In 2011, 44% of deaths in Australia and 31% of the burden of disease and injury was associated with behavioural, metabolic and environmental risk factors.

Being a smoke-free state is becoming an achievable target with further declines in daily smoking evident. In 2016, 1 in 8 adult Queenslanders was smoking daily and less than 2% of tobacco related deaths were due to second-hand smoke in 2013. About 1 in 8 women smoked at some time during their pregnancy in 2014.

Healthy eating is a challenge—more than one-third of the energy intake of Queenslanders is derived from food that provides little or no nutritional benefit and is costing the average consumer over half their food spending. Small gains are being achieved in infant nutrition—an increase in breastfeeding to 12 months, later introduction of solid foods and lower consumption of sugary drinks.

Two-thirds of Queensland adults are either overweight or obese and about one-quarter of children. Although the prevalence has steadied in recent years, strategies to address this excess weight are essential to improving the health and wellbeing of the population over the longer term.

One-fifth of adults were consuming alcohol at lifetime risky levels—prevalence is higher among males with about one-third drinking at this level. Harms from excess alcohol are an ongoing challenge, contributing to a culture of violence and the impact on children and families is sometimes hidden.

Less than half of Queensland children are active every day and about 60% of adults were sufficiently active for health benefit. Sedentary lifestyles are common: more than one-third of children exceed the recommended maximum screen time and one-eighth of adults are sedentary every day.

Metabolic factors are leading risks for cardiovascular disease: about one-quarter of adults have high blood pressure and almost one-third have high cholesterol, with many more taking medication to reduce their known risk.

About 1 in 7 Queenslanders aged 14 years and older had used an illicit drug in the previous 12 months. Patterns of use change over time with an increase in the use of ‘ice’ (crystal meth) resulting in a 15-fold increase in hospitalisations over the past five years.

Early detection of cancer is critical to controlling disease progression, yet only about half of Queensland women in the target age range are participating in the cervical screening program (56%) and a similar proportion in the BreastScreen Queensland program (58%). One-third of invited participants completed the bowel screening test.

About 1 in 20 cancers in Australia is due to solar radiation and Queenslanders are at risk through high exposure: 1 in 2 (adults and children) was sunburnt in the previous 12 months and very few (about 1 in 20 in summer) ‘protect themselves in five ways’ as recommended in the guidelines.

Dental decay is largely avoidable but still about half of 5–10 year olds had decay experience in their primary teeth and one-third of 6–14 year olds in their permanent teeth. There are about 3000 hospitalisations each year for dental caries in 0–9 year olds.

Immunisation rates are at an all-time high with over 90% of children fully vaccinated at the relevant milestones. About one-third of pregnant women reported being vaccinated for whooping cough in 2015.

Awareness about the extent of domestic and family violence in the community is growing—1 in 6 Australian adult women had experienced violence in their lifetime and 1 in 20 in the previous 12 months.

Environmental factors contribute to health loss—this includes unsafe food practices and production, unsafe water and chemical and other exposures.
Tobacco smoking is still a leading cause of preventable death and disease in Queensland and a significant contributor to health inequalities, despite a substantial reduction in the smoking rate over the past two to three decades.

Two-thirds of deaths in current smokers can be directly attributed to smoking. Tobacco is highly addictive and smoking reduction strategies focus on preventing the uptake and increasing the quit rate.

In 2016, 1 in 8 Queensland adults smoked daily, a 50% reduction in prevalence since 1998. The decline in smoking rates in Queensland over this period was similar to national decline.

Most smokers take up the habit during their teenage years, and it is evident that the relatively rapid decline in youth smoking in the past decade means uptake is diminishing. A high proportion of older men report being an ex-smoker—evidence that quitting is also contributing to better outcomes. The benefit for males can be seen in declining death rates for lung cancer and COPD where there was little improvement for women. In addition, there has been a reduction in environmental exposure with the proportion of tobacco related deaths in Australia due to second-hand smoke more than halving over the past two decades, and now at 2%.

Smoking contributes to health inequality because it has such a profound effect on health and increases the risk of early death. There were about 8000 infants born in 2014 whose long-term outcomes were compromised as a consequence of maternal smoking during pregnancy. The high Indigenous Queenslander smoking rate is a significant contributor to the 10-year life expectancy gap. There is a socioeconomic gap in health outcomes, in part because smoking prevalence in disadvantaged areas was about three times that of advantaged areas and rates of maternal smoking over five times greater.

Smoking reduction strategies in Queensland are designed to protect people from the harmful effects of tobacco smoke. They focus on three areas: creating smoke-free environments to reduce exposure to second-hand smoke, empowering smokers to quit, and discouraging the take-up of the habit.

Key statistics:
- About 450,000 adults were daily smokers in 2016: 250,000 males and 200,000 females.
- 21,000 secondary students (12–17 year olds) had smoked in the previous week in 2014.
- 8200 women had smoked at some time during their pregnancy in 2014 (6400 non-Indigenous and 1800 Indigenous Queenslander women).
- 110,000 adults were current e-cigarette users in 2015–16.
- 200,000 children were living in a household with a current smoker in 2015–16.
- About 3700 deaths in 2011 were due to smoking and 2% of these were due to second-hand smoke alone.
- 800,000 adults reported being frequently exposed to second-hand smoke in public places.

While smoking reduction in recent decades demonstrates the power of prevention, it is not yet true that ‘nobody smokes here anymore’. It will be a challenge to maintain and build on the gains already achieved. Every year, there is a new generation of potential smokers and new products to encourage people to smoke, such as e-cigarettes. Exposure to role models who smoke, such as parents, contributes to normalising of this behaviour and perpetuates a new generation of smokers. More effort is needed to address maternal smoking—particularly among teenagers and Indigenous Queenslanders.
What is the prevalence?
In 2016, 12% of adults smoked tobacco cigarettes daily (Table 11, Figure 39).

- The average age of first full cigarette among Queenslanders aged 14 years and older was 16.2 years in 2013.\textsuperscript{115}
- 3.0% of adults were regular e-cigarette users in 2015–16 and of current smokers, 18% had used an e-cigarette in the previous 12 months.\textsuperscript{116}
- One in 8 women (13%) smoked at some time during their pregnancy in 2014 and of these 16% were smoking more than 10 cigarettes a day.\textsuperscript{21}
- One in 5 adults (22%) reported being frequently exposed to second-hand smoke in public places in 2015.\textsuperscript{117}
- One in 4 children (27%) lived in a household with a current smoker in 2015–16.\textsuperscript{118}

Smoking rates in disadvantaged areas were 3 times those of advantaged areas and maternal smoking rates were more than 5 times greater.

Is it the same for everyone?
The number and prevalence of daily smokers by sociodemographic groups is presented in Figure 42, page 65.

Sex
Male smoking rates were 29% higher than female rates in 2016 (Table 11) although in 2015 they were similar. Males started smoking one year earlier than females in 2013 (15.7 years compared with 16.7 for females).\textsuperscript{115} They were more likely to be a current non-daily smoker than females (5.4% compared with 2.5%) and were 20% more likely to be an ex-smoker (32% compared with 26%) in 2016 (Table 11).

Teenage girls and boys (12–17 years) were equally likely to have smoked in the previous week in 2014 (5.1% compared with 6.6%).\textsuperscript{119} Similarly, there was no difference in daily smoking prevalence among young adult females and males (9% compared with 11% respectively among 18–24 year olds) (Table 11).

Age
In 2016, daily smoking rates were highest in the age range 35–54 years with male rates peaking at 35–44 years and females at 45–54 years (Table 11). The cycles in uptake and quitting are evident in the age profile—about half the males aged 65 years and older were ex-smokers while 60% of women aged 65 years and older had never smoked and this was similar for young women, with about two-thirds of those aged 18–34 having never smoked.

Young teenagers experiment with smoking. In 2014, 1 in 50 school children aged 12–13 years (1.7%) reported having smoked in the previous week, increasing to 1 in 8 among students aged 16–17 years (13%).\textsuperscript{119} Furthermore, 8% of teenagers (14–19 years) reported smoking daily.\textsuperscript{115} Among secondary school students (12–17 years), 11% had tried e-cigarettes, and of these, 1 in 6 had used them in the previous four weeks in 2014.\textsuperscript{119}

Teenagers were more than twice as likely to smoke during pregnancy as older women, 30% compared with 12% in 2014.

Socioeconomic status
Rates of daily smoking were about 3 times higher among adults living in socioeconomically disadvantaged areas than those in advantaged areas in 2016: 17% compared with 6% (Table 11). Not only were adults in advantaged areas less likely to be daily smokers, they were 26% more likely to have never smoked although equally as likely to be an ex-smoker.

Smoking rates were about 3 times higher among adults with trade, diploma and certificate qualifications than tertiary degrees (14% compared with 5.4% in 2016), and about double in unemployed than employed persons (22% compared with 11% in 2016) (Figure 42).

Children living in socioeconomically disadvantaged areas were 2.5 times more likely to be living in a household with a smoker than those in advantaged areas (40% compared with 16% in 2015–16).\textsuperscript{118}

The rate of maternal smoking was 5.6 times higher in socioeconomically disadvantaged areas than advantaged areas in 2014 (24% compared with 4.3%).\textsuperscript{21} Two-thirds of women who smoked during pregnancy (about 5200 women) were from areas of greater disadvantage.
**Remoteness**
Rates of daily smoking were higher outside major cities, varying from about 30–40% higher in regional and remote areas in 2016 (Table 11). Among school students (12–17 years), rates of weekly smoking were similar in south east Queensland to those in the rest of the state. Children living in remote areas were 30% more likely to be living in a household with a smoker than those in cities (32% compared with 25% in 2015–16).\(^{118}\)

**Indigenous Queenslanders**
In 2012–13, 45% of Indigenous Queenslanders smoked daily.\(^{120,121}\) After adjusting for age differences the Indigenous Queenslanders rate was 2.5 times the non-Indigenous rate.

Young Indigenous Australians (15–17 years) were about 5 times more likely to smoke daily than non-Indigenous young people of a similar age (18% compared with 3.9% in 2012–13).\(^{120,121}\)

Indigenous Queenslanders smoking rates were 2.5 times non-Indigenous rates.

Indigenous Queenslanders women were about 4 times as likely to have smoked during their pregnancy as non-Indigenous women: 45% compared with 11% in 2014.

Among Indigenous Queenslanders, smoking during pregnancy did not differ by age: 45% among teenagers and 45% among older women in 2014 while for non-Indigenous women the difference was large: 26% compared to 10% respectively (Figure 40a).

There has been a decrease in the smoking rates among Indigenous Australians since 2001, however, the decrease was about half that achieved for non-Indigenous Australians (13% compared with 28%).\(^{120}\) Furthermore, the small gains were only evident for Indigenous Australians living in non-remote areas, with no change for those living in remote areas. It is not surprising therefore that there has been little change in Indigenous Queenslanders death rates for smoking related chronic conditions such as lung cancer and COPD over the past decade (page 28).

**Regional Queensland**
Adult smoking rates varied from 10% in Sunshine Coast to 22% in South West HHS in 2015–16.\(^{122}\) Compared to the state average, the smoking rate was 78% higher in South West, 76% higher in Torres and Cape, 61% higher in North West, about 36% higher in Central Queensland, Central West and Wide Bay and 27% higher in Cairns and Hinterland and in Townsville. More information on HHS differentials is available in the HHS booklet and the statistical tables online (page i for details).
How do we compare?

National
Smoking rates in Queensland have been higher than national rates in all but one survey (2010) over recent decades. In 2013, the Queensland rate was 18% higher than national and third highest of the jurisdictions after Northern Territory and Tasmania (Table 24, page 116).

International
Australia was ranked fourth lowest of 35 OECD countries for daily smoking in persons 15 years and older in 2014 (or nearest year), where Mexico was lowest, followed by Sweden and the US.

Smoking prevalence declined globally by 28% between 1980 and 2012, and in the same period, Australian prevalence declined by 55%. The number of cigarettes per smoker per day varied widely across countries and did not correlate with prevalence.

What are the trends?
The rate of daily smoking is declining. It has halved since 1998 and decreased by 3.9% per year between 2009 and 2016.

The rate of decline in smoking between 2002 and 2016:
- was evident for both males and females and both were declining at a similar rate
- was greatest for young people (18–29 years), less pronounced for 44–65 year olds and with no change in rates for those aged 65 years and older.
- did not differ by sex for young Queenslanders—the rate of decline was similar for young males and females aged 18–29 years
- did not differ between cities and regional and remote areas.

What are the impacts?

Burden of disease:
In 2011, of the risk factors, smoking was the leading cause of disease burden in Australia, accounting for 9% of total DALYs (Table 2, page 12). Three-quarters of the smoking burden (76%) was associated with fatal outcomes (YLL) and one-quarter (24%) with disability (YLD). Data for Queensland is not currently available.

Lung cancer and COPD were the leading disease outcomes resulting from tobacco smoking, together accounting for 60% of DALYs due to tobacco smoking in Australia in 2011. This was followed by coronary heart disease (12%), stroke (3.9%) and 23% to a number of other diseases.
Life expectancy
Life expectancy for smokers is at least 10 years shorter than for non-smokers. Variation in smoking rates explains a substantial proportion of the difference in life expectancy among populations. Eliminating smoking altogether would lead to improvements. The two-year gain in Australia over the past decade (2.3 years for males and 1.6 years for females) would have increased to 3.1 years for males and 2.3 years for females if nobody smoked.

The impact of smoking on the life expectancy of Indigenous and non-Indigenous Australians in the Northern Territory has been assessed. Smoking was the second largest contributor, accounting for 14–24% of the Indigenous life expectancy gap, after socioeconomic disadvantage (42–54%). Obesity accounted for 9–17%, alcohol for 1–7%. Assault and pollution were minor contributors—combined accounting for 1–5%. Jointly, these risks accounted for 60–70% of the gap in the Northern Territory based on data from 1986 to 2005.

Deaths
In 2011, smoking accounted for 18,762 deaths in Australia (13% of all deaths) and an estimated 3700 were Queenslanders (Table 2, page 12). Of the risk factors, it was the leading cause of death. Based on a global assessment for Australia, there has been a halving in the proportion of tobacco related deaths due to second-hand smoke since 1990 and is now at 2% in Australia and 5% globally. This reduction demonstrates the benefit of environmental change through legislation and policies for smoke-free public places.

Disability and hospitalisation
Of the risk factors, smoking was the largest cause of loss of healthy years in Australia in 2011, causing 6.3% of YLD burden (Table 2, page 12). Data for Queensland is not currently available.

In 2013–14 there were about 34,000 hospitalisations due to smoking in Queensland, 1.6% of the 2 million hospitalisations for all causes in that year. Of these, almost one-third was for COPD (30%) and a similar proportion for coronary heart disease and lung cancer (30%) (Figure 40b). Additional information on hospitalisations due to smoking is reported on page 41 (Figure 23).

Expenditure
The most recent national assessment of the cost of tobacco smoking was in 2004–05 (also discussed on page 54). Expenditure data for Queensland is not available. However, based on Queensland’s share of the Australian population, in 2004–05, the financial cost of tobacco smoking to the Queensland economy was estimated at $2.4 billion, with $0.06 billion spent on healthcare and $1.15 billion on lost production in the workplace. That is, of the tangible or financial costs, 3% was spent in the health system and 97% was associated with lost production and impact on household finances. Intangible losses associated with early deaths were assessed at $3.9 billion, taking the total cost of smoking to Queensland society in 2004–05 to $6.3 billion.

The battle is not over yet: challenges in becoming smoke-free
Smoking reduction in Australia demonstrates the success of a multi-strategy approach to address a toxic problem. Achieving change at a population level depends on implementation of a broad range of strategies sustained over time and at a depth to affect local and target populations. Success in Queensland is providing evidence that reducing advertising, display and promotion of tobacco products does influence the uptake and maintenance of smoking and that environmental change is critical to becoming smoke-free.

The Queensland Government’s tobacco laws include comprehensive smoking bans for indoor and outdoor public places. Since 2010, it has been illegal to smoke in private vehicles carrying children aged under 16 years (Figure 41) and in 2011, the display of tobacco products in retail stores was banned.

In 2016, laws to ban smoking in early childhood education centres, public transport waiting areas, underage sporting events and other public places were passed. These laws are intended to reduce the public’s exposure to environmental tobacco smoke, contribute to a culture that supports smokers attempting to quit, and discourage young people from taking up the habit.
However, while the gains in Queensland have been substantial—fewer deaths for smoking related conditions, fewer hospitalisations and improved outcomes—the battle is not over yet. There are challenges ahead.

- Young teenagers are still taking up the habit and they claim it is relatively easy to obtain cigarettes (even though it is illegal to sell to a minor):
  - In 2014, 21,000 or 5.8% of 12–17 year olds had smoked at least once in the previous week and although the majority were confident they wouldn’t still be smoking in 12 months (91%), about 700 (3.4%) said they thought it likely or even certain that they would be.\(^\text{119}\)
  - About 1 in 5 teenagers (17%) said it would be easy for them to buy cigarettes and almost 1 in 2 (44%) said they could easily get someone else to buy for them.\(^\text{119}\)
  - Young people are experimenting with e-cigarettes: 37% of current users in 2015–16 were aged under 30 years.\(^\text{116}\)

- People are still being exposed to second-hand smoke in public places, although the 2016 legislation to extend the bans on smoking will help reduce such exposure.
  - 800,000 adults reported being frequently exposed to smoke in public places: 22% of Queensland adults in 2015 and, as high as 30% in some local government areas.\(^\text{117}\)
  - Exposure was independent of smoking status— affecting non-smokers and smokers alike.

- A minority are resistant to smoking bans.
  - An overwhelming majority of Queensland adults supported extending the smoking bans, with 94% supporting bans in early childhood education centres, 80% at public transport waiting areas, and 72% at outdoor sporting venues.\(^\text{117}\)
  - Statewide, about 1 in 10 adults opposed smoking bans—12% opposed bans in adult education centres, 10% in outdoor sporting venues and outdoor pedestrian malls, 8% in public transport waiting areas, and 3% opposing bans in childcare centres.\(^\text{117}\)

- There are high rates of smoking in some population groups.
  - Recognised high prevalence groups include Indigenous Queenslanders, teenagers who smoke during pregnancy, low socioeconomic groups and those living in regional and remote areas.
  - Interventions to address these specific groups are a feature of current strategies and investments.
  - The evidence is that smoking rate reduction is occurring in these target groups, as described on page 61, however, the gap is not closing and there is a risk it may widen.

- e-cigarettes: are they a way into smoking, a way out, or just another way of continuing to smoke?
  - Of the 3.0% of adults who were e-cigarette users in 2015–16 (110,000 persons), two-thirds (66%) were current tobacco cigarette users, that is, they smoke both.\(^\text{116}\)
  - 10,000 adults were regular e-cigarette users but had never smoked tobacco. They are the new users, comprising 9% of all e-cigarette users.
  - For every two people who have tried e-cigarettes, there is another who has become a current user.

- Parents who smoke normalise smoking behaviour among children and young people.
  - Children who grew up in a household with a smoker were 4 times more likely to become a daily smoker by 18–24 years than those who did not.\(^\text{33}\) One-quarter of Queensland children (200,000) were living in a household with a smoker in 2015–16.
  - e-cigarette use was 3 times higher in people who had grown up in a household with a smoker than those who did not.\(^\text{116}\)

One child in four is living in a household with a smoker.
Table 11: Smoking prevalence, adults, percentage (95% CI), Queensland, 2016*14

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Persons</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–24 years</td>
<td>11.9 (11.1–12.8)</td>
<td>13.5 (12.2–14.9)</td>
<td>10.5 (9.4–11.6)</td>
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<tr>
<td>25–34 years</td>
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<td>13.9 (11.6–16.5)</td>
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<td>35–44 years</td>
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<td>14.5 (12.7–16.5)</td>
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<td>45–54 years</td>
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<td>7.1 (5.3–9.4)</td>
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<td>55–64 years</td>
<td>12.3 (10.6–14.3)</td>
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<tr>
<td>65–74 years</td>
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<td>1.2 (0.8–1.9)</td>
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<td>75+ years</td>
<td>*3.6 (2.1–5.9)</td>
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<td>37.5 (35.4–42.1)</td>
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</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Males</th>
<th>Females</th>
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<tbody>
<tr>
<td>18–24 years</td>
<td>11.0 (7.0–16.8)</td>
<td>16.7 (11.3–18.8)</td>
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<td>25–34 years</td>
<td>17.2 (13.8–21.1)</td>
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<td>35–44 years</td>
<td>15.0 (12.4–18.0)</td>
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<td>45–54 years</td>
<td>8.0 (6.2–10.3)</td>
<td>*3.6 (2.1–5.9)</td>
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<td>55–64 years</td>
<td>*9.0 (5.3–14.7)</td>
<td>*3.6 (2.1–5.9)</td>
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<td>65–74 years</td>
<td>13.0 (10.1–16.6)</td>
<td>12.6 (10.2–15.5)</td>
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<tr>
<td>75+ years</td>
<td>14.8 (13.0–16.9)</td>
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<td>Socio-economic status</td>
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<td>6.1 (4.7–8.0)</td>
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<tr>
<td>Remoteeness</td>
<td>10.6 (9.4–11.8)</td>
<td>14.7 (12.4–17.4)</td>
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</table>

*Estimate has a relative standard error of 25% to 50% and should be used with caution. n/a not available for publication.
In 2016, about 450,000 Queensland adults were daily smokers.

