 22 new cases per 100,000 males. This was substantially lower than among males aged 25 and over (885 per 100,000) and slightly higher than among females aged 0–24 (20 per 100,000).

Among males aged 0–24, the cancer incidence rate was highest among males aged 20–24 (37 per 100,000), and lowest among males aged 5–9 (11 per 100,000) (Figure 15.1). Males were slightly more likely than females to be diagnosed with cancer in all age groups, with the difference greatest in the 10–14 and 15–19 age groups.

New cases per 100,000 population

Notes

1. Data pertain to cancers coded in ICD-10 as C00–C97, D45, D46, D47.1 and D47.3, with the exception of those C44 codes that indicate a basal or squamous cell carcinoma of the skin.
2. Age-specific rate calculated using the 2006–2008 population of males, by age group.

Sources: AIHW Australian Cancer Incidence and Mortality (ACIM) books, as at April 2012 (AIHW 2012b); ABS 2012a.

Figure 15.1: New cases of cancer among males and females, by age group, 2006–2008

In 2006–2008, the leading cause of cancer among males aged 0–24 was lymphoid leukaemias, with 353 males newly diagnosed in that period (3.3 new cases per 100,000 males) (AIHW 2012b). Lymphoid leukaemias were less common among females aged 0–24 at 264 new cases (2.6 per 100,000 females). Other cancers commonly diagnosed among males aged 0–24 were:

- cancer of the testis (307 new cases)
- melanoma of the skin (252), and by comparison the most common form of cancer among females aged 0–24 (315)
- Hodgkin lymphomas (218)
- brain cancer (215).

While lymphoid leukaemias were the most commonly diagnosed cancer among younger males aged 0–4, 5–9 and 10–14, cancer of the testis was most commonly diagnosed among males aged 15–19 and 20–24.

16 DIABETES

Key findings

- In 2009, there were 505 new cases of Type 1 diabetes among males aged 0–14, and 231 among males aged 15–24.

- In 2010–11, there were 3,085 hospitalisations among males aged 0–24 where diabetes was the main reason for hospitalisation.

- Between 2004 and 2009, more than 2,000 males aged 0–24 with diabetes used an insulin pump. Males aged 10–14 were most likely to use a pump, while those aged 20–24 were least likely.

Diabetes mellitus is a chronic disease that affects the production of the hormone insulin and its ability to control the level of glucose (sugar) in the blood. There are two main types of diabetes affecting males. Type 1 diabetes occurs mainly in children and young adults and is treated with insulin. Type 2 is the most common form of diabetes in the population. Although it occurs mostly in older people, it is becoming more common in younger people. This form of diabetes can be managed with lifestyle changes, medicines or insulin. All types of diabetes can result in a range of complications, disability and death.

Diabetes incidence and prevalence

Incidence refers to the number of new cases of diabetes occurring in the population in a given period. The following data on new cases of Type 1 diabetes and insulin-treated Type 2 diabetes come from the AIHW National Diabetes Register.
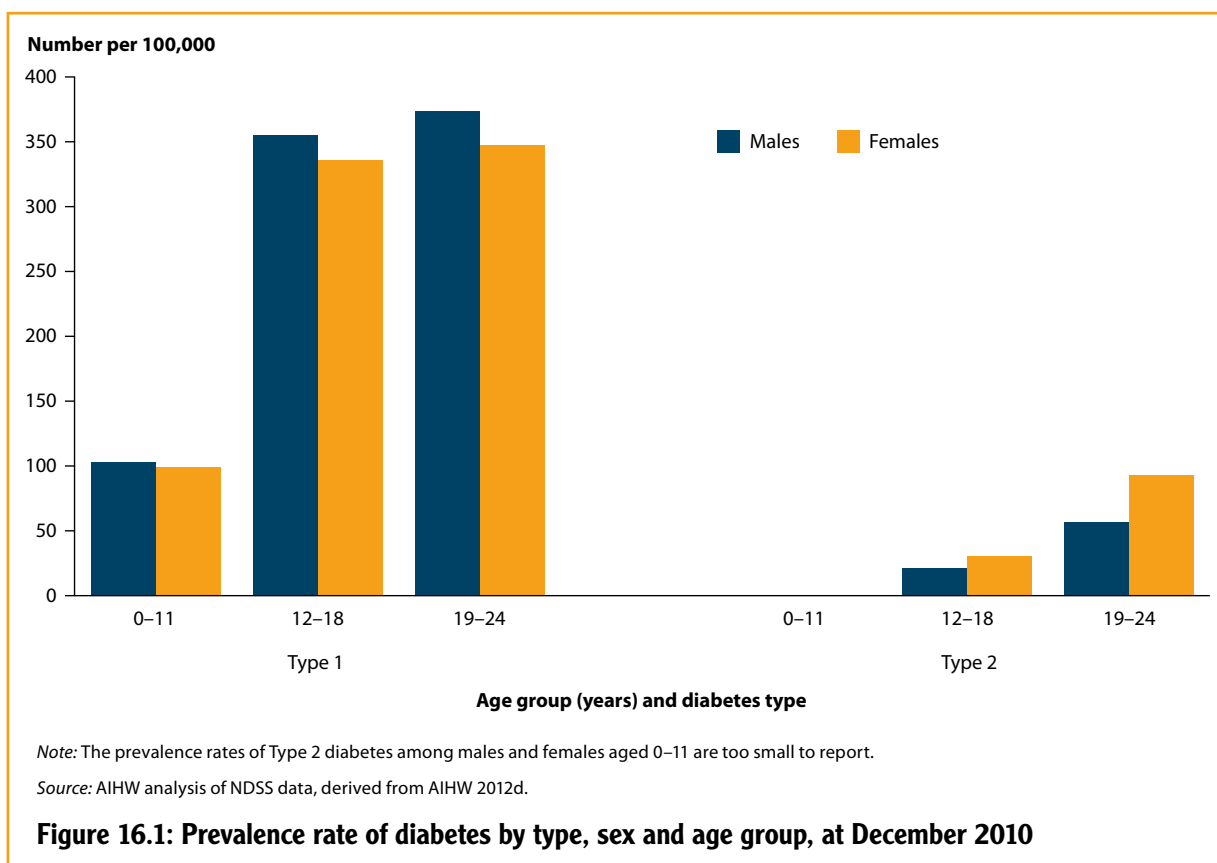
In 2009, there were 505 new cases of Type 1 diabetes among males aged 0–14, and 231 among males aged 15–24 (AIHW 2012g). There were a similar number of new cases of Type 1 diabetes among females of the same age. Males aged 10–14 were most likely to be newly diagnosed with Type 1 diabetes (35 new cases per 100,000 males), while those aged 20–24 were least likely (12 per 100,000).

In 2009, there were 54 new cases of insulin-treated Type 2 diabetes among males aged 10–24, a rate of 2 per 100,000 (AIHW 2012g). This was lower than among males aged 25 or over (157 per 100,000) and lower than among females aged 10–24 (3 per 100,000).

Prevalence refers to the total number of people with diabetes at a point in time. Data on the prevalence of males aged 0–24 with diabetes comes from the National Diabetes Service Scheme (NDSS) database.

At December 2010, about 9,000 males aged 0–24 with Type 1 diabetes and about 775 with Type 2 diabetes were registered with the NDSS. The prevalence rate of Type 1 diabetes in this age group was 243 per 100,000 males, and for Type 2 it was 21 per 100,000 (AIHW 2012d).

The prevalence of Type 1 diabetes was higher among males aged 0–24 than females of the same age (229 per 100,000). Conversely, the prevalence of Type 2 diabetes was lower among males aged 0–24 than females of the same age (32 per 100,000). The prevalence of Type 1 diabetes among males increased with age: from 103 cases per 100,000 males aged 0–11 to 374 per 100,000 males aged 19–24. There was a similar pattern for Type 2 diabetes, increasing from 21 per 100,000 among males aged 12–18 to 57 per 100,000 among males aged 19–24 (Figure 16.1).

Number per 100,000

Note: The prevalence rates of Type 2 diabetes among males and females aged 0–11 are too small to report.

Source: AIHW analysis of NDSS data, derived from AIHW 2012d.

Figure 16.1: Prevalence rate of diabetes by type, sex and age group, at December 2010

While the prevalence of diabetes increases overall with age, the ratio of people with Type 1 diabetes compared with Type 2 diabetes decreases. Among males, the ratio is highest at age 0–11, where 95 in every 100 cases of diabetes are Type 1, compared with age 19–24 when only 85 in 100 cases are for Type 1. This pattern is similar among females.

At all ages, males were more likely than females to have Type 1 diabetes, and females were more likely than males to have Type 2 diabetes (Figure 16.1).

Diabetes hospitalisations

In 2010–11, there were nearly 3,100 hospitalisations among males aged 0–24 where diabetes was the main reason for hospitalisation (principal diagnosis), a rate of 6 per 1,000 hospitalisations. This was higher than among males aged 25 and over (1 per 1,000) and similar to the rate among females aged 0–24 (6 per 1,000). The vast majority of diabetes hospitalisations among males aged 0–24 were for Type 1 diabetes (96%).