- Over half the adult smokers (56%) were males, about 250,000 adults.
- The majority of adult smokers (82%) were aged between 25 and 64 years (360,000 people). Of these, about 200,000 were aged 25–44 years.
- About half the adult smokers (51%) lived in the two most disadvantaged quintiles (about 230,000 people).
- Three-quarters of adult smokers (78%) lived in a major city or inner regional area (about 340,000 people). About 20,000 smokers lived in remote and very remote areas.
- Half the adult smokers (51%) had a diploma or trade qualification (about 240,000), and 1 in 3 (36%) had no post-school qualification (about 160,000 people).
- More than half the adult smokers were employed (58% or about 250,000 people).
- One in 12 adult smokers was unemployed (9% or about 40,000 people).
- About half the adult smokers (49%) were married or in a de facto relationship (about 216,000 people).

### Table: Sociodemographic Profile of 'At Risk' Population: Daily Smokers

<table>
<thead>
<tr>
<th>Number of Daily Smokers</th>
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<th>Prevalence (%)</th>
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<td></td>
<td>Female</td>
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<td></td>
<td>Bachelor degree or higher</td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td>Diploma, cert or trade</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>No post-school qual</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Employment status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employed</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Not in workforce</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married/de facto</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>Separated/divorced/widowed</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Never married</td>
<td>17</td>
</tr>
</tbody>
</table>

Figure 42: A sociodemographic profile of the ‘at risk’ population: daily smokers.
Good nutrition is necessary to maintain healthy weight, mental and physical health, resistance to infection, quality of life, and protection against chronic disease, disability and premature death.135

Queenslanders have access to a wide range of mostly Australian grown produce and a rich diversity of healthy and safe food from which to choose for their enjoyment, sustenance and good health. Despite this abundance, many are not consuming the recommended amounts of fruit and vegetables necessary for good health—only about half eat sufficient fruit and one-tenth eat sufficient vegetables. In contrast, they are spending about half their household food budget on foods that provide little or no nutritional benefit.

Over the past decade there have been small gains in infant nutrition—more infants are receiving some breastmilk over the first 12 months, fewer young infants are being introduced to solid foods too early, consumption of sweetened drinks is decreasing for both infants and young children and, as recommended, the introduction of cow’s milk is being delayed. However, rates of exclusive breastfeeding to four months have not changed.

Adult eating patterns have varied very little over the past decade with a small decline in vegetable consumption and small increase in fruit consumption. Consumption of branded fast food takeaway is declining, and consumption of sweetened drinks has declined nationally over the past 20 years, mostly among teenagers and children. Although this is an encouraging trend, reducing the now high rates of obesity and preventing dental caries in children will require greater reduction in consumption of energy-dense foods and drinks.

Increased consumption of healthy food will benefit individuals and households as well as the economy through a stimulus to the local horticultural industries to meet daily fruit and vegetable needs, and productivity will be improved with improved health of workers.

While individuals make lifestyle and daily food choices, there are population level consequences that affect the health system and society through higher rates of illness and early death. Changing the food environment of communities, workplaces, health facilities, schools and sporting clubs to support people to make better choices is necessary. Governments, private industries, communities and families alike, will all need to work together to make Queensland a healthier place.

**Figure 43: Prevalence of selected nutrition indicators, Queensland**

<table>
<thead>
<tr>
<th>Adults</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended daily fruit: 2016</td>
<td>57</td>
</tr>
<tr>
<td>Recommended daily vegetables: 2016</td>
<td>6.8</td>
</tr>
<tr>
<td>Weekly takeaway: 2014</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children 5–17 years 2016</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended daily fruit</td>
<td>70</td>
</tr>
<tr>
<td>Recommended daily vegetables</td>
<td>3.7</td>
</tr>
<tr>
<td>‘Discretionary’ foods daily</td>
<td>61</td>
</tr>
<tr>
<td>Sugar sweetened drinks daily (2–18 years)</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infants 0–2 years 2014</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever breastfed</td>
<td>96</td>
</tr>
<tr>
<td>Exclusively breastfed to 4 months</td>
<td>29</td>
</tr>
<tr>
<td>Breastfeeding at 12 months</td>
<td>32</td>
</tr>
<tr>
<td>Introduced to solid food by 4 months</td>
<td>36</td>
</tr>
</tbody>
</table>

**Key statistics:**

- In 2016, an estimated
  - 1.6 million adults and 0.25 million children were not meeting recommendations for fruit consumption
  - 3.5 million adults and 0.79 million children were not meeting recommendations for vegetable consumption.

- 37% of energy intake was from discretionary foods, that is foods with little or no nutritional value (2011–12). One in four of food dollars was spent on takeaway food and restaurant meals in 2014.

- While almost all infants received breast milk at birth in 2014, by four months of age, only about a quarter were being exclusively breastfed. However, about one-third were still receiving breastmilk at 12 months.
The measurement and monitoring of food and drink consumption in this section is based on multiple indicators including those derived from the 2013 *Australian dietary guidelines*\(^\text{136}\) (Table 12), the *Headline indicators for children’s health, development and wellbeing*\(^\text{137}\) and others from various data collections which are cited. For a few indicators, definitions vary depending on the data collection, for example, the term discretionary food is used with several meanings. It is explained in the text and defined on page 118.

**What is the prevalence?**

- **Recommended daily fruit consumption in 2016** (Figure 43)\(^\text{134}\)
  - 57% of adults
  - 70% of children

- **Recommended daily vegetable consumption in 2016** (Figure 43)\(^\text{134}\)
  - 6.8% of adults
  - 3.7% of children

- **Discretionary food intake (defined by ABS), percentage of total energy in 2011–12**\(^\text{138}\)
  - 37% for all persons 2 years and older
  - 41% for children 2–18 years
  - 36% for persons 19 years and older

- **Takeaway food, weekly consumption**
  - 30% of adults in 2014\(^\text{139}\)
  - 48% of children in 2016\(^\text{134}\)

- **Biscuits, cakes, chips, snacks and confectionary consumption in children in 2016**\(^\text{134}\)
  - 15% eat savoury biscuits daily (65% weekly)
  - 7% eat salty snacks daily (63% weekly)
  - 20% eat sweet biscuits, cakes, muffins and similar foods daily (73% weekly)
  - 5% eat confectionary, including chocolate and lollies daily (63% weekly)

Two-thirds (61%) of children were consuming one or more of these ‘discretionary’ foods daily and 97% weekly—this definition of discretionary foods was based on the Queensland Health data collection.\(^\text{134}\)

- **Sugar sweetened drink consumption in the previous 24 hours in 2011–12**\(^\text{49}\)
  - 51% of children (2–18 years)
  - 33% of adults (aged 19 years and older)

- **Salt**
  - 26% very often added salt during cooking in 2011–12 (2 years and older)\(^\text{138}\)
  - 16% very often added salt at the table in 2011–12 (2 years and older): 8.8% for 2–18 year olds, 18% for adults 19 years and older\(^\text{138}\)

---

**Table 12: Australian dietary guidelines 2013**\(^\text{136}\)

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Recommended daily serves</th>
<th>fruit</th>
<th>vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males and females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>2–3</td>
<td>1</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>4–8</td>
<td>1.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>9–11</td>
<td>2</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>12–13</td>
<td>2</td>
<td>5.5</td>
<td>5</td>
</tr>
<tr>
<td>14–18</td>
<td>2</td>
<td>5.5</td>
<td>5</td>
</tr>
<tr>
<td>19–50</td>
<td>2</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>51–70</td>
<td>2</td>
<td>5.5</td>
<td>5</td>
</tr>
<tr>
<td>71+ years</td>
<td>2</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Pregnant</td>
<td>2</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>2</td>
<td>7.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**Figure 44: Daily consumption of sugar sweetened beverages by age, Australia, 1995 and 2011–12**\(^\text{40}\)
Food and nutrition

Is it the same for everyone?

Sex

Compared to females, adult males were:
- 16% less likely to consume the recommended daily serves of fruit in 2016 (Table 14)
- 76% less likely to consume the recommended daily serves of vegetables in 2016 (Table 14)
- 44% more likely to consume sugar sweetened drinks in 2011–12
- deriving 11% more energy from discretionary foods in 2011–12.

For children in 2016, boys were 9% less likely to consume recommended daily serves of fruit but there was no difference between girls and boys for (Table 13):
- recommended daily vegetable consumption
- weekly takeaway consumption
- daily consumption of at least one of the following ‘discretionary’ foods: cakes, biscuits, snacks and confectionary
- consumption of sugar sweetened drinks.

Age

- There was little variation in daily fruit and vegetable consumption in adults in 2016 although younger adults tended to report lower fruit consumption (Table 14). Fruit consumption was higher in younger children than older, but differed very little for vegetables (Table 13).
- Peak consumption of sugar sweetened drinks was in the age range 9–30 years for males with about half consuming such drinks in the 24 hours prior to survey in 2011–12. There was a similar but more modest peak for young females. The consumption patterns of Queenslanders were similar those of Australians although data for Queensland is not displayed (Figure 44).
- The age pattern of discretionary food intake as a proportion of total energy mimicked the sweetened beverage pattern in 2011–12. Nevertheless, about one-third of the energy intake of 2–3 year olds was from discretionary foods, rising to 40% among 4–13 year olds.
- Younger adults were more likely to consume takeaway food weekly. Prevalence was more than double in those aged 18–34 years (40–48%) compared to those aged 55 years and older (up to 18%) in 2014. Teenagers (16–17 years) were 33% more likely to consume takeaway food weekly than were younger children (5–7 years) (Table 13).
- Among children, daily consumption of ‘discretionary’ foods varied and generally younger children consumed more often than older in 2016 (Table 13).

Socioeconomic status

Compared to adults in disadvantaged areas, those in advantaged areas were:
- 14% more likely to consume the recommended daily serves of fruit in 2016 (Table 14)
- equally likely to consume recommended daily serves of vegetables in 2016 (Table 14)
- equally likely to consume takeaway food weekly in 2014
- 19% less likely to consume sugar sweetened beverages daily in 2011–12 (national data).

Children in advantaged areas did not differ from those in disadvantaged areas in 2016 for (Table 13):
- recommended daily fruit consumption
- recommended daily vegetable consumption
- weekly takeaway consumption
- daily consumption of at least one of the following ‘discretionary’ foods: cakes, biscuits, snacks and confectionary.

Remoteness

Compared to adults in regional and remote areas, those in major cities were:
- equally likely to consume recommended serves of fruit in 2016 (Table 14)
- equally likely to consume recommended serves of vegetables in 2016 (Table 14)
- twice as likely to consume takeaway food weekly as those in remote and very remote areas in 2014.

For children in 2016, there was no difference between cities, regional areas and remote areas for fruit and vegetable consumption, weekly takeaway consumption or daily consumption of ‘discretionary’ foods such as cakes, biscuits, snacks and confectionary (Table 13).
Indigenous Queenslanders

In 2012–13:\(^1\)

- 41% of Indigenous Queenslanders consumed the recommended serves of fruit per day and 4.2% consumed the recommended serves of vegetables per day in 2012–13.\(^3\) Fruit consumption among Indigenous Queenslanders was about 12% lower than for non-Indigenous adults after adjusting for age differences but did not differ for vegetable consumption. Consumption patterns for Indigenous Queenslanders did not differ from Indigenous Australians.

- 68% of Indigenous Queenslanders consumed the recommended serves of fruit per day and 8.9% consumed the recommended serves of vegetables.\(^3\) Fruit and vegetable consumption of Indigenous Queenslanders did not differ from non-Indigenous children or Australian Indigenous children.

- The prevalence of daily sugar sweetened drink consumption among Indigenous Australians aged 2 years and older in 2012–13 was about 50% higher than among non-Indigenous: 50% compared with 34%. Peak consumption was for those aged 4–30 years with about 60% of young Indigenous Australians consuming sugar sweetened drinks daily.

Regional Queensland

For adults in 2015–16, the prevalence of recommended fruit consumption in North West HHS was 14% lower than the state average but did not differ for the remaining HHSs (Figure 45a).\(^2\) The prevalence of recommended vegetable consumption was low across all HHSs, and none differed from the state average (Figure 45b). Other nutrition indicators are not available for HHSs.

For children in 2015–16, there were no differences between HHSs and the state average, or between HSSs\(^2\) for:

- recommended daily fruit consumption
- recommended daily vegetable consumption
- daily consumption of ‘discretionary’ foods (Figure 45c).

---

Figure 45: Food consumption by HHS, adults and children, Queensland, 2015–16

<table>
<thead>
<tr>
<th>a. Sufficient fruit—adults</th>
<th>b. Sufficient vegetables—adults</th>
<th>c. Discretionary food daily—children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>Percentage</td>
<td>Percentage</td>
</tr>
<tr>
<td>Gold Coast</td>
<td>60</td>
<td>Gold Coast</td>
</tr>
<tr>
<td>Sunshine Coast</td>
<td>59</td>
<td>Central Queensland</td>
</tr>
<tr>
<td>Torres and Cape</td>
<td>58</td>
<td>Darling Downs</td>
</tr>
<tr>
<td>Mackay</td>
<td>58</td>
<td>Metro South</td>
</tr>
<tr>
<td>Metro North</td>
<td>58</td>
<td>West Moreton</td>
</tr>
<tr>
<td>Queensland</td>
<td>57</td>
<td>Queensland</td>
</tr>
<tr>
<td>Cairns and Hinterland</td>
<td>56</td>
<td>Townsville</td>
</tr>
<tr>
<td>West Moreton</td>
<td>55</td>
<td>Wide Bay</td>
</tr>
<tr>
<td>Darling Downs</td>
<td>55</td>
<td>Mackay</td>
</tr>
<tr>
<td>Wide Bay</td>
<td>55</td>
<td>Metro North</td>
</tr>
<tr>
<td>Central Queensland</td>
<td>53</td>
<td>Sunshine Coast</td>
</tr>
<tr>
<td>Townsville</td>
<td>53</td>
<td>Cairns and Hinterland</td>
</tr>
<tr>
<td>South West</td>
<td>52</td>
<td>*Lower than Qld</td>
</tr>
<tr>
<td>Central West</td>
<td>51</td>
<td>*n/a not available for publication</td>
</tr>
</tbody>
</table>
Infant nutrition

In 2014, 96% of infants aged 0–2 years had ever been breastfed where exclusive breastfeeding was initiated for 92%. At discharge from hospital in 2014, 78% of newborn infants had received only breast milk in the previous 24 hours, 8% had received only infant formula, and 15% had received both. It is recommended that infants are breastfed exclusively to around six months with continued breastfeeding to 12 months and beyond, and that solid food is introduced around four to six months. Cow’s milk should not be introduced before 12 months of age. Considering these recommendations and the national indicators, in 2014:

- 29% of infants were exclusively breastfed to four months of age and 5% to six months
- 64% were receiving some breast milk at six months
- 32% were receiving some breast milk at 12 months
- 36% of infants had been introduced to solid or semi-solid food by four months: 22% consuming daily
- 7% of infants were consuming cow’s milk at 10 months of age.

Women with higher education were more likely to breastfeed exclusively to four months (women with a bachelor degree were 64% more likely than those without), as were women living in advantaged areas (80% more likely than those living in disadvantaged areas) and non-smokers (72% more likely than smokers).

There are some signs of improvement in infant nutrition. While the proportion of infants exclusively breastfed to four months did not change between 2008 and 2014, the proportion receiving some breast milk at each month in the first year has increased—from 33% in 2003 to 48% in 2014 at nine months of age, and from 17% in 2003 to 32% at 12 months. This was mirrored by a decrease in the proportion of children receiving formula at each month over the first year. There was a decrease in the proportion receiving solid food daily at four months of age, from 59% in 2003 to 22% in 2014. In 2003, 35% of infants consumed cow’s milk at 10 months of age, and only 7% in 2014. In 2003, about three times as many infants were consuming sweetened drinks than in 2014: 38% compared with 12% at 12 months of age and 61% compared with 26% at two years of age.

How do we compare?

National

Adults: Fruit and vegetable consumption in Queensland did not differ from national in 2014–15. The Queensland prevalence of recommended fruit consumption was second highest among the jurisdictions (after Western Australia) and third highest for vegetables (after Tasmania and Western Australia) (Table 24, page 116).

Children: Fruit and vegetable consumption in Queensland did not differ from national in 2014–15. Queensland was ranked 4th highest for recommended serves of fruit daily and for vegetables, 6th highest.

Infants: Exclusive breastfeeding at four months of age in Queensland was lowest of all jurisdictions but did not differ from national prevalence in 2011.141,142

The proportion of energy derived from discretionary foods was 5% higher among Queenslanders aged 2 years and older than nationally in 2011–12 (37% compared with 35%).

The prevalence of daily sugar sweetened drink consumption in Queenslanders aged 2–18 years and adults aged 19 years and older did not differ from national consumption in 2011–12 (51% in Queensland compared with 49% nationally for children, 33% compared to 36% respectively for adults).49

International

For daily fruit and daily vegetable consumption, Australia performed very well. In 2014 (or nearest year), of 31 OECD countries, Australian adults aged 15 years and older had the highest proportion consuming fruit daily and the second highest daily vegetable consumption (behind Korea).143

Among 22 European countries, in recent years, exclusive breastfeeding at six months of age varied from less than 1% to 37%. Australian prevalence in 2010 was at the lower end of this range as was Queensland’s (2.1% and 1.8% respectively).

What are the trends?

Between 2005 and 2016 there was a small increase in the proportion of adults consuming two serves of fruit per day (0.9% per year).127 This was evident for males and females alike. There were age group differences—consumption increased by 2.1% per year for younger adults (18–44 years), but did not change for older people (45 years and older). The rate of change in daily consumption did not differ between adults in socioeconomically advantaged and disadvantaged areas.
Vegetable consumption declined slightly over this period based on mean daily serves. Very few adults consume the general recommendation of five serves of vegetables daily (there is some variation in age group recommendations: Table 12)—less than 1 in 10—however, about 40% consume three or more serves per day. Between 2005 and 2010 there was a 1.8% per year decrease in the proportion of adults consuming three or more serves per day, and since then there has been no change. This pattern of change was evident for males and females alike. There were, however, age group differences—consumption was steady for younger adults (18–44 years), whereas for older adults it decreased by 2.8% per year. There were also socioeconomic differences, with consumption falling for adults from disadvantaged areas (by 3.1% per year), and remaining steady for those in advantaged areas.

About 40% of adults consume at least 3 serves of vegetables daily but 7% meet recommendations.

Between 2001 and 2014, there was a 38% decrease in the weekly consumption of takeaway food among Queensland adults, where this assessment was based on recognised fast food chains. Decreasing consumption was evident for males and females, all age groups and across the socioeconomic gradient.

Daily consumption of sugar sweetened drinks decreased nationally between 1995 and 2011–12, from 43% to 34% of persons aged 2 years and older (Figure 44). This was largely due to decreases in cordial consumption, particularly among children (from 35% in 1995 to 11% in 2011–12). Overall, the greatest decrease in sugar sweetened drink consumption was among very young children with the prevalence in 2–3 year olds more than halving over the 16 years, from 64% to 30%.

There is insufficient data to report more broadly on nutrition trends for Queensland children.

What are the impacts?

Burden of disease

The joint effect of all dietary factors accounted for 7.2% of total DALYs in Australia in 2011 (Table 2, page 12). These factors when combined were the second largest cause of disease burden in Australia.

The individual impact of dietary risks included (proportions cannot be summed as the risk factors share joint effects): diet low in fruit (2.0%), diet low in vegetables (1.4%), diet high in processed meats (1.4%), low in nuts and seeds (1.4%), low in whole grains (1.1%) low in fibre (1.0%), and other dietary risks including high saturated fat, low omega-3 fatty acids, high in sweetened beverages, high sodium, low milk, high red meat and low calcium (each contributing less than 1% to attributable DALYs).

The main disease outcomes associated with poor diet were cardiovascular conditions (35%), endocrine disease (33%) and cancers (7%). A diet low in fruit contributed to coronary heart disease (47% of attributable DALYs), stroke (29%), lung cancer (14%) and the remaining 11% was for cancers of the oesophagus, mouth and larynx. The burden due to a diet low in vegetables was associated with coronary heart disease (55%) and stroke (38%) and cancers of the mouth and larynx (7%).

Deaths

In 2011, dietary risks (combined) accounted for 17,771 deaths in Australia (12% of all deaths), and an estimated 3500 were Queenslanders (Table 2, page 12).

Disability and hospitalisation

Dietary risks (combined) caused 2.9% of YLD burden in Australia in 2011 (Table 2, page 12). Data for Queensland is not currently available. High body mass contributed a similar proportion.

There were about 8000 hospitalisations for conditions that resulted from low fruit and vegetable consumption in Queensland in 2013–14. These episodes resulted in about 33,000 patient days with coronary heart disease and stroke accounting for about 90% (Figure 46a). The highest crude hospitalisation rates for low fruit and vegetable consumption were in Wide Bay HHS and the lowest in Metro South (Figure 46b).