The rate of diabetes hospitalisations differed by age and was highest among males aged 10–14 (13 per 1,000) and 15–19 (9 per 1,000) and lowest among males aged 0–4 (1 per 1,000).

In 2010–11, 42% of diabetes hospitalisations among males aged 0–24 were for acidosis—a build-up of acids in the blood, and one of the first signs of Type 1 diabetes. Other common diabetes-related diagnoses included poor diabetes control (17%) and hypoglycaemia (low blood sugar) (9%).

Insulin pump use

Insulin pumps are increasingly being used as an alternative to the traditional method of insulin delivery, which requires people with diabetes to inject insulin several times a day. The pumps provide improvements in overall diabetes control and offer greater flexibility in diet and exercise habits (AIHW 2012h). The following information comes from the NDSS database and the AIHW Insulin Pump User Survey.

Between January 2004 and 30 June 2011, nearly 2,200 (25%) males aged 0–24 with Type 1 diabetes and registered with the NDSS used an insulin pump (AIHW 2012h). This was higher than males aged 25 and over (4%), and lower than females aged 0–24 with Type 1 diabetes (32%).

There were age differences in insulin pump use: males aged 10–14 were most likely (34%), and those aged 20–24 were least likely (15%), to use a pump (Figure 16.2). This may be partly explained by a government subsidy begun in 2008 that enables eligible people under 18 to claim up to 80% of the cost of an insulin pump (AIHW 2012h).
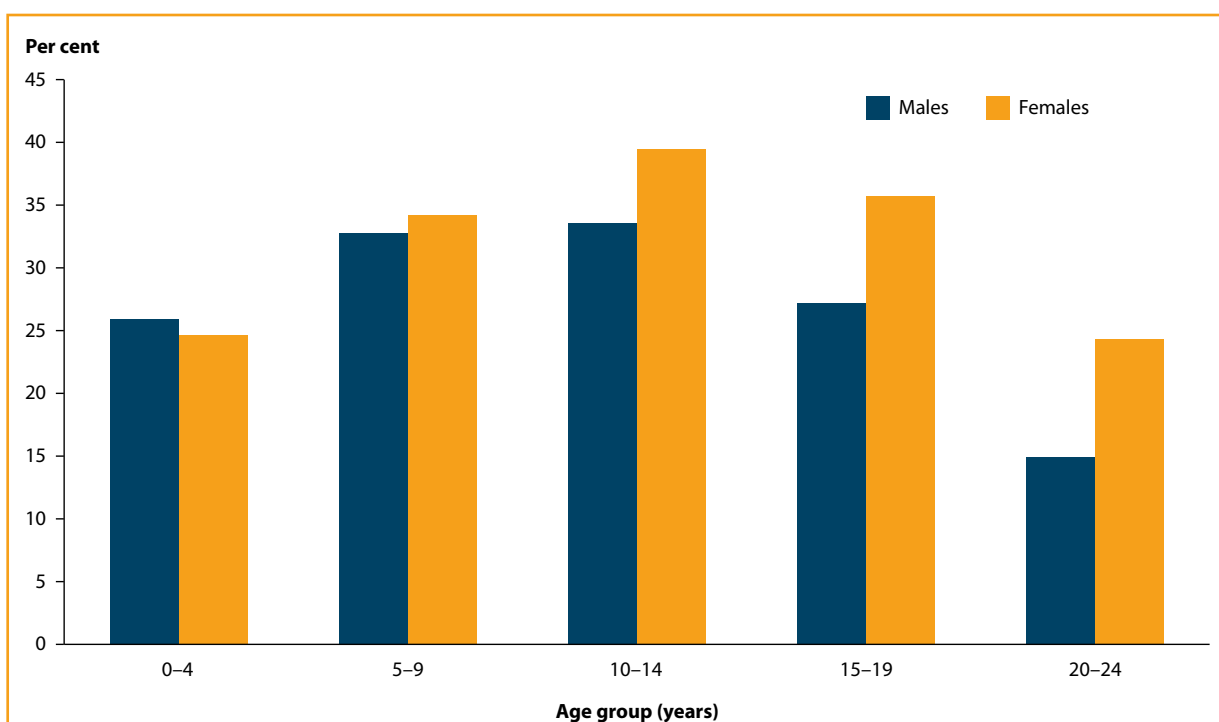
Source: Derived from Table A1 AIHW 2012h.