Expenditure

In 2008, it was estimated that inadequate fruit and vegetable consumption resulted in $206 million in health sector costs nationally, and $63 million in production losses. Based on population share, this was a total of $53.8 million in Queensland, where 77% or $41.2 million was associated with costs to the health sector. More recent data is not available.
Promoting healthy eating

Too few Queenslanders eat a healthy diet—for many people, one-third of their energy intake is derived from food that provides little nutritional benefit and is costing the average consumer over half (58%) their food spending. Addressing the over-consumption of energy-dense foods and drinks, and under-consumption of fruits, vegetables and wholegrain foods is a challenge and the focus of current initiatives in Queensland.

Unhealthy eating contributes to chronic illnesses such as obesity, cardiovascular disease, diabetes, some cancers and tooth decay. Most Queenslanders do not eat the minimum serves recommended from the five food groups and fruit and vegetable intake has changed very little in this state for over a decade. More than half of children and adults and up to three-quarters of 9–18 year olds derive over 10% of their total daily energy from free sugars (defined on page 118) found in food and beverages such as soft drinks, confectionery, cakes and biscuits.

Excess consumption of sweetened drinks not only contributes to weight gain, which leads to higher risk of obesity and development of chronic diseases, particularly diabetes, it also increases the risk of tooth decay. Each year there are about 3000 hospitalisations for dental caries in young Queensland children (page 45). These are preventable through good oral hygiene, access to fluoride to protect the teeth, access to regular dental care and a healthy diet—which includes avoiding sticky and sweet foods and drinks.

There are some positive signs that people are heeding dietary advice and reducing their intake of discretionary foods—for example, there has been a decrease in sugar-sweetened drinks, especially among 2–3 year olds. The significant reduction in the proportion of infants given solid foods by four months of age and cow’s milk at 10 months of age is also positive and an indication that messages about appropriate infant feeding are having an impact.

There are substantial benefits from improved food choices.

- Queenslanders will lower their disease risk, experience a greater sense of wellbeing and be more productive at home and at work.
- The pressure on the health sector will be reduced.
- The economy will benefit from improved productivity, and consumer demand will stimulate the horticultural industries. If all Queenslanders were to meet recommendations for daily consumption, an extra 1000 metric tonnes of vegetables are needed in Queensland every day, and extra 100 metric tonnes of fruit every day.

Increased consumption of healthy food and less of discretionary food could deliver substantial gains in health and wellbeing. In addition, lifting the rates of breastfeeding during the first six months of infancy would result in significant health benefits and lead to a lower risk of child obesity. However, the challenge for the consumer is in making healthy food choices in an environment where cheap, convenient and tasty food and drinks high in fat, sugar and salt are readily available. The environment within which food and drink choices are made shapes food preferences and to a large extent determines food purchases. Queenslanders are more likely to adopt and maintain changes to their diets if the environment supports healthier eating.

Governments, industries and communities all have a role in empowering families and individuals and creating environments that make it easier to eat a healthy diet. Actions that can be taken in Queensland to improve diets include:

- increasing the availability of healthy food and drinks and reducing the availability of less healthy choices in places such as schools, workplaces and sporting clubs
- communicating good nutrition advice to parents and carers and building capacity in children’s settings such as outside school hours care services and childcare centres
- providing more nutrition information at point-of-purchase
- empowering individuals with the knowledge and cooking skills to eat healthy food
- enabling maternity and child health services to support families to improve nutrition during pregnancy, infancy and childhood
- raising awareness of chronic disease risk with individuals through health checks in the community and providing early intervention through telephone counselling and support
- prioritising actions so that people and communities with the greatest need have early opportunities to benefit.
Chapter Eight
Risk and Protective Factors

Food and Nutrition

Figure 46: Hospitalisations due to low fruit and vegetable consumption, Queensland, 2013–14

Table 13: Nutrition indicators, children, percentage (95% CI), Queensland, 2016

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Weekly takeaway</th>
<th>Discretionary food daily</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persons</td>
<td>Males</td>
</tr>
<tr>
<td></td>
<td>5–7 years</td>
<td>5–11 years</td>
</tr>
<tr>
<td>Most disadvantaged</td>
<td>70.8 (65.7–75.3)</td>
<td>71.0 (66.5–75.1)</td>
</tr>
<tr>
<td>Quintile 2</td>
<td>71.0 (66.5–75.1)</td>
<td>71.0 (66.5–75.1)</td>
</tr>
<tr>
<td>Quintile 3</td>
<td>70.3 (65.3–74.9)</td>
<td>70.3 (65.3–74.9)</td>
</tr>
<tr>
<td>Quintile 4</td>
<td>66.6 (61.5–71.4)</td>
<td>66.6 (61.5–71.4)</td>
</tr>
<tr>
<td>Most advantaged</td>
<td>72.0 (66.8–76.6)</td>
<td>72.0 (66.8–76.6)</td>
</tr>
</tbody>
</table>

Low fruit consumption
Low vegetable consumption

n/a not available for publication.

* Estimate has a relative standard error of 25% to 50% and should be used with caution.
### Table 14: Fruit and vegetable consumption, adults, percentage (95% CI), Queensland, 2016

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>18+ years</th>
<th>18–24 years</th>
<th>25–34 years</th>
<th>35–44 years</th>
<th>45–54 years</th>
<th>55–64 years</th>
<th>65–74 years</th>
<th>75+ years</th>
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<td>18–24 years</td>
<td>57.3 (55.9–58.7)</td>
<td>54.9 (48.6–61.1)</td>
<td>56.2 (52.4–59.9)</td>
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<td>56.4 (53.4–59.3)</td>
<td>57.8 (55.1–60.5)</td>
<td>63.7 (61.2–66.1)</td>
<td>64.4 (61.0–67.6)</td>
</tr>
<tr>
<td>Male</td>
<td>6.8 (6.2–7.4)</td>
<td>*4.6 (2.7–7.6)</td>
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<td>6.9 (5.5–8.5)</td>
<td>7.0 (5.6–8.6)</td>
<td>7.7 (6.5–9.2)</td>
<td>8.3 (7.0–9.9)</td>
<td>7.8 (6.2–9.7)</td>
</tr>
<tr>
<td>Female</td>
<td>5.3 (4.8–5.9)</td>
<td>*4.1 (2.3–7.1)</td>
<td>4.3 (3.1–6.0)</td>
<td>4.8 (3.7–6.2)</td>
<td>5.2 (4.0–6.7)</td>
<td>6.3 (5.2–7.6)</td>
<td>6.9 (5.7–8.3)</td>
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<td>Socioeconomic status</td>
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</tr>
<tr>
<td>Disadvantaged</td>
<td>52.9 (43.6–61.9)</td>
<td>52.3 (46.5–57.9)</td>
<td>49.8 (44.9–54.6)</td>
<td>53.3 (48.8–57.7)</td>
<td>49.5 (45.4–53.7)</td>
<td>54.5 (50.6–58.3)</td>
<td>59.1 (53.7–64.3)</td>
<td>62.7 (56.5–69.6)</td>
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<tr>
<td>Quintile 2</td>
<td>3.4 (2.3–5.1)</td>
<td>*1.6 (0.7–3.3)</td>
<td>*1.9 (1.0–3.8)</td>
<td>*2.4 (1.3–4.6)</td>
<td>3.7 (2.4–5.5)</td>
<td>3.4 (2.3–5.1)</td>
<td>*4.2 (2.5–6.8)</td>
<td>*3.1 (1.8–5.2)</td>
</tr>
<tr>
<td>Quintile 3</td>
<td>6.0 (4.9–7.3)</td>
<td>*6.4 (3.5–11.4)</td>
<td>9.5 (5.9–13.0)</td>
<td>11.9 (9.5–14.8)</td>
<td>11.1 (7.9–13.7)</td>
<td>12.0 (10.0–14.3)</td>
<td>12.9 (10.8–15.5)</td>
<td>10.8 (8.3–13.8)</td>
</tr>
<tr>
<td>Quintile 4</td>
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<td>*6.4 (3.5–11.4)</td>
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<td>11.1 (7.9–13.7)</td>
<td>12.0 (10.0–14.3)</td>
<td>12.9 (10.8–15.5)</td>
<td>10.8 (8.3–13.8)</td>
</tr>
<tr>
<td>Advantaged</td>
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<td>7.9 (6.6–9.5)</td>
<td>11.9 (9.5–14.8)</td>
<td>11.1 (7.9–13.7)</td>
<td>12.0 (10.0–14.3)</td>
<td>12.9 (10.8–15.5)</td>
<td>10.8 (8.3–13.8)</td>
</tr>
<tr>
<td>Remoteness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major cities</td>
<td>58.0 (56.0–60.0)</td>
<td>56.2 (52.4–59.9)</td>
<td>56.6 (53.8–59.4)</td>
<td>57.1 (54.4–59.7)</td>
<td>56.6 (53.8–59.4)</td>
<td>58.0 (54.6–61.4)</td>
<td>61.1 (57.3–64.7)</td>
<td>64.7 (60.5–69.6)</td>
</tr>
<tr>
<td>Inner regional</td>
<td>6.6 (5.7–7.5)</td>
<td>7.6 (6.4–8.9)</td>
<td>7.5 (6.2–9.0)</td>
<td>7.5 (6.2–9.0)</td>
<td>6.1 (4.8–7.7)</td>
<td>6.3 (5.0–7.9)</td>
<td>6.6 (5.7–7.5)</td>
<td>7.5 (6.1–9.2)</td>
</tr>
<tr>
<td>Outer regional</td>
<td>6.2 (5.2–7.3)</td>
<td>6.2 (5.2–7.3)</td>
<td>5.8 (4.7–7.2)</td>
<td>5.8 (4.7–7.2)</td>
<td>4.2 (3.2–5.5)</td>
<td>5.1 (4.0–6.7)</td>
<td>5.2 (4.4–6.0)</td>
<td>5.2 (4.1–6.7)</td>
</tr>
</tbody>
</table>

* Estimate has a relative standard error of 25% to 50% and should be used with caution. n/a not available for publication.
Rates of obesity in the population have been increasing for several decades and are recognised as a major public health issue. The challenge of unhealthy weight gain is not confined to Queensland or Australia, but is a global problem.

However, in recent years there has been a steadying in rates of obesity in Queensland adults and children. This is encouraging. It is consistent with national trends and is evident in data collected by self report as well as by measured height and weight.

The problem of high rates of obesity remains. About 1 in 14 Queensland children was obese in 2016, compared with about 1 in 50 some 30 years ago. For adults, 3 in 10 are obese compared with about 1 in 10 in the early 90s.

The slowing of obesity in Queensland and nationally is consistent with global patterns among similarly developed nations. Global commentators have identified potentially successful strategic responses to rising rates of obesity, but action to reverse the trend has not yet been realised. More locally, there has been slow societal change including a greater awareness of the issue than a decade ago and increasing emphasis on obesity prevention in government policies. Furthermore, the food industry is beginning to respond to a demand for and expectation of healthy food choices, and the fitness industry is flourishing.

Queensland adults are very aware of weight gain. They know they would be healthier if they lost weight and that their lifestyles could be improved. About a quarter said they had gained weight in the previous 12 months and more than two-thirds have taken action to either maintain or lose weight. When asked how much they thought they needed to lose, the average adult said about 11 kg. In fact, all those who were overweight or obese would need to lose 15 kg on average.

The challenge ahead is to maintain downward pressure on obesity and to continue to invest in those programs and initiatives that are showing benefit. With almost two-thirds of the population overweight or obese, changing norms and culture about body weight may take years to achieve. The success in reducing smoking is a result of sustained, multi-dimensional strategies focused on removing a toxic risk. In contrast, overweight and obesity are due to over consumption where eating is natural, normal and necessary. An active lifestyle also plays a part in maintaining a healthy weight.

Continued investment is needed to promote the benefits of maintaining a healthy weight, and to support people within their homes and communities to prevent weight gain and to lose weight through healthy food choices and greater physical activity. The food industry needs to play a part and already we are seeing some signs of change. Queensland’s new menu labelling legislation will help people to make more informed choices when eating out of the home. Infancy and childhood patterns have a large impact on future outcomes so promoting a healthy start to life and building patterns for lifelong health are paramount.

### Table 15: Measured overweight and obesity, Queensland

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Healthy/under weight</td>
<td>74</td>
<td>36</td>
</tr>
<tr>
<td>Overweight</td>
<td>19</td>
<td>33</td>
</tr>
<tr>
<td>Obese</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>Overweight or obese</td>
<td>26</td>
<td>64</td>
</tr>
</tbody>
</table>

Key statistics:
- In 2016, an estimated 1.1 million adults were obese and 1.2 million were overweight based on 2014–15 measured prevalence.
- In 2016, an estimated 59,000 children were obese and 158,000 were overweight based on 2014–15 measured prevalence.
- Rates of adult obesity in Queensland have not changed since 2011, consistent with national trends.
- Childhood obesity has not changed since 2007–08 consistent with national trends.
- For adult obesity in 2014–15, Queensland prevalence was similar to national and second highest among the jurisdictions.
- Childhood obesity in Queensland did not differ from national and was fourth highest among the jurisdictions.
- 44,000 Indigenous Queensland adults were obese in 2012–13 and 33,500 overweight.
The reporting of overweight and obesity is based on body mass index (BMI). BMI is calculated by dividing a person’s weight in kilograms by their height in metres squared. It categorises people into underweight, healthy weight, overweight, or obese for height. Height and weight data is recorded by physical measurement or by self report.

What is the prevalence?

- **Obese**
  - 30% of adults and 7% of children by measurement in 2014–15
  - 24% of adults and 8% of children by self report or proxy report in 2016

- **Overweight**
  - 33% of adults and 19% of children by measurement in 2014–15
  - 35% of adults and 18% of children by self report or proxy report in 2016

- **Overweight or obese**
  - 64% of adults and 26% of children by measurement in 2014–15
  - 59% of adults and 26% of children by self report or proxy report in 2016

Two-thirds of adults and one-quarter of children are either overweight or obese.

Is it the same for everyone?

The number and prevalence of obese adults by sociodemographic groups is presented in Figure 50, page 82.

**Sex**

Adult males were less likely to be a healthy weight than females in 2016 (30% less likely) (Table 17). This is mainly due to their 52% higher prevalence of self reported overweight where obesity prevalence was similar. By measurement in 2014–15, the average adult Queensland male weighed 88.4kg and was 176.7cm tall, while the average adult female weighed 72.4kg and was 162.7cm. Based on self report in 2015–16, the average male weighed 87.0kg and was 178.0cm tall, while the average female was 70.6kg and 164.2cm.

For children, based on proxy reporting, the prevalence of obesity did not differ between boys and girls in 2016, nor did the combined category of overweight and obesity (Table 18). By measurement in 2014–15 there was no difference between girls and boys for any of the weight categories (Table 16).

**Age**

There is a steady increase in the prevalence of overweight and obesity with age from the teenage years onwards, although decreasing among those aged 75 years and older (Table 17). Obesity prevalence in adults aged 45–54 years was double that of 18–24 year olds in 2016. In 2014–15, the average adult was overweight, independent of sex or age group, based on measured data (Figure 47). The average younger female (18–34 years) was closest to the healthy weight range, and the average male aged 45–74 years was closest to the obese range.

The prevalence of childhood obesity did not vary by age in 2016, and nor did the combined category of overweight and obesity (Table 18). Measured data showed no clear pattern.

The average adult Queenslander is overweight.
Socioeconomic status
The prevalence of self reported adult obesity in disadvantaged areas was about 76% higher than in advantaged areas in 2016, but did not differ for overweight (Table 17). For overweight and obesity combined, there was a 20% difference. The average adult female in disadvantaged areas was 5.2kg heavier (based on self report) than her counterpart in advantaged areas in 2015–16, with a 1cm difference in average height. Adult males in disadvantaged areas were 2.6kg heavier and 1cm shorter than those in advantaged areas.

There was no difference in the prevalence of childhood obesity or the combined category of childhood overweight and obesity between disadvantaged and advantaged areas in 2016 (Table 18).

Remoteness
The prevalence of self reported adult obesity in areas outside major cities, varied from 22% higher in outer regional areas to 36% higher in remote and very remote areas. Overweight prevalence did not differ, while the combined category of overweight and obesity was between about 10% and 16% higher (Table 17). There was no difference in the average height, however, the average adult female in remote and very remote areas was 4.5kg heavier than her counterpart in major cities in 2015–16 and for males there was a 2.2kg difference with similar height.

There was no difference in the prevalence of childhood obesity or in the combined category of overweight and obesity between remote areas and major cities in 2016 (Table 18).

Indigenous Queenslanders
In 2012–13, more than two-thirds (70%) of Indigenous Queensland adult were measured as overweight or obese—30% were overweight and 40% were obese. The Queensland prevalence did not differ from the national prevalence for those aged 15 years and older (66% overweight or obese) and was third highest of the states and territories after New South Wales and Western Australia.

Compared to non-Indigenous adults and after adjusting for age differences, Indigenous Queenslanders were 39% more likely to be obese and 25% less likely to be healthy weight by measurement (12% more likely to be overweight or obese). For Indigenous Queensland children (5–17 years) in 2012–13, 30% were measured as overweight or obese, 17% were overweight and 13% were obese. The prevalence did not differ from non-Indigenous Queensland children (27% were overweight or obese in 2012–13) or Indigenous Australian children (33% were overweight or obese).

Regional Queensland
In 2015–16, six HHSs had a higher prevalence of self reported adult obesity than the state, varying from 20% higher in Central Queensland to 62% higher in North West. Metro North, Sunshine Coast and Gold Coast had lower prevalence, 14%, 19% and 31% respectively. More information on HHS differentials is available in the HHS booklet and the statistical tables online (page i for details).

Among HHSs the average weight of adults varied by 8.5kg while height varied by less than 2cm in 2015–16. The highest mean weight for males was in West Moreton and for females in North West (Figure 48a). There was greater variation among females (9.6kg difference between highest and lowest) than males (6.2kg). The average adult was overweight across all HHSs, and in some instances (specific age groups, sex and HHSs or local government areas) the average adult was obese.

Childhood obesity rates did not differ between HHSs in 2015–16 and although the prevalence of overweight and obesity combined varied markedly, none of the HHSs differed significantly from the state average (Figure 48b).
How do we compare?

National
In 2014–15, by measurement (Table 16)\(^37\), the prevalence of Queensland adult:
- obesity did not differ from national and was second highest of the jurisdictions
- overweight did not differ from national and was lowest of the jurisdictions
- overweight and obesity combined did not differ from national and was fifth highest of the jurisdictions.\(^157\)

In 2014–15, by measurement (Table 16)\(^37\), the prevalence of Queensland childhood:
- obesity did not differ from national and was fourth highest of the jurisdictions
- overweight did not differ from national and was fourth highest of the jurisdictions
- overweight and obesity did not differ from national and was fifth highest of the jurisdictions.\(^157\)

The prevalence of obesity in Queensland children and adults was similar to national prevalence in 2014–15.

International
Internationally, the prevalence of adult obesity in Australia was third highest among 34 OECD countries in 2014 for males and eighth for females.\(^158\) The US had the highest prevalence for males and Turkey the highest for females. The Australian prevalence of obesity was about 24% higher than the OECD average (for both men and women). For children in 2013, using the most recent estimates of overweight and obesity for OECD countries, Australian girls were ranked equal 10th highest among 33 OECD countries and boys were equal 19th highest.\(^159\) The prevalence among Australian girls was 9% higher than the OECD average and boys were 9% lower.

What are the trends?
By measurement, there was no change in the prevalence of obesity or overweight between 2011–12 and 2014–15 for Queensland adults or nationally, although in the three years up to 2011–12, obesity rates increased by 22% for Queensland and by 12% nationally (Table 16).

The prevalence of adult self reported\(^126\):
- obesity has not changed since 2011, although between 2004 and 2010 it increased by 3.1% per year (Figure 1d, page 3). The pattern of change over this period was similar for males and females, and across age groups, areas of socioeconomic status and remoteness.\(^127\)
- overweight has not changed since 2004
- overweight and obesity combined has increased by 1.1% per year since 2004.

By measurement, there was no change in the prevalence of childhood obesity or overweight between 2007–08 and 2014–15 for Queensland children or nationally (Table 16). Over the long term (the earliest estimates were in 1985), there had been a steady increase in childhood obesity nationally (noting the limited data to track change, particularly for Queensland).\(^160\)

On the assumption that overweight and obesity prevalence remains at current levels, in 2020, based on the most recent Queensland Government population projections\(^3\) there will be a total of 2.7 million overweight or obese Queenslanders (2.5 million adults and 0.2 million children) and by 2026, 3 million (2.8 million adults and 0.3 million children).

An assessment of global trends and patterns of overweight and obesity was released in 2016.\(^158\) It included estimates of adult BMI in 200 countries between 1975 and 2014. The ranking of Australian males in this period changed very little, varying from fourth highest obesity to fifth highest and more recently third highest among OECD countries. Australian females have moved from about 18th or 19th position in the early 70s to eighth highest in 2014.

The rate of increase in adult obesity for Australian males over this period was about the same as the OECD average, whereas for Australian females, the rate of increase was substantially greater than the OECD average. All OECD countries experienced rising rates of obesity, with some of the greatest increases (relatively) among those countries with the lowest absolute levels, that is, Japan and Korea.\(^158\)

Almost one-fifth of the world’s obese adults (118 million) lived in just six high-income English-speaking countries in 2014—Australia, Canada, Ireland, New Zealand, the UK and the US. More than one-quarter (50 million) of the world’s severely obese people also lived in these countries.\(^158\)
What are the impacts?

Burden of disease
High body mass accounted for 5.5% of DALYs in Australia in 2011.12 It was the third largest cause of disease burden of the risk factors, after smoking and the combined effect of all dietary factors (Table 2, page 12). Queensland data is not currently available.

High body mass affects the total disease burden through its impact on coronary heart disease (accounting for 33% of attributable DALYs), diabetes (21%), stroke (9%), chronic kidney disease (7%) and other diseases (30%).12 The majority of the total burden in Australia in 2011 was associated with premature mortality (74% YLL) with 26% due to disability (YLD).

High body mass is a global issue and was the third largest cause of disease burden in 2013, where high blood pressure was the leading cause, followed by smoking.161

About two-thirds of adults with type 2 diabetes are likely to be obese.

Life expectancy
Obesity reduces life expectancy and there are many studies which have quantified its impact.162 However, it has become evident that over the past three decades while obesity has been increasing, life expectancy has also increased, not decreased as had been predicted.163 There are reasons for this contradictory outcome, including more effective treatment and management of obesity related diseases, as well as improvement in other risks, causing people to lead longer, but less healthy lives.164,165,166 This reflects a decoupling of risk factor prevalence from impact as recently reported for New Zealand.167 Gains in the management of blood pressure and cholesterol over recent decades in Australia, for example, are helping to mitigate the cardiovascular effects of the obesity epidemic.166 It may also be that the negative effect of obesity on life expectancy will occur in the future.166

Deaths
In 2011, for Australia, high body mass accounted for 11,564 deaths (7.9% of all deaths) and an estimated 2300 were Queenslanders (Table 2, page 12).12 An international study in 2016 estimated that for Australia, 1 in 6 premature deaths could be avoided if all those who were currently overweight or obese were within the healthy weight range.168

Disability and hospitalisation
High body mass caused 2.9% of YLD burden in Australia in 2011 (Table 2, page 12).12 Data for Queensland is not currently available.

Obesity reduces health and wellbeing, with obese adults more than twice as likely to report poorer health as healthy weight adults in 2011–12.14 They were about 3 times as likely to be dissatisfied with their health and twice as likely to report poor quality of life.

Obesity increases the risk of chronic disease, particularly diabetes (page 22). In 2011–12, those Queensland adults who had been measured as obese were about 4 times as likely to also have diabetes (based on blood measurement) as those who were not obese—the prevalence of diabetes was 11% among obese adults compared with 2.6% in non-obese adults.31,169 Thus, although about 90% of obese adults did not have diabetes at the time of the survey in 2011–12, of those adults with diabetes (and about 87% of these had type 2), almost two-thirds were obese.

In 2013–14 there were about 83,500 hospitalisations due to high body mass in Queensland, 4.0% of the two million hospitalisations for all causes in that year.87 More than half (55%) were associated with diabetes-related renal dialysis (Figure 49). Additional information on hospitalisations is reported on page 40 and in statistical tables online (page i for more details).

Expenditure
The financial cost of obesity is high and was estimated in 2015 at $8.6 billion nationally (about $1.72 billion in Queensland) (Table 10, page 54).104 Of this, 44% was due to health system costs ($0.76 billion in Queensland), 40% to tax foregone ($0.75 billion), 12% to productivity losses including absenteeism ($0.20 billion), and 4% to government subsidies. The impact of loss of wellbeing and early death was assessed at $47.4 billion nationally ($9.5 billion in Queensland) taking the total cost of obesity in Queensland in 2015 to $11.2 billion.
Weight gain—attitudes, patterns of change and beliefs

Avoiding weight gain is a challenge for many Queenslanders and over the past decade the average Queenslander has gained a kilogram every three to four years.31

In 2014, about 1 in 4 adults (23%) reported that they had gained weight in the previous year.170 Young people were more likely to do so than older adults: 40% of young people aged 18–24 years reported weight gain compared to less than 20% among those aged 55 years and older. Over the period 2002–2013, on average young males gained 1.1kg per year between the ages of 18 and 28 and young females 0.7kg per year on average, where those aged 30 years and older had gained 62gm for males and 151gm for females.31

Two-thirds of adults have taken action to either lose weight or to prevent weight gain in the past 12 months.

Self-perceptions about weight status are not always accurate. In 2014, about 1 in 2 adults (53%) considered themselves to be an ‘acceptable’ weight.170 Of those, the majority (63%) were a healthy weight (based on height and weight). About 10% of healthy weight adults considered they were overweight, when they were not. Conversely there were a number of people who thought they were an ‘acceptable’ weight when they were not based on their height and weight: 44% of overweight adults and 13% of those who were obese.

Queenslanders are aware that their lifestyle choices are not necessarily healthy: fewer than 1 in 2 (43%) reported a very healthy lifestyle.170 Even among healthy weight adults, only 50% described their lifestyle as very healthy as did 45% of those who were overweight and 25% of those who were obese. There are opportunities to build on this self assessment to reduce health risk and improve quality of life.

Believing that weight loss would improve one’s health is fundamental to taking action to do so. While 55% of all adults thought that weight loss would make them healthier, this varied by weight status and not everyone was of that view.170 About 33% of overweight adults reported that weight loss would not make them healthier as did 11% of obese adults.

Many Queenslanders have been trying to lose weight: 47% of adults in 2014, with more females than males (52% compared with 41%).170 Those who were overweight were more likely to have tried to lose weight than those who were in the healthy weight range (54% compared 34%) as were those who were obese (63%). Overall, two-thirds (67%) of adult Queenslanders had taken action in 2014 to either maintain their weight or lose weight in the previous 12 months. Their strategies for doing so involved reducing their portion size (45%), and increasing physical activity (40%). Females were more likely than males to reduce their portion size (36% more likely) and also to increase physical activity (26% more likely). Adults who believed there was benefit from weight loss were more likely to actively manage their weight than those who did not hold this belief (79% compared with 52%).

Among adults who held the view that they would be healthier if they lost weight, the average amount they wanted to lose was 11kg.170 Obese adults considered they needed to lose more, 19kg on average, while those who were overweight considered they needed to lose 8kg. Healthy weight adults had lower expectations of weight loss, 5kg on average. If the reported height and weight of each individual were used to assess the amount of weight they needed to lose to reach the healthy weight range, the challenge was much greater—if everyone were to lose sufficient weight to reach the healthy weight range, the total weight loss for Queensland adults would be 35.5 million kg or 35,500 metric tonnes. To achieve this, all adults who were overweight and obese would need to lose, on average 15kg.
| Figure 49: Hospitalisations for high body mass by cause, Queensland 2013–14 |

<table>
<thead>
<tr>
<th>Cause</th>
<th>Number of hospitalisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialysis</td>
<td>45,894</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>8,995</td>
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<tr>
<td>Stroke</td>
<td>4,808</td>
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<tr>
<td>Coro bounce heart disease</td>
<td>4,284</td>
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<tr>
<td>Other cardiovascular diseases</td>
<td>3,260</td>
</tr>
<tr>
<td>Oesophageal cancer</td>
<td>1,334</td>
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<tr>
<td>Breast cancer</td>
<td>1,114</td>
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<tr>
<td>Cardiomyopathy</td>
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<tr>
<td>Uterine cancer</td>
<td>536</td>
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<td>Bowel cancer</td>
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<tr>
<td>Chronic kidney disease</td>
<td>364</td>
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<tr>
<td>Other cancers</td>
<td>262</td>
</tr>
<tr>
<td>Other cardiovascular diseases</td>
<td>11,121</td>
</tr>
<tr>
<td>Other cancers</td>
<td>353</td>
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| Table 16: Measured BMI, children and adults by jurisdiction, percentage (95% CI), by year and sex |

<table>
<thead>
<tr>
<th></th>
<th>Children</th>
<th>Adults</th>
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</thead>
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<td>Queensland</td>
<td>Australia</td>
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<tr>
<td><strong>2014–15</strong></td>
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<tr>
<td>Underweight/normal</td>
<td>73.7 (68.7–78.7)</td>
<td>72.4 (70.1–74.7)</td>
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<tr>
<td>Overweight</td>
<td>19.2 (15.2–23.2)</td>
<td>20.2 (18.2–22.2)</td>
</tr>
<tr>
<td>Obese</td>
<td>7.2 (4.4–10.0)</td>
<td>7.4 (6.1–8.7)</td>
</tr>
<tr>
<td>Overweight/obese</td>
<td>26.2 (21.9–30.5)</td>
<td>27.4 (25.2–29.6)</td>
</tr>
<tr>
<td><strong>2011–12</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underweight/normal</td>
<td>71.6 (66.5–76.7)</td>
<td>74.7 (72.4–77.0)</td>
</tr>
<tr>
<td>Overweight</td>
<td>18.5 (14.0–23.0)</td>
<td>17.7 (15.7–19.7)</td>
</tr>
<tr>
<td>Obese</td>
<td>9.9 (6.5–13.3)</td>
<td>7.6 (6.3–8.9)</td>
</tr>
<tr>
<td>Overweight/obese</td>
<td>28.4 (23.4–33.4)</td>
<td>25.3 (23.1–27.7)</td>
</tr>
<tr>
<td><strong>2007–08</strong></td>
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</tr>
<tr>
<td>Underweight/normal</td>
<td>73.3 (67.3–79.3)</td>
<td>75.3 (72.5–78.1)</td>
</tr>
<tr>
<td>Overweight</td>
<td>17.9 (12.7–23.1)</td>
<td>17.2 (15.1–19.3)</td>
</tr>
<tr>
<td>Obese</td>
<td>8.8 (4.8–12.8)</td>
<td>7.5 (5.8–9.2)</td>
</tr>
<tr>
<td>Overweight/obese</td>
<td>26.7 (23.4–33.4)</td>
<td>25.3 (23.1–27.7)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2014–15 by sex</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underweight/normal</td>
<td>72.8</td>
<td>71.6</td>
<td>29.4</td>
<td>29.3</td>
</tr>
<tr>
<td>Overweight</td>
<td>18.3 (13.2–23.4)</td>
<td>21.9 (19.4–24.4)</td>
<td>38.4 (35.1–41.7)</td>
<td>42.4 (41.0–43.8)</td>
</tr>
<tr>
<td>Obese</td>
<td>7.4 (4.1–10.7)</td>
<td>6.6 (4.9–8.3)</td>
<td>31.9 (28.3–35.5)</td>
<td>28.4 (26.9–29.9)</td>
</tr>
<tr>
<td>Overweight/obese</td>
<td>26.9 (21.4–32.4)</td>
<td>28.4 (25.5–31.3)</td>
<td>70.7 (67.3–74.1)</td>
<td>70.8 (69.2–72.4)</td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underweight/normal</td>
<td>72.6</td>
<td>73.2</td>
<td>43.2 (40.7–45.7)</td>
<td>43.8</td>
</tr>
<tr>
<td>Overweight</td>
<td>19.3 (13.1–25.5)</td>
<td>18.2 (15.5–20.9)</td>
<td>28.6 (26.2–31.0)</td>
<td>28.8 (27.6–30.0)</td>
</tr>
<tr>
<td>Obese</td>
<td>7.1 (2.1–12.1)</td>
<td>8.2 (6.2–10.2)</td>
<td>28.4 (25.6–31.2)</td>
<td>27.4 (26.1–28.7)</td>
</tr>
<tr>
<td>Overweight/obese</td>
<td>27.2 (19.8–34.6)</td>
<td>26.6 (23.3–29.9)</td>
<td>56.6 (54.1–59.1)</td>
<td>56.3 (55.0–57.6)</td>
</tr>
</tbody>
</table>

*Note: Confidence intervals were not available for all estimates*
Based on self reported height and weight* in 2016, about 900,000 Queensland adults were obese.

- Just over half the obese adults (52%) were males, about 470,000.
- About three-quarters of obese adults (74%) were aged between 25 and 64 years (more than 680,000 people).
- 1 in 4 obese adults (24%) lived in the most disadvantaged quintile (about 220,000 people lived in quintile 1).
- Over half the obese adults (54%) lived in major cities (about 500,000 people).
- About half of obese adults (46%) had a trade qualification, diploma or certificate (about 430,000 people).
- Over half the obese adults (60%) were employed (about 540,000 people).
- Two-thirds of obese adults (65%) were married or in a de facto relationship (about 600,000 people).

* This analysis was based on self reported BMI rather than measured BMI because measured data does not include sociodemographic characteristics. As such it will be an underestimate of the true number of overweight and obese adults.
Table 17: Self reported BMI, adults, percentage (95% CI), Queensland, 2016

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Females</th>
<th>Males</th>
<th>Persons</th>
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</thead>
<tbody>
<tr>
<td>18–24 years</td>
<td>1.5</td>
<td>1.9</td>
<td>1.7</td>
</tr>
<tr>
<td>25–34 years</td>
<td>2.3</td>
<td>3.2</td>
<td>2.6</td>
</tr>
<tr>
<td>35–44 years</td>
<td>3.1</td>
<td>3.8</td>
<td>3.6</td>
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<tr>
<td>45–54 years</td>
<td>3.3</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>55–64 years</td>
<td>3.0</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>65–74 years</td>
<td>2.7</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>75+ years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>

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

Table 18: Proxy reported BMI, children, percentage (95% CI), Queensland, 2016

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Females</th>
<th>Males</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>5–7 years</td>
<td>1.5</td>
<td>1.9</td>
<td>1.7</td>
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<tr>
<td>8–11 years</td>
<td>2.3</td>
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<td>12–15 years</td>
<td>3.1</td>
<td>3.8</td>
<td>3.6</td>
</tr>
<tr>
<td>16–17 years</td>
<td>3.0</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>18–24 years</td>
<td>2.7</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>25–34 years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>35–44 years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>45–54 years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
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<tr>
<td>55–64 years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
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<tr>
<td>65–74 years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>75+ years</td>
<td>2.7</td>
<td>3.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>

* Estimate has a relative standard error of 25% to 50% and should be used with caution.
Alcohol consumption

Alcohol is widely used in Australian society and many people consume at levels that pose little or no risk to health. However, about 1 in 5 adults are consuming at risky levels. High risk consumption is contributing to a range of social harms including violence, some of which is hidden—1 in 5 Australian children are affected by others’ drinking.

National guidelines have been set to reduce health risks from drinking alcohol. They have identified disease risk arising from lifetime drinking patterns, and risk associated with excess consumption on a single occasion that can lead to more immediate outcomes such as road traffic injuries, violence, falls and drowning.

Alcohol consumption is substantially higher in males than in females, in fact about three-quarters of risky drinkers are males. It is not just young males consuming at this risky level, it is a problem for men into their late 60s and 70s. Queenslanders in remote areas have higher consumption patterns, but there are no socioeconomic differences. Although alcohol misuse is contributing to harms in a number of Aboriginal communities, on average, Indigenous Queenslanders do not have a higher prevalence of risky consumption.

Patterns of consumption are changing. Fewer young Queensland males are drinking at risky levels, but for older males, consumption is increasing—in 2016, for the first time the prevalence of risky consumption among young males and older males was similar. Nationally, there has been a decline in per capita consumption in recent years, the average age of first full serve of alcohol has increased slightly and the prevalence of both lifetime risk and single occasion risk has dropped a little.

There is growing concern about the social and health system impacts of alcohol misuse. It was recently assessed as the fourth largest cause of disease and injury burden in Australia and the second largest cause of disability burden. This assessment did not include the wider social impacts.

Alcohol plays a role in some cases of domestic violence and associated homicides. It is impacting on frontline services such as nursing and medical staff, ambulance officers and police. In response to the growing awareness and concern about this issue, strategies and policies to counter its impact are being developed.

Within the health sector, it is difficult to accurately quantify the number of patients whose admission and care in acute treatment settings is wholly or partially alcohol-related. This is because medical information in different settings is collected and coded for different purposes than those that are primarily related to the immediate care need of the individual. For example, health information recorded at an accident scene is different from information recorded in hospital. As a patient transitions, for example, from ambulance to emergency department to hospital, important information regarding contributing causes to the current health event are not always captured.

Nevertheless, about 6% of ambulance call-outs were associated with alcohol, and in three-quarters of these, the patient was intoxicated. The impact in emergency departments is not fully quantified but is increasingly recognised as a problem.

Key statistics

- 780,000 adults exceeded the guideline for lifetime risky drinking in 2016, and 590,000 were males.
- 1,150,000 adults exceeded the guideline for single occasion risky drinking (at least monthly) in 2016, and 790,000 were males.
- 160,000 young adults aged 14–17 years had consumed alcohol in 2013.
- The average age of first serve of alcohol was 15.7 years in 2013.
- 62,000 secondary students (12–17 year olds) had consumed alcohol in the previous week in 2014.
The measurement and monitoring of alcohol consumption is based on the 2009 National Health and Medical Research Council (NHMRC) guidelines. A standard drink is defined as any drink containing 10gm of alcohol.

**What is the prevalence?**

Based on the national guidelines (Figure 51, Figure 52):

- **Lifetime risk**—21% of adults exceeded the guideline in 2016
- **Single occasion risk**—31% of adults exceeded the guideline at least monthly in 2016
- **Alcohol consumption among school students aged 12–17 years** (Guideline 3) 119
  - 17% of students consumed alcohol in the previous seven days in 2014
  - of the 19% who had consumed alcohol in the previous 12 months, more than half (56%) had consumed more than four drinks in the previous four weeks.
- **Pregnancy** (Guideline 4):
  - 15% of Australian women fully abstained from alcohol during their pregnancy in 2013. 28
  - Of those who had consumed alcohol, 33% consumed small amounts relatively infrequently (one or two drinks on any occasion and doing so less often than once a month) while others drank at higher levels: 7% drank more than five drinks per day at any time.

**Is it the same for everyone?**

The number and prevalence of risky drinking by sociodemographic groups is presented in Figure 56, page 91.

**Sex**

- Adult males were 2–3 times more likely than females to drink at risky levels in 2016 (Table 19):
  - lifetime risk: 32% compared with 11% for females
  - single occasion risk on a monthly basis: 43% compared to 20% for females.
- Among school students in 2014, boys and girls were equally likely to have ever had an alcoholic drink, to have had one in the previous 12 months or in the previous seven days. 119

**Age**

- Lifetime risky alcohol consumption varied very little by age for adult males in 2016—with about 1 in 3 exceeding the guidelines in young adulthood and into their 70s. Exceeding the single occasion risk at least monthly decreased with age from over half of 18–24 year old males doing so to about one-third of those in their 70s (Table 19).
- Women were less likely to exceed the risky drinking guidelines (about 1 in 10 for lifetime risk and 1 in 4 for single occasion risk), and their drinking patterns decreased markedly with age.
- Among school students, age was associated with increased consumption of alcohol. The prevalence of having an alcoholic drink in the previous 12 months increased from 28% among 12–13 year olds to 49% among 14–15 year olds and 75% among 16–17 year olds. The pattern was more pronounced for consumption in the previous seven days—6% among 12–13 year olds, 14% among 14–15 year olds, and 36% among 16–17 year olds. 119

**Socioeconomic status**

There was no difference in risky alcohol consumption among adults in socioeconomically advantaged and disadvantaged areas whether drinking at lifetime risk or single occasion risk in 2016 (Table 19).

**Remoteness**

In 2016, adults living in outer regional and remote and very remote areas were more likely to exceed the lifetime risky guidelines than those in major cities (about 40% higher prevalence) but there was no difference for at least monthly single occasion risk (Table 19).
Indigenous Queenslanders

Lifetime risky drinking among Indigenous Queenslanders did not differ from non-Indigenous adults. Due to their younger age profile Indigenous Queenslanders were more likely to have exceeded single occasion risk guidelines (59% versus 46%). However, after adjusting for age, there was no difference in consumption between non-Indigenous and Indigenous Queenslanders for lifetime risk or yearly single occasion risk in 2012–13. A similar pattern was evident nationally—Indigenous Australians were about 15% more likely to exceed the single occasion risk guideline than non-Indigenous adults. Indigenous Queenslanders did not differ from Indigenous Australians for either of the alcohol consumption measures. Some communities do however, have high levels of risky drinking that are contributing to social harms including violence.

Regional Queensland

In 2015–16:

- lifetime risky alcohol consumption was higher than the state average for six HHSs—53% higher for Central West, 37% for North West, 34% for Mackay, 32% for South West, 18% for Cairns and Hinterland and 15% for Sunshine Coast. Darling Downs was 31% lower.
- single occasion risky consumption (at least monthly) was higher than the state average in six HHSs—45% higher in North West and about 20% higher for Mackay, Central West, South West, Cairns and Hinterland and Central Queensland. It was 15% lower in Darling Downs.

More information is available in the HHS booklet (page i for details).

How do we compare?