Figure 16.2: Proportion of people with Type 1 diabetes who use an insulin pump, by sex and age group, 2004–11

What is missing from the picture?

Young males with diabetes who manage their condition with diet and exercise alone may not register with the National Diabetes Services Scheme, and will therefore not be included in prevalence statistics.

Information on the transition of young males (aged 15–24) from paediatric diabetes clinics to adult diabetes clinics, including attendance rates and health status, are not currently available.

17 INFECTIOUS DISEASE

<div style="border:1px solid">

Key findings

- There were nearly 23,000 hospitalisations for infectious and parasitic diseases among males aged 0–24 in 2010–11, with infants most likely to be hospitalised.

- In recent years, chlamydia has become the most commonly notified infectious disease among young males. Males aged 15–24 comprised 53% of all chlamydia notifications among males in 2011.

</div>

Infectious diseases are caused by harmful organisms or their toxic products. From a public health perspective, their distinctive feature is an ability to spread from human to human, by air, food, water, objects, insects or direct contact with an infected person.

The burden of infectious disease in Australia has reduced markedly over the past century due to improvements in sanitation, the introduction of antibiotics, and immunisation programs. Nonetheless, infectious diseases remain a prominent public health concern. Attention has turned to those diseases where appropriate actions can be taken to reduce their distribution and spread.

Health service use

A considerable proportion of health service use is attributed to infectious disease. In serious cases, hospitalisation may occur. In 2010–11, there were almost 23,000 hospitalisations with infectious and parasitic diseases as a principal diagnosis among males aged 0–24, accounting for 4% of all hospitalisations for that age group (Table 17.1).

Males aged under 1 year were most likely to be hospitalised for infectious and parasitic diseases (3,009 per 100,000), followed by males aged 1–4 (1,267 per 100,000). Males aged 10–14 were the least likely out of all age groups of males to be hospitalised with this diagnosis (265 per 100,000).

Overall, males aged 0–24 were slightly more likely to be hospitalised for infectious and parasitic diseases than males aged 25 and over. This group of causes also contributed a higher proportion of all hospitalisations for younger males than for older males (4.1% compared with 1.1%).

Males were slightly less likely than females to be hospitalised for infectious and parasitic diseases—612 compared with 624 hospitalisations per 100,000 population. This sex difference grows larger in adolescence and beyond, which may be due to infections associated with childbirth.

Table 17.1: Hospitalisations for infectious and parasitic diseases as a principal diagnosis, 2010–11

Age group (years)	Number	Number per 100,000[a]
Males		
<1	4,500	3,000
1–4	7,500	1,250
5–9	3,100	450
10–14	1,900	250
15–19	2,600	350
20–24	3,200	400
Males 0–24	22,800	600
Females 0–24	22,100	600

(a)   Based on 31 December 2010 estimated resident population, by age group.

Note: Hospital separations for which the care type was reported as *Newborn with no qualified days*, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.

Source: Analysis of AIHW National Hospital Morbidity Database 2010–11.

Deaths

In 2010, there were 80 deaths from infectious diseases among males aged 0–24, accounting for 1.6% of all deaths in this age group. There were fewer deaths among females of the same age (62) although these made up a slightly higher proportion of all female deaths in this age group (2.3%).

There has been a substantial reduction in mortality from infectious diseases over the last century (Table 17.2). This has occurred across every age group, from infants through to young adults. For example, infectious diseases accounted for 36% of deaths among boys aged 5–14 in 1907, compared with 3% of deaths in this age group in 2010. An even larger reduction can be seen for males aged 15–24—from 34% of all deaths to less than 1% over the century.

There was a similar reduction in infectious disease deaths among females over this period.

Table 17.2: Proportion of deaths due to infectious diseases, by age group, males and females aged 0–24, 1907 and 2010

Age group (years)	1907	2010
Males		
0–4	12.1	2.5
5–14	36.1	3.0
15–24	34.2	0.7
Females		
0–4	22.3	2.3
5–14	43.0	4.0
15–24	45.6	1.7

Notes

1. Deaths for 2010 are preliminary data and are subject to further revision.

2. These data have not been adjusted for the additional deaths arising from outstanding registrations of deaths in Queensland in 2010. For more detail please refer to Technical note 3 in Causes of death, Australia, 2010 (ABS 2012b).

Source: Magnus & Sadkowsky 2006; Analysis of AIHW National Mortality Database.