National

In 2013:

- lifetime risky drinking in Queensland was 12% higher than national (21% compared with 19%) and was fourth highest among states and territories (Table 24, page 116).
- single occasion (monthly) risky drinking in Queensland was similar to national (29% compared with 27%) and was sixth highest among the states and territories.

International

Australia had the 16th highest per capita consumption of alcohol (persons 15 years and older) among 35 OECD countries in 2014 (or nearest year). In 2010, based on WHO assessment, Australia was ranked 20th highest per capita consumption among 190 countries (12.2 litres per person)—males were ranked 22nd highest (17.3 litres per person) and females 11th highest (7.2 litres per person).

What are the trends?

Between 2010 and 2016, lifetime risky alcohol consumption remained stable for Queensland adults. There was, however, change for several sociodemographic groups. The prevalence of lifetime risky consumption (Figure 53):

- decreased by 6.6% per year for young males (18–29 years)
- increased by 5.9% per year for older males (65 years and older).

The decrease in consumption for young males was evident across the state. Similar changes were evident for females but the change in prevalence was very low.

Figure 53: Trends in prevalence of risky alcohol consumption by age group, adult males, Queensland

Risky alcohol consumption is decreasing for young males but increasing for older males.
National changes in drinking patterns were evident between 2010 and 2013. Among Australian adults: 

- lifetime risky drinking decreased by 11% 
- monthly single occasion risky drinking decreased by 9% 
- abstinence increased by 10% 
- average age of first serve of alcohol among persons 14 years and older was 17.2 years in 2013, compared with 17.0 years in 2010.

Together, these may signal early signs of change in the Australian drinking culture.

In 2013–14, a total of 184 litres of pure alcohol was available for consumption in Australia, a 1% decrease from the peak volume recorded in 2009–10. Per capita consumption decreased by 26% over the 40 years, from 13.1 litres per person in 1974–75 to 9.7 litres in 2013–14 (Figure 54).

There has been change in drinking preferences nationally (Queensland data is not available):

- Beer consumption peaked in 1974–75 and has since decreased by 57% to 4.0 litres of pure alcohol per person in 2013–14.
- Wine consumption peaked in 2009–10 decreasing by 6% to 3.6 litres in 2013–14.
- Spirits and ready to drink spirits peaked in 2007–08 decreasing by 20% to 1.8 litres in 2013–14.
- Cider consumption has tripled since official statistics were first recorded in 2004–05 from 0.07 litres to 0.22 litres in 2013–14.

What are the impacts?

Burden of disease:

Of the risk factors in 2011, alcohol was the fourth largest cause of disease burden in Australia, accounting for 5.1% of total DALYs (Table 2, page 12). Overall, males experienced 71% of the burden due to alcohol. Data for Queensland is not currently available.

The four leading health outcomes associated with alcohol and accounting for over half the DALY burden were alcohol-use disorders (29%), suicide and self inflicted injuries (11%), coronary heart disease (7%) and road transport injuries (6%).

The impact of alcohol on the disease burden differed by age. Injuries contributed to over 50% of the alcohol burden between the ages of 20 and 29 years. Mental and substance use disorders made up over 40% of the burden up to 45 years. Cardiovascular effects increase with age and were the major outcome of risky alcohol consumption in older age groups.

Deaths

In 2011, alcohol accounted for 6570 deaths in Australia (4.5% of all deaths) and an estimated 1300 were Queenslanders (Table 2, page 12).

Disability

Alcohol was the second largest cause of loss of healthy years in Australia in 2011 causing 4.0% of YLD burden (Table 2, page 12). Data for Queensland is not currently available.

Expenditure

The most recent national assessment of the costs of alcohol use was in 2004–05 (also discussed on page 54). Based on Queensland’s share of the Australian population, in 2004–05 the financial cost of alcohol consumption to the Queensland economy was $2.17 billion, with $0.4 billion spent on healthcare, $0.72 billion in productivity losses including absenteeism, $0.31 billion in home production losses, $0.32 billion in crime and $0.44 billion in road transport injuries. Health system costs were 18% of the tangible or financial costs. Intangible losses associated with early death and loss of wellbeing were assessed at $0.9 billion taking the total cost of excess alcohol to Queensland society in 2004–05 to $3.06 billion.

More than 80% of the financial costs associated with alcohol occurred outside the health system.
Alcohol: the health system and society

The harmful impact of alcohol misuse is evident in society as well as in the health sector. It is sometimes associated with violence, and there is growing awareness regarding the harms that are occurring in homes, families, workplaces and in the community. This section includes data from a range of sources to provide some insight into the wider impact of alcohol misuse.

Data to describe alcohol misuse is limited in quality, completeness and accuracy and is unlikely to fully capture the scope and scale of the issue. For example, data on social impacts are incomplete because violence, particularly in the home, remains a sensitive issue and is consequently subject to under reporting. Emergency department databases reflect the priority of assessing and treating the presenting problem rather than documenting its cause. Sophisticated coding techniques are required to capture the impact of alcohol in ambulance data—the need for improved quality and the importance of this database is becoming increasingly apparent. Admitted patient hospitalisation data can be used to assess the scale of impact using population attributable fractions, which are subject to diagnosis criteria that capture, for example, both the cause and the outcome for injuries but not for chronic conditions. It is nevertheless evident that excessive alcohol consumption, including intoxication, has a substantial impact on society and across the continuum of health services. This snapshot will help to inform more comprehensive assessments in future.

Health system impacts:

1. Ambulance service attendances

In 2015, based on data from two separate months (March and June), the Queensland Ambulance Service attended about 3400 call-outs per month involving alcohol—over two-thirds of the patients were intoxicated (71%). This was equivalent to about 41,000 attendances a year, and represented about 5.9% of all attendances.

- 37% were for metropolitan areas (a similar proportion for patients who were intoxicated)
- 60% were for males (similar for intoxicated patients)
- 74% were aged 18–54 years (similar for intoxicated patients)
- 80% were transported to hospital (similar for intoxicated patients)—about 32,800 attendances
- 38% of attendances occurred over a 30-hour period (6pm Friday to 6am Saturday, 6pm Saturday to 6am Sunday and 6pm to midnight Sunday).

2. Emergency department presentations

In 2014, there were 11,200 presentations of persons to emergency departments of Queensland hospitals that were flagged as ‘alcohol related’. This is far fewer than the number that had been transported to a hospital by the Queensland Ambulance Service in the same year (about 32,800)—about one-third of the expected number. As described above, coding of alcohol in emergency department data is recognised as incomplete and/or potentially inaccurate, which means the scale of the problem is not fully understood.

In 2015, based on data from the Queensland emergency department database, and recognising the data limitations, details of alcohol related presentations were:

- 0.8% (about 11,200) of the 1.4 million emergency department presentations across the state
- 5% were admitted to hospital, 26% were admitted to a short stay or similar unit, 5% did not wait or left after treatment commenced, 63% were treated and discharged
- 62% were males
- 84% were for people aged 15–54 years and although peak rates were among the young (15–24 years), the overall burden was generally evenly spread across this age range
- 14% were Indigenous Queenslanders—about 3 times more than expected based on population share
- a slightly higher proportion of presentations for non-Indigenous people were females (39%) compared with 35% for Indigenous Queenslanders
- among the HHSs average rates of alcohol related presentations in 2013–2015 were substantially higher than the state average in North West (70% higher), Metro North and Cairns and Hinterland (both about 60% higher) and Townsville (30% higher). Differences between HHSs may be due to higher prevalence of alcohol consumption and intoxication in the population, the characteristics of the hospital catchment or a greater propensity to report, or a combination of all. Caution should therefore be exercised when interpreting this data.

1 in 5 Australian children and adults are affected by the drinking of others—these are some of the hidden harms.
3. Admitted patients

In a single year (2013–14), there were about 37,000 hospitalisations due to alcohol consumption in Queensland—about 1.8% of the 2 million hospitalisations for all causes in that year.87 This does not equate to individual patients, rather to the sum of the contributing diagnoses. Alcohol has a greater impact on acute outcomes than on the development of chronic disease as is evident from the causes of the hospitalisations (Figure 55):

- 38% was for alcohol dependence and harmful use
- 14% for other unintentional injuries
- 12% for falls
- 7% transport accidents
- 4% coronary heart disease
- 4% for suicide and self inflicted injuries
- 3% for homicide and violence.

Additional information on hospitalisations due to alcohol use is reported on page 41.

Social impacts: harms to others

Alcohol use, particularly consumption at high levels and high frequency, is a significant contributor to violence, both in private dwellings and public spaces. In 2008, about 1 in 5 adults (17%) and 1 in 5 children (22%) were reported to have been affected by others’ drinking—these impacts are often described as the ‘hidden harms’ of alcohol.179 Findings for Australia from an international study identified that 1 in 3 incidents of partner violence in the previous 12 months was alcohol-related (35%), that is, women reported their partner was drinking alcohol when the violence occurred.180 Furthermore, women whose partners got drunk a couple of times a month or more often, experienced higher levels of violence than those whose partners got drunk less often.

National surveys of alcohol use and victimisation provide further evidence of the impact of alcohol-related violence. In 2013, 1 in 4 (26%) Queenslanders aged 14 years and older was a victim of alcohol-related violence (national rate was also 26%).115:

- Females were at least twice as likely as males to experience alcohol-related violence:
  - in their own home (36% compared with 19%).
  - by a current or former partner (30% compared with 12%).
- Females were 3 times as likely as males to experience intimidation and fear from a partner under the influence of alcohol (27% compared with 8%).
- Conversely, males were more than 3 times as likely as females to experience alcohol-related physical violence at a pub or club (44% compared 12%) and 60% as likely on the street (38% compared 23%).
- The violence experienced by males was more likely to result in serious injuries than that experienced by females (61% compared with 34%).
- About 1 in 3 younger people (aged 18–39 years) experienced violence by someone under the influence of alcohol—higher prevalence than any other age group.

Alcohol was associated with about one-third (37%) of homicides in Australia in 2010–2012.181 For domestic homicides:

- 32% of victims were affected by alcohol
- 38% of offenders were affected by alcohol.

These data are likely to underestimate the role of alcohol, particularly among offenders, because of difficulty in testing for alcohol use at the time the crime was committed.

The relationship between alcohol and violent relationships is complex. While alcohol is seen as contributing factor to the increased likelihood of domestic violence, it should be viewed with other influences such as personal characteristics and circumstances, environmental and situation factors and social and/or cultural cues. It should not be considered the singular reason for domestic violence.182
Table 19: Alcohol consumption, adults, percentage (95% CI), Queensland, 2016\textsuperscript{134}

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Abstainers</th>
<th>Lifetime risky drinking</th>
<th>Single occasion risky drinking at least monthly</th>
<th>Single occasion risky drinking at least weekly</th>
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<td><strong>Persons</strong></td>
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<td></td>
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</tr>
<tr>
<td>18–24 years</td>
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<tr>
<td>Males</td>
<td>18.2</td>
<td>(17.1–19.3)</td>
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<td>30.9 (29.6–32.3)</td>
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<tr>
<td>Females</td>
<td>15.5</td>
<td>(13.9–17.1)</td>
<td>31.5 (29.6–33.5)</td>
<td>42.6 (40.5–44.7)</td>
</tr>
<tr>
<td>25–34 years</td>
<td>14.7</td>
<td>(10.5–20.1)</td>
<td>21.3 (16.8–26.6)</td>
<td>46.2 (40.1–52.6)</td>
</tr>
<tr>
<td>Males</td>
<td>15.2</td>
<td>(12.5–18.4)</td>
<td>22.4 (19.4–25.8)</td>
<td>40.6 (36.9–44.3)</td>
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<td>23.3 (20.8–26.1)</td>
<td>35.1 (32.1–38.3)</td>
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<tr>
<td>55–64 years</td>
<td>16.6</td>
<td>(14.4–19.0)</td>
<td>22.0 (19.7–24.4)</td>
<td>28.1 (25.6–30.8)</td>
</tr>
<tr>
<td>Males</td>
<td>17.7</td>
<td>(15.8–19.8)</td>
<td>21.2 (19.1–23.4)</td>
<td>25.2 (22.9–27.7)</td>
</tr>
<tr>
<td>Females</td>
<td>24.3</td>
<td>(22.1–26.6)</td>
<td>20.3 (18.2–22.5)</td>
<td>18.6 (16.6–20.7)</td>
</tr>
<tr>
<td>75+ years</td>
<td>36.5</td>
<td>(33.2–39.8)</td>
<td>9.2 (7.5–11.4)</td>
<td>7.3 (5.8–9.1)</td>
</tr>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24 years</td>
<td>17.4</td>
<td>(10.6–27.1)</td>
<td>29.6 (22.3–38.1)</td>
<td>53.7 (44.4–62.8)</td>
</tr>
<tr>
<td>25–34 years</td>
<td>13.1</td>
<td>(9.3–18.1)</td>
<td>34.2 (29.1–39.7)</td>
<td>54.8 (49.0–60.4)</td>
</tr>
<tr>
<td>35–44 years</td>
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<td>(9.9–16.4)</td>
<td>33.1 (28.8–37.7)</td>
<td>46.5 (41.7–51.4)</td>
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<tr>
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<td>37.5 (33.4–41.7)</td>
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<td>55–64 years</td>
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<td>31.6 (28.1–35.4)</td>
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<tr>
<td>65–74 years</td>
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<td>(16.3–22.5)</td>
<td>32.2 (28.7–35.9)</td>
<td>31.5 (28.0–35.2)</td>
</tr>
<tr>
<td>75+ years</td>
<td>27.1</td>
<td>(22.4–32.3)</td>
<td>16.7 (13.2–20.8)</td>
<td>13.1 (10.1–16.6)</td>
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<td><strong>Females</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24 years</td>
<td>12.1</td>
<td>(7.8–18.1)</td>
<td>13.3 (8.5–20.3)</td>
<td>39.1 (31.1–47.6)</td>
</tr>
<tr>
<td>25–34 years</td>
<td>17.5</td>
<td>(14.0–21.6)</td>
<td>10.4 (7.7–13.9)</td>
<td>26.0 (20.0–30.6)</td>
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<tr>
<td>35–44 years</td>
<td>17.2</td>
<td>(14.2–20.7)</td>
<td>13.5 (11.0–16.4)</td>
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<td>45–54 years</td>
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<td>(14.4–20.8)</td>
<td>12.5 (10.1–15.4)</td>
<td>19.7 (16.7–23.0)</td>
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<td>55–64 years</td>
<td>22.2</td>
<td>(19.4–25.2)</td>
<td>10.2 (8.4–12.4)</td>
<td>10.7 (8.7–13.1)</td>
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<td>9.1 (7.2–11.6)</td>
<td>6.4 (4.9–8.4)</td>
</tr>
<tr>
<td>75+ years</td>
<td>44.3</td>
<td>(40.0–48.7)</td>
<td>3.1 (1.9–4.9)</td>
<td>*2.5 (1.4–4.2)</td>
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<tr>
<td><strong>Disadvantaged</strong></td>
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<tr>
<td>Major cities</td>
<td>25.0</td>
<td>(22.6–27.7)</td>
<td>21.1 (18.9–23.4)</td>
<td>29.3 (26.8–32.0)</td>
</tr>
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<td>Quintile 2</td>
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<td>22.7 (20.5–25.0)</td>
<td>31.4 (28.9–34.0)</td>
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<tr>
<td>Quintile 3</td>
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<td>33.0 (30.2–35.8)</td>
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<td>Quintile 4</td>
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<td>20.1 (17.5–23.0)</td>
<td>31.3 (28.2–34.7)</td>
</tr>
<tr>
<td>Advantaged</td>
<td>14.7</td>
<td>(12.2–17.7)</td>
<td>19.7 (16.9–22.7)</td>
<td>29.4 (26.0–33.1)</td>
</tr>
<tr>
<td><strong>Quintile 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major cities</td>
<td>18.1</td>
<td>(16.6–19.7)</td>
<td>19.3 (17.8–20.9)</td>
<td>30.0 (28.1–32.0)</td>
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<tr>
<td>Quintile 3</td>
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<td>(16.4–19.9)</td>
<td>21.9 (19.8–24.1)</td>
<td>29.9 (27.5–32.3)</td>
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<tr>
<td>Quintile 4</td>
<td>17.8</td>
<td>(15.5–20.2)</td>
<td>26.2 (23.7–28.8)</td>
<td>34.8 (32.0–37.7)</td>
</tr>
<tr>
<td>Advantaged</td>
<td>21.5</td>
<td>(17.6–26.1)</td>
<td>26.6 (23.3–30.2)</td>
<td>35.8 (31.9–39.8)</td>
</tr>
<tr>
<td><strong>Other cancers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol use disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falls</td>
<td>4,478</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Road traffic injuries</td>
<td>1,759</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Coronary heart disease</td>
<td>1,609</td>
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<tr>
<td>Suicide &amp; self-inflicted injuries</td>
<td>1,428</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Homicide &amp; violence</td>
<td>1,266</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower respiratory infections</td>
<td>1,126</td>
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<td></td>
<td></td>
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<tr>
<td>Asthma &amp; chronic obstructive pulmonary disease</td>
<td>763</td>
<td></td>
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<tr>
<td>Chronic liver disease</td>
<td>562</td>
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<tr>
<td>Diabetes</td>
<td>155</td>
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<td></td>
<td></td>
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<tr>
<td>Other cancers</td>
<td>377</td>
<td></td>
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<tr>
<td>Other infections</td>
<td>147</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Note 1: Low risk drinking has not been included, and neither has more than monthly single occasion risky drinking.

Note 2: Single occasion risky drinking at least monthly also includes at least weekly drinking.

Figure 55: Number of hospitalisations due to alcohol consumption, Queensland 2013–14\textsuperscript{47}
In 2016, about 800,000 Queensland adults were drinking at lifetime risk.

- Three-quarters of risky drinkers (74%) were males, about 590,000.
- The majority of risky drinkers (86%) were aged between 18 and 64 years (about 700,000 people) and about 70% of these were males.
- Risky consumption varied very little across areas of socioeconomic advantage or disadvantage.
- More than half the risky drinkers (55%) lived in a major city (about 430,000 people). About 1 in 20 (about 40,000) lived in remote and very remote areas of Queensland.
- Almost 1 in 2 risky drinkers (45%) had a diploma, trade or certificate qualification (about 400,000 people) and 1 in 4 had no post-school qualifications (about 200,000 adults).
- About three-quarters of risky drinkers (70%) were employed (about 550,000 people).
- One in 20 adult risky drinkers was unemployed (5% or about 40,000 people).
- About two-thirds of adult risky drinkers (65%) were married or in a de facto relationship (about 510,000 people).
Physical activity

Regular physical activity reduces the risk of cardiovascular disease, type 2 diabetes, some cancers, and depression. It improves wellbeing and helps in weight maintenance.

Over the past decade, adults have become more physically active and this has contributed to the reduction in death rates for coronary heart disease, stroke and colorectal cancer (page 28). There has been greater change in some population groups than others—for example there has been a substantial increase in physical activity of adults in disadvantaged areas that is not so evident for those in advantaged areas.

The amount of vigorous activity achieved each week by males from disadvantaged areas has doubled, as has the amount of time spent walking by both males and females from disadvantaged areas. The socioeconomic gap is narrowing mainly driven by male trends. It is possible that environmental change and accessibility have played a role in the positive changes evident in Queensland in recent years.

However, Queensland adults are still less active than other Australians on multiple measures—about 5–10% less, based on latest national estimates. Queensland children in contrast were more active than children nationally.

Changes are needed to counter the sedentariness and inactivity of modern lifestyles. While the national physical activity guidelines focus on achieving a minimum for health benefit, there are many gains to be achieved with even small increases in activity. This is often described as incidental activity and it could involve regular walking for shopping, for getting from place to place, going to work and for recreational purposes. The US Surgeon General has issued a call to take action to promote walking and walkable communities. People of all ages and abilities can participate in walking and there are no financial impediments. However, we need safe, secure environments to support this activity and while some areas of Queensland have made progress in this area, more can be achieved.

The foundations of good health are established in childhood. It is evident that many young children in Queensland are active in differing ways although just under half are meeting the national recommended minimum of one hour of activity every day. Furthermore, as children grow and develop the proportion meeting the guidelines decreases, with about 1 in 5 doing so by the time they reach 16–17 years, and, at the same time the amount of screen time increases substantially. During the teenage years, there is a clear pattern emerging of diminishing activity and increasing sedentarity. This is a concern to parents, as it is for the health sector.

Figure 57: Physical activity indicators adults and children, Queensland

<table>
<thead>
<tr>
<th>Adults</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient physical activity (18–75 years), 2016</td>
<td>61</td>
</tr>
<tr>
<td>Strength or toning activities 2+ days a week, 2014–15</td>
<td>21</td>
</tr>
<tr>
<td>Sedentary daily (18–65 years), 2011</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient physical activity, 2016</td>
<td>45</td>
</tr>
<tr>
<td>Participation in organised sports past year, 2016</td>
<td>74</td>
</tr>
<tr>
<td>2+ hours daily screen-based entertainment, 2015</td>
<td>38</td>
</tr>
</tbody>
</table>

Key statistics:

- 1.3 million Queensland adults were insufficiently active: 150,000 more women than men in 2016.
- 2.7 million Queensland adults did no strength or toning activities in the previous week while 760,000 did so on two or more days in 2014–15.
- 460,000 Queensland children did not meet the recommendation of being active every day, and of these 220,000 were inactive on four or more days per week in 2016.
- 300,000 children exceeded the recommended daily screen time for entertainment in 2015.

Addressing the challenges and supporting families and individuals to adopt an active lifestyle is important for the lifelong health of the population.

Increasingly, people are living into their 80s and 90s and to enjoy better health during the later years, activity is beneficial. There are national recommendations and, given the relatively low levels of activity on many of these measures among Queensland’s older population, more needs to be done to support people to be active throughout life and build environments that support this activity.
The measurement and monitoring of physical activity in this section is based on multiple indicators including those derived from the 2014 Australian physical activity and sedentary behaviour guidelines.183

**What is the prevalence?**

**Adults**

- 61% of adults aged 18–75 years were sufficiently active for health benefit in 2016, that is, they participated in at least 150 minutes of moderate intensity physical activity on at least five sessions in the previous week (Table 21)—where many achieved 300 minutes of moderate activity (45% of all adults).134
- 21% had done no exercise for fitness, recreation, sport or transport in the previous week in 2014–15, while 38% had done some exercise on five or more days.37
- Among those who had participated at least once in some type of sport or physical activity in the previous 12 months in 2013–14, the most common forms of activity were184:
  - 1 in 5 had walked for exercise (19%)
  - 1 in 6 had attended a gym (17%)
  - 1 in 17 had been jogging (7%) cycling (6%) or swimming (6%).
- 1 in 5 (21%) Queensland adults had undertaken strength or toning activities on two or more days a week in 2014–15, 5% had done so on one day and 74% had done none.37
- 39% of Queensland adults (18–65 years) were sedentary (sitting for seven hours a day or more) on weekdays in 2011, 18% on weekends and 12% every day of the week.185

**Children** (Table 20)134

- 45% children were active for the recommended minimum of one hour every day in 2016:
  - 27% were active on three or less days a week
  - 23% were active on four or five days a week
  - 50% were active on six or seven days a week.
- 74% of children participated in organised sport (club or school based) in the previous 12 months in 2016.
- 38% of children exceeded the recommended maximum of two hours per day of screen based entertainment in 2015.

**Is it the same for everyone?**

**Sex**

- Adult females were 12% less likely to be sufficiently active than males (57% compared to 65%) in 2016 (Table 21).134 Part of this difference was because females did fewer episodes of physical activity (31% more likely to do between one and four episodes of activity and 8% less likely to do five or more) and were less likely to achieve the recommended 150 minutes. For other indicators females did not differ from males:
  - frequency of exercising for fitness, recreation, sport or transport (on three or more days, 40% of females and 41% for males: on no days, 21% of females and 20% males) in 2014–1537
  - participation in sport and physical recreation activities (in the previous 12 months, 55% females and 53% males)184
  - frequency of strength and toning activities (on two days a week, 20% females and 21% males)37
  - sedentary behaviour, that is, sitting seven hours a day, seven days a week in 2011 (11% females, 14% males).
- The prevalence of being active every day did not differ between girls and boys in 2016 and nor did organised sport participation in the previous year (Table 20). However, for screen-based entertainment more boys than girls exceeded the recommendation (41% of boys and 34% of girls).

**Age**

- The prevalence of sufficient physical activity decreased with age: from 77% in 18–24 year olds to 43% in those aged 75 years in 2016 (Table 21).
- A similar age pattern was observed for sport and physical recreation with the highest rate (64%) for 18–24 year olds and the lowest (40%) for those 65 years and older.184
- Young people (18–24 years) were 2.4 times as likely to undertake strength or toning activities on two or more days a week as those aged 65 years or older (29% compared with 12%) in 2014–15.37
- For children, the prevalence of being active every day was highest for 5–7 year olds (59%) and lowest for 16–17 year olds (27%) with a similar age pattern for boys and girls (Table 20).
- Participation in organised sport was also higher in younger than older children: 74% of 5–7 year olds and 51% of 16–17 year olds in 2016 (Table 20).
- Older children (16–17 years) were 2.3 times more likely to exceed the recommended screen time than younger children (5–7 years) (Table 20).
Physical activity

**Socioeconomic status**

- Adults living in socioeconomically advantaged areas were 14% more likely to achieve sufficient physical activity than those living in disadvantaged areas (66% compared to 58%) in 2016 (Table 21).
- Children’s activity based on achieving the recommended one hour every day in 2016 and exceeding the recommended screen time in 2015\(^3\) did not differ by area of socioeconomic advantage or disadvantage (Table 20).
- Children living in socioeconomically advantaged areas were 33% more likely to play organised sport in the previous 12 months than those living in disadvantaged areas in 2016 (84% and 64% respectively) (Table 20).

**Regional Queensland**

- In 2015–16, the prevalence of sufficient activity in adults was about 10% lower than the state average in three HHSs (South West, Darling Downs and Central Queensland) and in Torres and Cape it was 17% higher.\(^1\)\(^2\)
- For children the prevalence of being active every day was 17% higher among children at the Sunshine Coast HHS but did not differ for any other HHS. More information on HHS indicators is available from the statistical tables online (page i for details).\(^1\)\(^2\)

**Compared to national prevalence, Queensland adults were less likely to be sufficiently active, whereas Queensland children were more likely to be active every day.**

**How do we compare?**

**National**

- Queensland prevalence of adult sufficient physical activity was 9% lower than national and was second lowest of the jurisdictions after Tasmania in 2014–15 (Table 24, page 116).\(^3\)\(^7\)
- In 2014–15, the Queensland prevalence of strength and toning activities on two or more days a week was 6% lower than national (22%) and second lowest of the jurisdictions after Tasmania.\(^3\)\(^7\)
- Queensland prevalence of adult participation in sport and physical recreation in the previous 12 months was 10% lower than national (60%) and lowest of all the jurisdictions in 2013–14.\(^1\)\(^8\)\(^4\)
- For Queensland children aged 2–17 years in 2011–12, the prevalence of being active at least one hour every day was 18% higher than Australia and third highest of the jurisdictions.\(^1\)\(^8\)\(^7\)

**What are the trends?**

The prevalence of sufficient physical activity in adults (defined as 150 minutes of moderate activity over five or more sessions in a week) increased in the early part of the past decade but has slowed in recent years. Between 2004 and 2009, the prevalence increased by an average of 6.2% per year and between 2010 and 2016 by 1.9% per year.\(^1\)\(^2\)

**Remoteness**

There was no difference in levels of sufficient physical activity for adults or for children in 2016 (based on multiple indicators) by remoteness (Table 21, Table 20).

**Indigenous Queenslanders**

- 3 in 5 (60%) Indigenous Queenslanders in non-remote areas were sedentary or had low levels of physical activity in 2012–13. The rate did not differ from the non-Indigenous Queenslanders rate (59%) nor from the Australian Indigenous rate (61%), even after adjustment for age differences.\(^1\)\(^2\)\(^1\)
- About 1 in 2 (49%) Indigenous Queenslanders children were active for the recommended minimum one hour per day in the previous three days in 2012–13 with a similar rate (38%) for non-Indigenous children.\(^1\)\(^8\)\(^6\)
- About 3 in 5 (56%) Indigenous Queenslanders children exceeded the recommended maximum screen time in the previous three days in 2012–13—similar to the rate for non-Indigenous children (58%).\(^1\)\(^8\)\(^6\)
Physical activity

There have been changes in activity among socioeconomic groups over the past decade (2004–2016). The amount of time spent walking each week has increased substantially for both males and females from disadvantaged areas—from about 110 minutes per week in 2004 to 220 minutes in 2016 (Figure 58).

There has been an increase in vigorous activity, particularly for males from disadvantaged areas, from about 50 minutes per week in 2004 to about 120 minutes in 2016, compared with an increase from about 100 minutes to about 140 minutes for those in advantaged areas. As a result, the gap between advantage and disadvantage in terms of meeting physical activity guidelines is narrowing for males, with smaller gains for females.

The assessment of trends in children’s physical activity is limited by the number of years data has been collected but will be available in 2017. Preliminary assessment is showing no change in the childhood prevalence of being active every day since 2011.

Deaths
In 2011 for Australia, physical inactivity accounted for 11,489 deaths (7.8% of all deaths) and an estimated 2300 were Queenslanders (Table 2, page 12).

Disability and hospitalisation
Physical inactivity caused 2.1% of YLD burden in Australia in 2011 (Table 2, page 12). Data for Queensland is not currently available.

In 2013–14, there were about 20,000 hospitalisations in Queensland due to physical inactivity, involving about 77,000 patient days–1% of the 2 million hospitalisations in Queensland in that year. Of these hospitalisations, 70% were for coronary heart disease and stroke, 17% were for breast and colorectal cancer and 13% for diabetes.

Expenditure
In 2008, it was estimated that insufficient physical activity resulted in $672 million in health sector costs nationally, and $1135 million in production losses (Table 10, page 54). Based on population share, this was a total of $361 million in Queensland, where 37% or $134 million was associated with costs to the health sector and 63% or $227 million was for production losses. More recent data is not available.

Opportunities to improve physical activity
There have been some improvements in the prevalence of regular physical activity over the last decade and this has had a positive effect on the health of Queenslanders by contributing to a decrease in the burden of cardiovascular disease and some cancers. However, further gains are possible with targeted strategies to increase regular physical activity across all age groups. There are some specific issues to be addressed:

- Adults—there were about 320,000 adults who were inactive in the previous week in 2016. Another 1.0 million had been active, but not of sufficient frequency, duration or intensity to meet the recommended level. Supporting these people to introduce some regular physical activity, and for others to increase their activity levels will improve their wellbeing and reduce their risk of chronic disease. Doing any physical activity is better for health than none at all.

What are the impacts?

Burden of disease
Physical inactivity accounted for 5.0% of DALYs in Australia in 2011, and was the fifth largest risk factor associated with health loss (Table 2, page 12). Queensland data is not currently available. More than half the health loss due to physical inactivity was associated with coronary heart disease (51% of the DALY burden), 14% with diabetes, 13% with bowel cancer, 11% with stroke and 11% with breast cancer.
Physical activity

- Children—460,000 young Queenslanders aged between five and 17 years were not sufficiently active in 2016 based on the national recommendation of being active every day. Of these, about 220,000 were inactive on at least four days a week (100,000 boys and 120,000 girls). It is essential to build good foundations in childhood for lifelong health—and a large number of Queensland children are at risk of becoming inactive, sedentary adults, increasing their risk of chronic disease and unhealthy weight gain. There are, however, barriers and impediments for families when building an active lifestyle. Lack of time, concern about strangers and fitting in extra-curricular activities were the leading barriers identified by Queensland parents in their decision about children walking or cycling to school in 2014. Financial barriers may limit participation in organised sport as suggested by socioeconomic data reported for Queensland on page 94. Excess screen time was the leading concern for Australian parents in 2015—56% identified it as a big health problem for children, followed by obesity (55%) and insufficient physical activity (54%). Screen time is a prevalent issue among Queensland children, whether in cities, regional areas or remote areas and there is no difference among children in socioeconomically disadvantaged and advantaged areas.

- Strategies are needed to revitalise gains for adults and stimulate change in children’s activity. In the period up to 2009, there was an improvement in adult physical activity and after that, it slowed substantially. Furthermore, the early data is showing no change in the prevalence for children. The growth in the fitness industry almost certainly reflects an increased demand in support for active lifestyles—the number of gyms and fitness centres in Australia has increased by 3.5% per year over the past five years and the number of personal trainers by 8.7% per year. The following strategies are recommended.

  - Establish activity patterns in childhood—it is important to address the issue of childhood sedentariness and provide support for families and individuals to adopt an active lifestyle. This will require concerted action across many sectors.

  - Provide safe environments for walking—walking has been identified as a very common form of physical activity and is easily adopted by young and old and those with varying levels of ability. It is recommended by the US Surgeon General. Importantly, there are no financial barriers to participation. Safe, supportive local environments are needed to encourage people to incorporate more walking into daily life.

  - Embed opportunities for regular physical activity into everyday life—disease risk is reduced significantly by small additions to daily routines. For example, incorporating an extra 10 minutes a day climbing stairs, 15 minutes vacuuming, 20 minutes running and 25 minutes walking or cycling, could reduce the risk of coronary heart disease by 16%, diabetes by 14% and colorectal cancer by 10%.

  - Promote less sitting—sedentary behaviour is a conspicuous feature of contemporary life, with 12% of Queensland adults spending seven or more hours a day sitting, seven days a week. This is a universal problem and did not vary between males and females, younger and older adults, between socioeconomically advantaged and disadvantaged areas, or between cities and regional and remote areas. Over one-third (39%) of adults were sedentary on weekdays in 2011 while 18% were sedentary on weekends. About 2 in 5 children exceed the recommended screen time. Strategies to reduce sitting time at school, work, while travelling and during recreation periods are necessary. The detrimental effect of prolonged sitting can be mitigated by regular physical activity. The beneficial effect of moderate intensity physical activity increases with the duration—the evidence shows that 60–75 minutes a day of moderate activity eliminates the heightened risk from prolonged sitting.

  - Promote active ageing—supporting people to adopt regular physical activity practices as they age and particularly in life-course transitions such as the post-retirement period is essential. Population ageing, that is, an increasing number and proportion of older people in the population is evident across the whole state (Figure 3c, page 9). Many older people are inactive: 37% of those aged 65 years and older had done no exercise for fitness, recreation, sport or transport in the past week, about half were insufficiently active for health benefit, 87% had done no toning and strengthening exercises in the previous week. Healthy ageing, including maintaining and building an active lifestyle will contribute to a better quality of life. For example, regular, structured exercise which challenges a person’s balance can reduce the risk and severity of falls.
### Table 20: Physical activity indicators, children (95% CI), Queensland\(^{3,13}\)

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Quintile 1</th>
<th>Quintile 2</th>
<th>Quintile 3</th>
<th>Quintile 4</th>
<th>Most disadvantaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–24 years</td>
<td>24.1–29.5</td>
<td>26.5–32.3</td>
<td>28.5–34.3</td>
<td>30.5–36.5</td>
<td>32.5–38.7</td>
</tr>
<tr>
<td>25–34 years</td>
<td>25.5–31.5</td>
<td>27.5–33.5</td>
<td>29.5–35.5</td>
<td>31.5–37.5</td>
<td>33.5–40.0</td>
</tr>
<tr>
<td>35–44 years</td>
<td>26.0–32.0</td>
<td>28.0–34.0</td>
<td>30.0–36.0</td>
<td>32.0–38.0</td>
<td>34.0–42.0</td>
</tr>
<tr>
<td>45–54 years</td>
<td>26.5–32.5</td>
<td>28.5–34.5</td>
<td>30.5–36.5</td>
<td>32.5–38.5</td>
<td>34.5–44.0</td>
</tr>
<tr>
<td>55–64 years</td>
<td>27.0–33.0</td>
<td>29.0–35.0</td>
<td>31.0–37.0</td>
<td>33.0–39.0</td>
<td>35.0–45.0</td>
</tr>
<tr>
<td>65–74 years</td>
<td>27.5–33.5</td>
<td>29.5–35.5</td>
<td>31.5–37.5</td>
<td>33.5–39.5</td>
<td>35.5–45.5</td>
</tr>
<tr>
<td>75+ years</td>
<td>28.0–34.0</td>
<td>30.0–36.0</td>
<td>32.0–38.0</td>
<td>34.0–40.0</td>
<td>36.0–42.0</td>
</tr>
</tbody>
</table>

*Active every day of the week*

<table>
<thead>
<tr>
<th><em>Played organised sport in past 12 months</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons</td>
</tr>
<tr>
<td>Males</td>
</tr>
<tr>
<td>Females</td>
</tr>
</tbody>
</table>

**Two or more hours per day of screen–based entertainment**

### Table 21: Physical activity, 18–75 years, percentage (95% CI), Queensland\(^{1,2}\)

<table>
<thead>
<tr>
<th>Remoteness</th>
<th>Inactive (no physical activity)</th>
<th>Insufficient time or sessions</th>
<th>Sufficient physical activity (≥150 minutes over at least 5 sessions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persons</strong></td>
<td><strong>Active every day of the week</strong></td>
<td><strong>Played organised sport in past 12 months</strong></td>
<td><strong>Two or more hours per day of screen–based entertainment</strong></td>
</tr>
<tr>
<td>18–24 years</td>
<td>78.0 (75.0–80.8)</td>
<td>76.8 (71.6–81.3)</td>
<td>61.3 (59.9–62.7)</td>
</tr>
<tr>
<td>25–34 years</td>
<td>76.8 (74.5–79.1)</td>
<td>74.5 (71.1–77.9)</td>
<td>59.5 (58.0–61.0)</td>
</tr>
<tr>
<td>35–44 years</td>
<td>75.4 (72.9–77.9)</td>
<td>73.1 (70.6–75.6)</td>
<td>57.6 (55.9–59.3)</td>
</tr>
<tr>
<td>45–54 years</td>
<td>74.0 (71.5–76.5)</td>
<td>72.7 (70.3–75.1)</td>
<td>55.8 (54.0–57.6)</td>
</tr>
<tr>
<td>55–64 years</td>
<td>72.6 (70.1–75.0)</td>
<td>72.1 (69.6–74.6)</td>
<td>54.0 (52.2–55.8)</td>
</tr>
<tr>
<td>65–74 years</td>
<td>71.2 (68.7–73.7)</td>
<td>70.8 (68.3–73.2)</td>
<td>52.2 (50.4–54.0)</td>
</tr>
<tr>
<td>75+ years</td>
<td>70.0 (67.4–72.5)</td>
<td>69.6 (67.1–72.0)</td>
<td>50.4 (48.6–52.2)</td>
</tr>
</tbody>
</table>

* Estimate has a relative standard error of 25% to 50% and should be used with caution. **n/a not available for publication.*
High blood pressure and high blood cholesterol are described as metabolic risk factors, particularly important in the development of cardiovascular disease (page 22). In Australia in 2011, 69% of the cardiovascular disease burden was due to modifiable risks, where high blood pressure and cholesterol independently contributed 30% and 15% respectively.

High blood pressure, often referred to as hypertension, was assessed by physical measurement in the 2014–15 national survey. High blood cholesterol was based on a national blood measurement survey in 2011–12.

Hypertension was the most frequently managed problem by GPs over a decade, and lipid disorders among the top 10 problems. Nevertheless, undiagnosed cases of these metabolic risks are an ongoing challenge:

- 3 in 4 Australian adults with measured high blood pressure were unaware they had it in 2014–15.
- 9 in 10 Australian adults with high cholesterol in 2011–12, did not know they had it.

As a result, there is a heightened risk of chronic diseases in these individuals, specifically cardiovascular disease, diabetes and renal disease.

Improved cardiovascular disease outcomes—relatively fewer deaths and fewer hospitalisations—have been achieved through successful prevention, early diagnosis and improved treatment. Identifying cases of undiagnosed high blood pressure and cholesterol and effectively treating them has the potential to reduce the cardiovascular burden even further, reduce health system costs and improve life expectancy and quality of life of many Queenslanders. Reducing these risks by reducing salt intake, increasing physical activity and maintaining a healthy weight is essential, particularly with an ageing population.

### What is the prevalence?

- In 2014–15, 23% of Queensland adults had high blood pressure. This excludes those who were taking medication that effectively controlled the condition.
- In 2011–12, 31% of Queensland adults had high total cholesterol. This excludes those who were taking medication that effectively controlled the condition.
- Considering those who had been diagnosed and treated, as well as those who were undiagnosed, in 2011–12, 64% of Queensland adults were dyslipidaemic and 30% were hypertensive.

### How does it differ?

- The prevalence of high blood pressure in Queensland adults in 2014–15:
  - was similar for males and females
  - increased markedly with age: prevalence in adults 65 years and older was 4–5 times that of 18–34 year olds
  - did not differ from the national prevalence
  - was ranked fifth highest among the eight jurisdictions.

- The prevalence of high total blood cholesterol in Queensland adults in 2011–12:
  - did not differ by sex
  - steadily increased with age from about 30 years onwards
  - did not differ from the national prevalence
  - was ranked seventh highest among the eight jurisdictions.
What are the impacts?

Burden of disease

In 2011, of the risk factors, high blood pressure was the sixth largest cause of disease burden in Australia, accounting for 4.9% of total DALYs and high cholesterol the eighth largest at 2.4%. Both risks had a greater impact on fatal outcomes (YLL) than on disability (YLD)—80% compared to 20% for each. Queensland data is not currently available.

The main disease outcomes from high blood pressure were coronary heart disease (52% of accountable DALYs), stroke (25%), chronic kidney disease (6%) and the remaining 17% was for a range of other cardiovascular diseases. The burden due to high cholesterol was associated with coronary heart disease (91%) and stroke (9%).

Deaths

In 2011 of the risk factors, high blood pressure was the third largest cause of death and accounted for 14,570 deaths (10% of all deaths) and an estimated 2900 were Queenslanders (Table 2, page 12). High blood cholesterol accounted for 5174 deaths in Australia (3.5% of all deaths nationally) and an estimated 1000 were Queenslanders.