Vaccine preventable infections

Vaccines are available to protect children (and adults) from many infectious diseases including their short-term side effects and any long-term complications that may arise (Box 17.1). This section focuses on a selected number of infections for which childhood immunisation programs exist.

> **Box 17.1: Childhood vaccines**
>
> The Australian Government provides free vaccines for 16 diseases. For infants and children, these include hepatitis B, diphtheria, tetanus, pertussis (whooping cough), Haemophilus influenzae type b (Hib), poliomyelitis (polio), pneumococcal disease, rotavirus, measles, mumps, rubella, meningococcal disease and varicella (chickenpox).
>
> In 2013, vaccination against human papillomavirus (HPV) will be introduced for 12–13 year old boys, with a catch-up program for Year 9 boys (DoHA 2012a).

In 2011, among males aged 0–24, there were 9,777 notifications for pertussis, 294 for pneumococcal disease, 94 for meningococcal disease, 54 for measles and 24 for mumps (DoHA 2012b). Males aged 0–24 account for 34% of the male population, but had more notifications for pertussis (57%), meningococcal disease (76%) and measles (56%), and fewer notifications for mumps (30%) and pneumococcal disease (29%).

Compared with females of the same age, males aged 0–24 had more notifications for pneumococcal and meningococcal disease, and fewer for pertussis, measles and mumps (DoHA 2012b). There were no strong and consistent patterns by age within this broad age group. However, infants and young children may be at higher risk of certain diseases because they are too young to receive the appropriate vaccine.

Sexually transmissible infections and bloodborne viruses

Sexually transmissible infections (STIs) and bloodborne viruses are important health concerns. They are easily transmissible through sexual contact, from mother to child during childbirth or breastfeeding, and through the sharing of needles or the use of unsterilised piercing and tattooing equipment.

Young people are particularly vulnerable to contracting and transmitting sexually transmissible infections and bloodborne viruses. They are more likely to engage in unsafe sexual behaviours, increasing their risk of acquiring diseases such as human immunodeficiency virus (HIV), chlamydia, gonorrhoea and syphilis; and intravenous drug use, increasing the risk of HIV and hepatitis B and C infection. In 2008, about 7 in 10 males in Year 10 and Year 12 were sexually active, with students in Year 12 more likely than those in Year 10 to be sexually experienced (Smith et al. 2009). This was similar to the proportion of females in the same school years. However, compared with female students, male students in Year 10 and Year 12 had poorer knowledge of STIs (transmission, symptoms and treatment), and were more likely to have multiple partners and casual sexual partners (Smith et al. 2009).

In 2011, the notification rates of selected bloodborne viruses and sexually transmissible infections generally increased with age, and were highest among males aged 20–24 (Table 17.3). Notification rates for males were higher than for females for hepatitis B and C, gonorrhoea and syphilis. However, for chlamydia, the female rate was much higher than the male rate. Nonetheless, chlamydia was the most commonly notified disease among males aged 0–24, with more than 17,741 notifications (DoHA 2012b). Males aged 15–24 accounted for 53% of chlamydia notifications among all males.

Table 17.3: Notifications of selected sexually transmissible infections and bloodborne viruses among males aged 0–24, by age group, 2011 (notifications per 100,000)

Age group (years)	Chlamydia	Gonorrhoea	Hepatitis C[a]	Hepatitis B[a]	Syphilis[b]
Males					
0–4	1.2	0.5	1.1	0.7	0.5
5–9	0.0	0.0	0.7	2.0	0.3
10–14	13.0	6.1	0.8	5.9	0.3
15–19	733.4	137.5	14.2	19.0	7.6
20–24	1,477.5	220.6	62.2	43.0	18.6
Males 0–24	**475.4**	**77.4**	**17.1**	**14.9**	**5.8**
Females 0–24	**968.6**	**70.6**	**14.4**	**13.2**	**3.7**

(a)   Includes incident and unspecified cases.
(b)   Includes all syphilis categories.

Source: ABS 2012a; DoHA 2012b.

What is missing from the picture?

There are limited data on diseases that are not nationally notifiable (such as genital herpes and HPV) and the circumstances by which a person acquired an infectious disease.

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This report is the third in a series on the health of Australia's males, and focuses on health conditions and risk factors that are age-specific (such as congenital anomalies) and those where large sex differences are observed (such as injury).

Findings include:

- Male babies born in 2009–2011 can expect to live to the age of 79.7, nearly 5 years less than female babies born the same year (84.2).

- While males aged 0–24 are more likely to be hospitalised or die from injury than females of the same age, they are similarly likely to be overweight or obese and less likely to smoke tobacco daily.