Disability and hospitalisation

High blood pressure caused 2.0% of YLD burden in Australia in 2011 and high cholesterol 1.0% (Table 2, page 12). Data for Queensland is not currently available.

Hypertension is the most frequently managed problem by GPs nationally. There has been a decline in encounters for hypertension in the past decade from 9.4% in 2005-06 to 7.9% in 2014–15, however, it has remained the leading managed problem. Lipid disorders were the ninth most frequent problem managed in 2014–15 accounting for 3% of encounters.

In 2013–14 there were about 32,000 hospitalisations due to high blood pressure in Queensland, 1.6% of the 2 million hospitalisations for all causes in that year. Of these, over 80% were for coronary heart disease and stroke (Figure 60).

For high cholesterol there were about 11,000 hospitalisations (0.5% of total), entirely associated with coronary heart disease and stroke. Hospitalisation data for HHSs is available from the statistical tables published online (page i for details).

The importance of having regular check-ups

High blood pressure and cholesterol are influential contributors to health loss in Queensland. Some of the long-term gains in cardiovascular disease, including declining death rates, better survival and fewer hospitalisations, are due to the development and use of effective medications for treating these risks.

Queensland adults need to be aware of their blood pressure and cholesterol levels to ensure appropriate action is taken early. This is as important for young to middle aged adults as it is for older people. For example in 2011–12, of the 18–24 year olds who were measured with high blood pressure in a national measurement survey, 97% did not know they had it, and even of those aged 75 years and older 51% were unaware.

In 2011–12, more than 1 in 10 (11%) of Australians aged 45–74 years was at high risk of a primary cardiovascular event in the following five years, and most were not receiving treatment for high blood pressure or blood lipids. A further 8.7% had a history of cardiovascular disease, requiring monitoring and treatment. Assessing absolute risk and testing of the metabolic risk factors in GP clinics, pharmacies and other settings is critical to achieving early diagnosis and taking action.

While drug therapy is commonly used to treat high blood pressure and cholesterol and is essential to the treatment in some individuals, there is clearly benefit in also improving the modifiable risk factors of obesity, physical inactivity, and dietary choices such as high fat and high salt foods. This will lead to healthier lives, better quality of life and may reduce the reliance on pharmaceuticals, one of the high cost components in treating cardiovascular disease.
Illicit drug use includes use of illegal drugs (such as cannabis), the use of pharmaceutical drugs for non-medical purposes (such as tranquillisers) and the misuse of other substances (such as paint, glue or petrol as inhalants).

Typically, illicit drug use is initiated in late teenage years and peaks in young adulthood, although a small minority continue the practice into middle age—6% of 50–64 year olds were using cannabis and 4% using painkillers or analgesics for non-medicinal purposes.

The social impact of drug use is high—crime associated costs were about 20 times health system costs. The long term health impact is evident in chronic liver diseases and cancer.

Patterns of drug use and harms change. While the prevalence of methamphetamine use in the community is still relatively low, there has been a consistent increase in the purity of the drug since 2010. Regular users of the drug report more frequent use, and greater use of the crystalline form, commonly called ‘ice.’ This has resulted in a range of harms experienced by individuals, families and communities and is impacting on emergency department presentations, hospital admissions and treatment through alcohol and other drug services.

### What is the prevalence?
- In 2013, 16% of Queenslanders aged 14 years and older had used illicit drugs in the previous 12 months (defined as recent use).115
- The most commonly used were marijuana/cannabis (11%), pain killers/analgesics (3.3%), ecstasy (2.4%), methamphetamine (2.3%) and cocaine (2%) (Figure 61).115
- Poly-drug use varied by type of drug115:
  - Cannabis users and those who used pharmaceutical drugs for non-medicinal purposes were less likely to use other illicit drugs (60% had only used the one drug).
  - Of those who used methamphetamine, 94% had also used at least one other illicit drug, as had 86% of cocaine users, with poly-drug use common to most other drug types.

### How does it differ?
- The prevalence of recent drug use in Queenslanders aged 14 years and older in 2013115:
  - was 67% higher in males than females (20% compared with 12%)
  - was initiated at 19.2 years on average, and peaked in the 20–29 year age group
  - did not differ from national prevalence
  - was ranked fourth highest among the eight jurisdictions.

### What are the impacts?
#### Burden of disease:
In 2011, of the risk factors, illicit drug use was the tenth largest cause of disease burden in Australia, accounting for 1.8% of total DALYs.13 The main outcomes from illicit drug use were drug use disorders (40% of attributable DALYs), chronic liver disease (31%), liver cancer (20%), suicide and self inflicted injuries (8%) and the remaining 0.5% was due to HIV/AIDS, hepatitis C (acute) and hepatitis B (acute).
Males experienced 75% of the drug use burden. Peak DALY burden occurred between the ages of 25 and 54 years and after that it decreased, although the burden associated with liver cancer and chronic liver disease was long-lasting, affecting people into their 80s.

**Deaths**
In 2011 for Australia, illicit drug use accounted for 1926 deaths (1.3% of all deaths) and an estimated 400 were Queenslanders (Table 2, page 12).12

**Disability and hospitalisation**
Illicit drug use caused 1.3% of YLD burden in Australia in 2011 (Table 2, page 12).12 Data for Queensland is not currently available.

In 2013–14 there were about 6900 hospitalisations due to illicit drug use in Queensland, 0.3% of the 2 million hospitalisations for all causes in that year.67 Of these, 62% were for drug dependence disorders, 25% for chronic liver disease, 7% for liver cancer, 6% for self-harm and suicide and the remaining 0.6% were due to HIV/AIDS, hepatitis B and hepatitis C. Hospitalisation data for HHSs is available from the statistical tables published online (page i for details).

**Expenditure**
The most recent national assessment of the cost of illicit drug use was in 2004–05105 (also discussed on page 54). Based on Queensland’s share of the Australian population, in 2004–05, the financial cost of illicit drugs to the Queensland economy was $1.4 billion, with $0.04 billion spent on healthcare, $0.4 billion on lost production (workplace and home), and $0.89 on crime and road transport injury. Health system costs were 3% of the tangible or financial costs. Intangible losses associated with early deaths and loss of wellbeing were assessed at $0.26 billion, taking the total cost of illicit drug use to Queensland society in 2004–05 to $1.64 billion.

**The impact of methamphetamine use**
Methamphetamine is a drug, a stimulant that is part of the amphetamine group often manufactured from common pharmaceuticals and readily-available household chemicals. It has the effect of speeding up the function of the brain and nervous system. There are three main forms—‘ice’ commonly describes the crystalline form of methamphetamine, usually smoked or injected; base is a damp or oily substance typically injected or swallowed; powder, also known as ‘speed’ can be snorted, injected or swallowed. Among people who use methamphetamine, crystal meth use more than doubled between 2010 and 2013 (from 22% to 50% of methamphetamine users), while use of powder almost halved (from 51% to 29%).

Harms associated with methamphetamine include mental disorders and mental health problems, potential for aggressive behaviour, a wide range of physical problems including heart disease and kidney failure with prolonged use, pregnancy related risks, and risk of bloodborne infections from injecting drug use.199

In 2013, about 1 in 40 Queenslanders aged 14 years and older reported having used methamphetamine in the previous 12 months.115 In 2014, 1.1% of secondary school students aged 12–13 years had done so, 2.4% of 14–15 year olds and 3.5% of 16–17 year olds.119 The majority (73%) of persons aged 14 years and older, who had used methamphetamines in the previous 12 months, had done so only a couple of times a year or every few months. About 1 in 8 (12%) were daily or weekly users and a similar proportion (15%) were monthly users.115

**Emergency department presentations** (persons 16 years and older)199:
- There were 1619 methamphetamine related presentations in 2014–15, a five-fold increase from 333 in 2009–10.
- Two-thirds were males—68% in 2014–15.
- 74% were for the age group 16–34 years—1206 in 2014–15.
- About one-third of those presenting to emergency departments were admitted to hospital.
- The proportion for Indigenous Queenslanders has been increasing, from 6% in 2009–10 to 11% in 2014–15.

**Admitted patient hospitalisations** (persons 16 years and older)199:
- There were 1968 hospitalisations related to methamphetamine in 2014–15, a 15-fold increase from 133 in 2009–10.
- Over the full five-year period, 66% was for males.
- The highest rates were in the age group 16–34 years.
- The Indigenous Queenslander rate was 3.4 times the non-Indigenous rate, and accounted for 11% of admissions in 2014–15.
- Two-thirds (69%) were in major cities in 2014–15.
- 5% of admitted persons had three or more hospitalisations and accounted for 20% of all methamphetamine related episodes.
Cancer screening

In Queensland, the delivery of population-based screening programs continues to have a positive impact on improving the health outcomes for men and women. The goal of these programs is to reduce the morbidity and mortality associated with breast, bowel and cervical cancers through early detection and prevention strategies.

Key statistics:
- 310,000 women aged 50–69 years had been screened for breast cancer in the two-year period 2013–2014 through BreastScreen Queensland.
- 750,000 women aged 20–69 years were screened for cervical cancer through Pap smear test in the two years 2013 to 2014.
- 100,000 adults participated in the bowel screening program in the financial year 2013–14.

Breast cancer screening
The target age group for the BreastScreen Queensland Program is women aged 50–74 years—having changed from 50–69 years in 2015. The new age group will be reflected in national reports from 2017 onwards. Women in the target age range are invited for a free mammogram every two years. In 2013–2014, of women aged 50–69 years, 58% participated in the program. In this period, participation in Queensland was:
- higher than the national rate (54%) and highest of the states and territories
- higher in areas of greater socioeconomic disadvantage (65%) than lower disadvantage (53%)
- higher in inner and outer regional areas (58%, 62% respectively) than in major cities (56%) and lower in remote areas (52%)
- higher among culturally and linguistically diverse women (62%)
- lower for Indigenous Queenslander women (46%).

Cervical screening
The Queensland Cervical Screening Program recommends cervical screening every two years for women aged 20–69 years. In 2013–2014, of women in the target age group, 56% participated in the program. Participation in Queensland was:
- slightly lower than the national average (57%) and third lowest among the states and territories
- higher in areas of least socioeconomic disadvantage (59%) than all other areas
- higher for women living in major cities (56%) than other areas: inner and outer regional (54%, 56% respectively) and remote and very remote (46% and 50%).

Bowel cancer screening
The National Bowel Cancer Screening Program has continued to expand its target group since 2015 and now includes 64, 70, 72 and 74 year olds (as well as those aged 50, 55, 60 and 65 years). It will expand progressively until 2019 when two-yearly screening for all Australians between 50–74 years will be available.

More than half of women in the target age range participated in the breast cancer (58%) and cervical cancer (56%) screening programs.
The participation rate in 2013–14 in Queensland was 36% and did not differ from the national average (36%). Preliminary assessment has shown no change in the participation rate in Queensland since the program commenced in 2008, although year to year variation is evident.

The National Bowel Cancer Screening Program uses the Faecal Occult Blood Test (FOBT) for screening. Between July 2013 and June 2014, 7397 Queenslanders (aged 50, 55, 60 and 65 years) returned a positive FOBT result (7.5% of participants). Of these, 4538 participants underwent an assessment colonoscopy, and bowel cancer was detected in 36 participants—about 16% of cases diagnosed in these age groups.

Prevalence and trends in breast, cervical and colorectal cancer

- In 2013, there were 3272 new cases of female breast cancer in Queensland, 187 new cases of cervical cancer and 2912 new cases of colorectal cancer.
- Over a decade (2004 to 2013) incidence rates for female breast cancer increased by 10%, cervical cancer rates did not change and colorectal cancer rates decreased by 12%.
- Incidence rates varied very little among the HHSs, with the following differences noted in 2011–2013:
  - female breast cancer was 42% lower in Torres and Cape, 16% lower in Wide Bay, 12% lower in Central Queensland
  - cervical cancer was 35% lower in Sunshine Coast
  - colorectal cancer was 10% lower in Metro South.
- In 2014 there were 513 female breast cancer deaths in Queensland, 58 cervical cancer deaths and 828 colorectal cancer deaths.
- Over a decade (2001 to 2011) death rates for female breast cancer decreased by 19%, cervical cancer rates did not change and colorectal cancer rates decreased by 31%.
- The HHSs did not differ from the state average for death rates for any of the three cancers in 2009–2011.

Challenges and opportunities

Over the next few years, there will be a range of challenges and opportunities for population based screening for breast, bowel and cervical cancer.

From 1 May 2017, changes will be introduced to the National Cervical Screening Program in a joint initiative between the Australian and state and territory governments to provide better protection against cervical cancer. Based on new evidence, the test for cervical screening will change from the current Pap smear to a test for the human papillomavirus (HPV). Australia will be one of the first countries in the world to introduce HPV screening. HPV screening is as safe as Pap smear screening and more effective, with women only needing to be tested every five years. Recommended screening in Queensland will change to 25–74 years of age from 20–69 years. It will be a challenge to maintain and improve participation rates during the transition and implementation of the new test and testing regime.

Enhancing participation in screening programs is a priority, particularly for Indigenous Queenslander women and those in rural and remote areas. Market research has identified a number of factors affecting awareness, motivators and barriers that will inform strategies to increase participation in population screening. These include:

- a statewide social marketing strategy to maximise public awareness of cancer screening programs and engagement with the primary health sector
- financial incentives for BreastScreen Queensland services to increase access to women through out-of-hours appointments
- a new BreastScreen Queensland online portal to assist new and existing clients to make or update screening appointments online at a time convenient to them.

Innovative approaches are needed to increase participation in the bowel cancer screening program with about one-third of invitees participating. The expansion of the National Bowel Cancer Screening Program to two-yearly screening for those aged between 50–74 years will result in greater demand for colonoscopy services.

Advancements in genetics and genomics provide an opportunity for greater understanding of and further exploration into potential tailored screening at the population level. New technologies in the BreastScreen Queensland program including tomosynthesis and remote radiology for the assessment pathway are further contemporary opportunities to support enhanced delivery of high quality and safe screening services in Queensland.
Sun safety

Ultraviolet radiation (UV), whether from the sun or a UV-emitting tanning device, is carcinogenic and exposure can cause melanoma and cancers of the outermost layers of skin. Queensland has the highest rate of melanoma in Australia, and Australia the second highest rate in the world after New Zealand.

While sun exposure puts people at higher risk of skin cancer, it is also an excellent source of vitamin D, a substance essential to human health. The higher rate of solar radiation in Queensland results in lower levels of vitamin D deficiency: about half the national prevalence and about one-third that of southern states.

In 2010, 6% of cancers in Australia were due to solar radiation—this is an underestimate because the assessment excluded basal cell and squamous cell cancers. Appropriate use of sunscreen could reduce the prevalence of all skin cancers by 10–15%, and daily use could reduce the risk of melanoma by 75% and squamous cell cancer by 40%. Sunscreen use is one of the five recommended ways to be sun safe.

Melanoma is a prevalent cancer in Queensland with 1 in 14 people likely to be diagnosed in their lifetime. The survival rates are relatively high (a five-year relative survival of over 90%), and about 1 in 20 cancer deaths is due to melanoma. Males have higher rates of sunburn and are more likely to be diagnosed with a melanoma than females—incidence rates for males are still rising, while death rates are now steady. Female incidence rates are also rising, and death rates are steady.

What is the prevalence?

- 56% of adults (2016) and 64% of children (2014) reported having been sunburnt in the previous 12 months (Table 22).
- 56% of adults (2015) and 52% of children (2014) adhered to three of the five sun protection guidelines in summer.
- 11% of Queenslanders were vitamin D deficient (mild, moderate or severe) in 2011–12, 6% in summer and 15% in winter.

How does it differ?

- Adult males were 20% more likely to report having been sunburnt than females, but there was no difference between girls and boys (Table 22). Sun protection practice did not differ by sex.
- Young adults were about 3 times more likely to report sunburn than older adults in 2016 (Table 22). Sun protection practice was highest in adults aged 35–64 years in 2015.
- Older children (12–17 years) were 54% more likely to have been sunburnt in the previous 12 months than younger children in 2016 (about 73% compared with 48%) (Table 22).

What are the impacts?

Sunburn prevalence:
In 2015–16, the prevalence of adult sunburn was higher than the state average in two HHSs (18% higher in Mackay, 8% higher in Central Queensland) and lower in one (7% lower in Metro South). For children, the prevalence of sunburn in Mackay HHS was 16% higher than the state average in 2013–14, but did not differ for other HHSs.
Consultations for skin cancer and sunburn were the ninth largest cause of GP consultation in Australia.

**Cancer incidence:**
In 2013, there were 3697 new cases of melanoma where 59% were for males. The male rate was 50% higher than the female rate. Melanoma incidence varied within HHSs and was higher at the Gold Coast and Sunshine Coast than the northern and western HHSs in 2011—2013. Detailed data is available from the statistical tables published online (page i for details).

**Deaths:**
In 2013, there were 352 melanoma deaths in Queensland, and 67% were males (237 males, 115 females). The male rate was 2.1 times the female rate. About 1 in 7 deaths occurred in adults under 50 years of age with the number of deaths increasing with age, peaking in those aged 80 years and older.

**International and national comparisons:**
Queensland had the highest melanoma incidence rate among the jurisdictions in 2005—2009 (latest national assessment) and was 40% higher than national. The melanoma death rate was similarly highest of the jurisdictions and 36% higher than the national rate.

Internationally, Australia had the second highest melanoma incidence and death rates (after New Zealand)—incidence rates were about 12 times the world average and death rates were 7 times the world average in 2012. The projected number of new melanoma cases in Australia in 2027–31 was relatively lower than five other countries with high incidence rates (including New Zealand) evidence that Australian trends are slowing substantially.

**GP visits:**
In 2014–15, consultations for skin cancer were the ninth most frequent reason for GP visits among chronic disease problems with 1.2 consultations per 100 encounters nationally. Considering all encounters, skin cancer was among the top 30 reasons, having increased by about 20% over the previous decade. Consultations for sunburn were among the 30 leading reasons with 1.2 consultations per 100 encounters in 2014–15.

**Hospitalisations:**
In 2013–14, there were 24,290 hospitalisations for non-melanoma skin cancers and 3086 for melanoma. Males dominated with about 60% for both. About two-thirds (62%) of non-melanoma skin cancer hospitalisations were for people aged 65 years and older. For melanoma, the age of hospitalisation peaked in 60–79 year olds, accounting for 48% of total.

**Expenditure:**
Treatment of non-melanoma skin cancer was estimated to cost $0.367 billion in Australia in 2008–09, 8.1% of total cancer expenditure across the healthcare sector. The majority of the expenditure was associated with admitted hospital patient costs (61%) followed by 36% for out-of-hospital costs, that is, general practice and associated specialist consultations and treatments. This will include most pathology costs. The remainder (3%) was for pharmaceuticals. Consistent with the prevalence, the majority of expenditure (60%) was for males.

In 2014, the cost to Medicare for consultations and treatments for non-melanoma skin cancers was $43.8 million in Queensland ($128 million nationally), and for melanoma $2.8 million in Queensland ($9.4 million nationally).

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**Table 22: Sunburnt in the previous 12 months, percentage (95% CI), Queensland**

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Remote status</th>
<th>Children 5–17 years (2014)</th>
<th>Adults (2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Disadvantaged</td>
<td>Major cities</td>
<td>64.3 (59.4–68.9)</td>
<td>61.5 (58.6–64.8)</td>
</tr>
<tr>
<td>Quintile 2</td>
<td>Inner regional</td>
<td>65.5 (62.6–68.4)</td>
<td>60.5 (55.6–65.7)</td>
</tr>
<tr>
<td>Quintile 3</td>
<td>Outer regional</td>
<td>61.0 (55.3–66.7)</td>
<td>63.5 (59.5–67.5)</td>
</tr>
<tr>
<td>Quintile 4</td>
<td>Remote/very remote</td>
<td>64.3 (58.9–69.4)</td>
<td>61.0 (55.3–66.4)</td>
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<td>Advantaged</td>
<td>64.5 (59.0–69.7)</td>
<td>64.5 (59.0–69.7)</td>
<td>63.6 (60.0–67.0)</td>
</tr>
</tbody>
</table>
Oral health is essential to the individual’s overall health, wellbeing and quality of life. The major oral diseases are dental caries (tooth decay), periodontal disease (gum disease) and oral cancers. Oral diseases are among the most common and costly health problems experienced by Australians.

Improving oral health outcomes requires a focus on healthy eating to reduce risk of decay, good oral hygiene, regular access to dental services beginning in the infant years, and access to fluoride to protect the teeth, through community water supplies and oral care products.

This section draws on data collected by the Queensland Health oral health services and national survey data for adults and children.

Decay experience is defined as teeth that are decayed, missing or filled because of decay.

**What is the prevalence?**

In 2014–2015, of children attending Queensland Health oral health services (Figure 64):

- 55% of those aged 4–15 years had decay experience, including 27% with four or more teeth affected.
- 39% of 4–6 year olds (first visit to the service) had at least one tooth affected by decay, including 17% with four or more teeth affected.
- 51% of 5–10 year olds had decay experience in their primary teeth. On average, these children had 4.0 teeth affected
- 30% of 6–15 year olds had decay experience in their permanent teeth. On average, these children had 2.8 teeth affected.

Of the 157,000 children aged 4 to 15 years who attended the oral health services in 2015:

- 86,500 had decay experience, including 11,400 Indigenous Queenslander children
- 55,100 children aged 5–10 years had decay experience in their primary teeth
- 40,400 children aged 6–15 years had decay experience in their permanent teeth
- 16,900 children aged 4–6 years had decay experience at their first visit.

**How does it differ?**

In 2014–2015, of children attending Queensland Health oral health services:

- 63% of children (4–15 years) in socioeconomically disadvantaged areas had decay experience, compared with 49% of those in advantaged areas.
- For children at their first visit (aged 4–6 years), twice as many from disadvantaged areas had decay experience compared to those in advantaged areas (47% compared with 25%).
- 71% of Indigenous Queenslander children had decay experience (41% with four or more teeth affected).
- The mean number of untreated decayed teeth in 4–15 year olds was greater than the state average in Wide Bay, Darling Downs and Metro South HHSs and lower in Metro North and Sunshine Coast (Figure 65).
- National and jurisdictional comparisons: the prevalence of decay experience in Queensland compared to the 2012–2014 national average was:
  - 20% higher in 5–10 year olds (primary teeth) (50% compared with 42%), and second highest of the jurisdictions
  - 33% higher in 9–14 year olds (permanent teeth) (41% compared with 31%), and second highest of the jurisdictions.

**What are the trends?**

Decay experience in Australian children has decreased markedly since 1977 when national monitoring of school dental services began. Data from 1989 onwards is available for Queensland.
• Decay experience in primary teeth (in 6-year olds) dropped between 1989 and 1997 (from an average of 2.2 teeth affected to 1.8), but has risen again since then (to 2.5 teeth in 2009).

• Decay experience in permanent teeth (in 12-year olds) dropped from an average of 1.7 teeth affected in 1989 to 1.1 in 1997 but has risen slightly since, to 1.2 in 2009.

What are the impacts?

Individual wellbeing: Poor oral health can cause pain, infection and tooth loss, and the destruction and degeneration of the tissues of the mouth. A healthy mouth enables people to eat, speak and socialise without pain, discomfort or embarrassment. In 2013, of Queensland adults aged 15 years and older:\n
• 1 in 7 (17%) of those with natural teeth experienced toothache in the previous 12 months
• 1 in 4 (26%) felt uncomfortable about their dental appearance in the previous 12 months
• 1 in 5 (21%) avoided eating certain foods due to problems with their teeth.

There were about 3000 hospitalisations for dental caries for 0–9 year olds in 2013–14.

Hospitalisations: There were 27,042 hospitalisations for dental conditions in 2013–14 (4358 for 0–9 year olds). Of these, 16% or 5670 were for dental caries. Young children were more commonly hospitalised for dental caries than other age groups—57% were for children aged 0–9 years (3223 hospitalisations). Rates and trends in hospitalisations for dental caries are reported on pages 40 and 45.

Expenditure: Oral health was the third largest cause of recurrent, allocated health system expenditure in 2008–09 accounting for 9.7% of spending. Most of the spending (95%) was associated with the cost of services provided by private and other dental services. More information is on page 51.

Causes and prevention

Many factors protect against dental disease including dietary patterns, oral health behaviours, the use of dental services and access to the protective effect of fluoride.

Dietary patterns: A diet high in sugary, sticky foods and beverages increases the risk of dental caries and dental disease. In 2011–12, 51% of children aged 2–18 years had consumed sugar sweetened drinks in the previous day. One in 4 children was eating sticky, sweet foods at least weekly and about 1 in 12 was eating confectionery weekly (page 67). Not only do these eating patterns increase the risk of dental caries, they contribute to weight gain and risk of chronic disease in adulthood.

Fluoride: Fluoride plays a crucial role in reducing tooth decay and can be delivered through a range of methods, predominantly toothpastes and fluoridated water. Community water fluoridation is a cost-effective and equitable means of increasing exposure to the protective effects of fluoride, thereby reducing tooth decay across the population. In 2008, prior to the introduction of the Water Fluoridation Act 2008, less than 5% of Queenslanders had access to fluoridated water. By 2012, this figure had risen to 87%. Access to fluoridated water had dropped to 79% by early 2016 following decisions of some local councils.

Community water fluoridation has been shown to be associated with improved oral health outcomes in Queensland — over a three-year period following introduction of fluoride, there was a 19% reduction in decay experience in children in an area of high decay prevalence. Furthermore, children in Townsville, an area with a long history of water fluoridation, were 40% less likely to have decay experience than children in other areas in Queensland.

Use of dental services: In 2013,:

• 76% of 5–14 year olds had a dental visit in the previous 12 months and 92% in the previous two years.
• 62% of adults aged 15 years and older had a dental visit in the previous 12 months and 80% in the previous two years—with no difference in frequency between dentate adults eligible for public dental care (63%) and those who were not eligible (62%), nor between adults in metropolitan, regional or remote locations.
• 3 in 4 children and young people reported that their latest dental visit was for a check-up rather than a problem (71% of 5–14 year olds, 80% of 15–24 year olds), compared with 56% of adults aged 25 years and older.
• 45% of children aged 5–14 years attended a public dental service for their last dental visit.

Figure 65: Untreated decay, children aged 4–15 years attending Queensland Health oral health services, by HHS Queensland 2014–2015

*lower than Qld  **higher than Qld  # North West, Central West, South West, Torres and Cape
Immunisation is one of the most successful and cost effective health interventions, as the benefits of personal immunity extend to the whole community. This benefit is known as herd immunity. In Australia, many vaccines are funded under the National Immunisation Program for children, adolescents, and adults. These vaccines can prevent measles, mumps, rubella, polio, diphtheria, tetanus, pertussis (whooping cough), varicella (chickenpox), hepatitis B, hepatitis A (for Indigenous Queensland children) *Haemophilus influenzae* type b (Hib), meningococcal C, influenza, human papillomavirus (HPV), pneumococcal and rotaviral diseases.

Collection of information from pregnant women about their vaccination status for whooping cough and influenza commenced in July 2015 with the first six months of data available for reporting. It is based on self reported status. There are a number of opportunities to enhance Queensland’s immunisation program, including improving coverage for Indigenous Queensland children and increasing the uptake of the school immunisation program. Misinformation about immunisation remains a major challenge. A strategy has been developed to address these complex issues with clear goals for Queensland to become the state with the highest immunisation rates in Australia. Milestones towards this goal are being achieved.

### Table 23: Immunisation coverage by cohort, Queensland and Australia, 2015

<table>
<thead>
<tr>
<th></th>
<th>Queensland</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fully vaccinated at 1 year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>87.3</td>
<td>88.7</td>
</tr>
<tr>
<td>Non-Indigenous</td>
<td>92.9</td>
<td>92.5</td>
</tr>
<tr>
<td>All children</td>
<td>92.4</td>
<td>92.3</td>
</tr>
<tr>
<td><strong>Fully vaccinated at 2 years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
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<td>86.2</td>
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<td>Non-Indigenous</td>
<td>90.6</td>
<td>89.5</td>
</tr>
<tr>
<td>All children</td>
<td>90.2</td>
<td>89.3</td>
</tr>
<tr>
<td><strong>Fully vaccinated at 5 years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>93.6</td>
<td>93.9</td>
</tr>
<tr>
<td>Non-Indigenous</td>
<td>92.4</td>
<td>92.5</td>
</tr>
<tr>
<td>All children</td>
<td>92.4</td>
<td>92.6</td>
</tr>
</tbody>
</table>

**Key statistics:**
- About 58,000 one-year olds were fully immunised, 4700 were not
- About 56,500 two-year olds were fully immunised, 6200 were not
- About 60,500 five-year olds were fully immunised, 4900 were not
- In July–December 2015, of about 30,000 pregnant women:
  - 10,900 reported having been vaccinated for whooping cough
  - 7,900 reported having been vaccinated for influenza.

### Vaccination coverage

In 2015, rates for fully immunised Queensland children were (Table 23):
- 92.4% for one-year olds
- 90.2% for two-year olds
- 92.4% for five-year olds.

In 2015, coverage rates for Indigenous Queensland children compared to non-Indigenous children, were as follows (Table 23):
- 5.6 percentage points lower at one year of age
- 4.8 percentage points lower at two years of age
- 1.2 percentage points higher at five years of age.

A similar difference was evident nationally although the gap was slightly lower at each milestone.

### Pregnant women

Among pregnant women in the latter part of 2015 (July–December),
- 36% reported being vaccinated for whooping cough
- 26% reported being vaccinated for influenza.

### Regional variation

There was variation in childhood immunisation rates among the HHSs. In 2015, coverage was highest in Central West at all three milestones, that is, one-year old, two-year old and five-year old (96.5%, 92.5% and 96.2% respectively) and lowest in Sunshine Coast (89.1%, 86.8% and 89.3% respectively).

Pregnancy vaccination reporting varied widely by HHS with:
- whooping cough: from 59% in Central West to 25% in Gold Coast
- influenza: from 46% in Central West to 12% in Gold Coast.

The proportion of records where pregnancy vaccination status was not stated also varied markedly. For whooping cough in Gold Coast the vaccination status was unknown in about 20% of records, while in many other HHSs fewer than 5% of records did not include status. For influenza, 40% of Metro South records did not include vaccination status while for many of the smaller HHSs, fewer than 5% were unreported. It is expected that with time this will improve as it becomes a more routine part of the perinatal data collection. Information for all HHSs is available from the statistical tables online (page i for details).
**National comparison**

Compared to national coverage rates in 2015, Queensland was (Table 23):

- slightly higher than the national coverage of 92.3% at the one-year milestone
- slightly higher than the national coverage of 89.3% at the two-year milestone
- slightly lower than the national coverage of 92.6% at the five-year milestone.

**Trends**

In 1998, when the Australian Childhood Immunisation Register commenced reporting vaccine coverage, fewer than 70% of Queensland children aged two years were fully immunised. Since then, coverage has steadily improved and in the third quarter of 2014, peaked at 93% (Figure 66). In the first half of 2015, Queensland (and all jurisdictions) experienced a fall in coverage rates due to a change in the national definition of fully immunised at two years. However, in the second half of 2015, rates once again climbed above 90%, and will continue to improve as the changes become routine.

Coverage for children aged one year and five years has remained at around 92% since 2010 (Figure 66).

**Challenges and opportunities**

Some of the biggest challenges facing Queensland’s Immunisation Program include:

- the gap in coverage rates for one-year old and two-year old Indigenous Queensland children, placing them at a higher risk of contracting vaccine preventable disease
- sub-optimal uptake of adolescent vaccination in the School Immunisation Program, placing many adolescents at risk of contracting vaccine preventable disease
- misinformation about immunisation circulating in the community, creating unnecessary confusion and concern about a proven, effective and safe public health intervention.

Queensland Health is working to address these challenges and has developed a strategy for Queensland’s Immunisation Program. The *Queensland Immunisation Strategy 2014–2017* (updated October 2015) aims to work toward the highest immunisation rates in Australia through five key goals:

1. Queenslanders make decisions about immunisation based on credible, evidence based information and are confident of the benefits that immunisation provides.
2. 95% of all Queensland children are fully immunised at one year, two years and five years of age.
3. 85% of Queensland adolescents are fully immunised through the school immunisation program.
4. Queensland’s immunisation program is informed by strong research and policy agenda, and readily positioned to meet the State’s immunisation needs.
5. Adults are protected against vaccine preventable diseases.

Since implementation of the strategy, there have been a number of achievements across the five key goals. Notable achievements in 2015 include:

- implementation of major marketing campaigns for childhood immunisation
- implementation of the *Immunise to 95* initiative: over 28,500 children overdue for immunisation were followed up by 13HEALTH from October to December 2015 to help resolve their immunisation status
- amendments to the *Public Health Act 2005* to empower early childhood education and care services to refuse enrolment/attendance of children not up to date with their immunisations
- continued provision of free whooping cough vaccine to pregnant women to provide the best protection for newborn babies until they can be vaccinated from six weeks of age
- funding of a statewide Specialist Immunisation Service at the Lady Cilento Children’s Hospital to provide services for children with complex vaccination needs
- funding of a transition of the School Immunisation Program from Year 8 to Year 7 in school year 2016 to improve uptake of the School Immunisation Program.
Domestic and family violence is defined as the intentional use of violence, intimidation or threats to maintain control over an intimate partner, family member, or informal carer. It can manifest in a variety of forms including physical, sexual, emotional, psychological and economical abuse. Exposure to domestic abuse can have lasting emotional consequences and health impacts.

Victims of domestic violence are overwhelmingly adult females but also include children, men and the elderly.

Child victims of domestic assault are most likely to have been assaulted by a parent, adult females by a spouse or partner, and the elderly by another family member. In 2013, intimate partner violence was estimated to be responsible for 265 female deaths in Australia. Almost half of all homicide deaths in Queensland in the latest two-year period were classified as domestic-related (47 of 96 deaths). Beyond the physical injuries, those who experience domestic violence have an increased risk of mental health disorders, suicide and self inflicted injuries, and for pregnant women, adverse birth outcomes. Children exposed to domestic violence are more likely to exhibit emotional and behavioural problems and experience violence as an adult.

Key statistics:
- 1 in 6 Australian women (17%) has experienced partner violence since the age of 15 years.
- Half of homicides in Queensland (47 of 96 deaths, 2010–11 to 2011–12) were classified as domestic.
- 20% of domestic homicide victims were Indigenous Australians.

What is the prevalence?
- In 2012, 1 in 20 Queensland women aged 15 years or older (4.5%) experienced violence (any incident or threat of physical or sexual assault) in the previous 12 months where the perpetrator was known to them (78,800). For almost half of these (1.8%), the perpetrator was a current or former intimate partner (31,100).
- In 2012, 5.9% of Queensland males aged 15 years or older experienced violence in the previous 12 months where the perpetrator was known to them.
chapter eight

Risk and protective factors

Is it the same for everyone?

Life stage

Childhood exposure to violence

- Children can be victims of family and domestic violence through abuse and neglect and through exposure to violence in the home—these exposures often overlap.229
- Based on the report of adults who had experienced partner violence, children were often also exposed. In 2012227:
  - Of those who experienced current partner violence, 54% of women (44% of males) had children in their care at the time of the violence and 58% of these children (41% for males) saw or heard the violence.
  - Of those who experienced previous partner violence, 61% of women (49% of males) had children in their care at the time of the violence and 78% of these children (69% for males) saw or heard the violence.

Intimate partner violence (predominantly young and middle-aged adults)

- 11% of adult Australians had experienced partner violence since the age of 15 years.227
- Females were more likely to be the victim of intimate partner violence:
  - In Australia, 17% of women and 5.3% of men reported having experienced violence by a partner since the age of 15 years—77% of the victims were female.227
  - Of the women who experienced partner violence and were pregnant during the relationship, 39% experienced violence during the pregnancy.
- 3.8% of persons experienced emotional abuse by a partner during the previous 12 months (2.8% males, 4.7% females) and 20% since the age of 15 years (14% males, 25% females).227
- Both men and women who reported having experienced partner violence since the age of 15 years were more likely than others to report having experienced physical and/or sexual abuse before the age of 15 years. Women who were victims of partner violence were 2.4 times more likely to have experienced abuse as a child (before the age of 15 years) than those who had not (2.9 times for males).

Elder abuse

There is limited data on the prevalence and patterns of elder abuse in Australia.

- Among adults aged 55 years and older, 2.2% of males and 1.5% of females reported having experienced violence from any perpetrator in the previous 12 months.227
- UnitingCare’s Elder Abuse Prevention Unit operates an elder abuse helpline that services Queensland. Over a four-year period up to 2015:
  - Of the elder abuse cases reported to the hotline, 80% of the perpetrators were relatives or partners of the victim.230 Sons were the most frequently cited perpetrators (31%), followed closely by daughters (29%). Other relatives were the perpetrators in 10% of cases, and spouses/partners in 9%. Victims were most frequently females (68%).
  - Where the perpetrator was an adult child, financial abuse (39%) and psychological abuse (38%) were the most frequent causes. In the case of a spouse/partner perpetrator, psychological abuse was most frequently reported (41%) followed by physical abuse (20%) and neglect (19%).230

Remoteness

Isolation, access to services and other issues relating to the cultural and social characteristics of small communities can have an effect on measurement of both the prevalence and impact of domestic and family violence in these settings. However, a number of sources indicate that the prevalence is higher in non-urban locations—in 2012, 21% of women living outside of capital cities experienced partner violence compared to 15% of women living in a capital city.231

Indigenous Queenslanders

Indigenous Australians are much more likely to report having experienced domestic violence. They are also more likely to be hospitalised for domestic assault, and to be the victim of domestic homicide—1 in 5 Indigenous Queenslanders aged 15 years and older (22%) experienced any violence in the previous 12 months.232 This compares with 8.4% of all Queenslanders.227
**What are the impacts?**

**Burden of disease**

Intimate partner violence was responsible for 1.0% of the female burden of disease and injury in Australia in 2011. The impact on males was not included in the study due to the evidence that females are the primary victims of intimate partner violence, and the lack of empirical evidence related to the health impact of intimate partner violence on males.

For women aged 25–44 years, intimate partner violence was the third leading cause of burden in 2011 accounting for 2.7% of total burden. The burden due to intimate partner violence peaked in the 40–49 year age group. Almost half of the burden was associated with suicide and self-inflicted injuries (47%), with 40% for depressive disorders and 12% for homicide and violence. The impact of intimate partner violence on the total burden of disease increased by about 14% between 2003 and 2010—this was attributed to population growth and changes in the population structure, unlike the increase in hospitalisations which was largely due to increasing admission rates (Figure 68).

**Deaths**

In 2013, 265 female deaths in Australia were attributed to intimate partner violence, of which 88 were suicides.

- About half (69%) of homicides in Queensland in 2010–12 were classified as domestic and 39% in Australia, where 58% of those were caused by an intimate partner.
- Domestic homicide was responsible for two-thirds of female homicide in Australia (62%) and 23% of male homicides. Female victims were much more likely to be killed by an intimate partner than male victims—46% of female homicide victims compared to 7.9% of male victims.
- One-fifth (20%) of the domestic homicide victims nationally were Indigenous Australians.

**Hospitalisations**

In 2014–15, there were 1895 hospitalisations in Queensland for domestic assault and 69% were females. The majority of the hospitalisations (1190) were for assault by a spouse or domestic partner and of these, 85% were females.

- Domestic assault is highest among young adults (as is violence more generally).

**Social risks: domestic and family violence**

- The most frequently cited perpetrator of domestic assault differed:
  - for children aged 0–15 years, it was the parent (70%)
  - for those aged 16–64 years, it was the spouse or partner (82%)
  - for those aged 65 years and older, it was another family member (65%).

- The number of hospitalisations for domestic assault increased by 73% between 2005–06 and 2014–15 (79% increase for spouse or domestic partner assaults).

- Domestic assault hospitalisation numbers are increasing, primarily due to rate change—of the 609 extra hospitalisations in 2014–15 (compared with five years earlier), 83% were due to admission rate increase (independent of demographic factors), while 16% were due to population growth (Figure 68).

- Domestic assault was also associated with a high rate of discharge against medical advice—5.7% in females aged 16–64 years compared with 0.6% for all-cause hospitalisations.

- Indigenous Australians were over-represented in hospitalisations for domestic assault—36% in 2014–15.

**Expenditure**

Partner violence against women was estimated to cost the Australian economy $12.5 billion in 2014–15.
Government response
Addressing the complex issue of domestic and family violence is a priority of the Queensland Government. The final report from the Special Taskforce on Domestic and Family Violence in Queensland contained 140 recommendations to reduce domestic and family violence with a focus on providing practical solutions under three themes: changing culture and attitudes, implementing an integrated service response, and improving the law and justice system. The government supported and accepted all 140 of the report’s recommendations and is working to implement the recommendations which included the development of the Domestic and family violence prevention strategy to drive reform and community collaboration for the next 10 years. Furthermore a Domestic and Family Violence Death Review and Advisory Board has been set up in Queensland to assess the impact of such violence in homicide and related deaths.235

Other forms of violence
It is critical that violence in all its forms is challenged and addressed. Alcohol is often involved—from violence in the home, on streets and public venues and in workplaces. Information on the role of alcohol in domestic violence is presented on page 89. In Queensland Health facilities alone, there are about 5000 reported incidents of violence against staff each year (about 20 incidents per day, affecting about 1 in 20 staff)—about two-thirds involved physical abuse and one-third verbal abuse.236 Queensland Ambulance Service staff are experiencing an increasing number of assaults. In 2015–16 there were 381 reported incidents of occupational violence—238 of deliberate physical attack, 123 of verbal threat and 20 of accidental contact—having increased by 54% on the previous year.237 In December 2015, the Paramedic Safety Taskforce was established to investigate the issue and provide practical and strategic recommendations to reduce occupational violence against Queensland Ambulance Service officers.
Environmental risks to health arise from a broad range of sources and are due to physical, chemical and biological factors.

In 2013 it was estimated that 1.6% of the total burden of disease and injury in Australia was due to environmental risks alone (occupational exposures and hazards and high sun exposure). Unhealthy environments had an additional impact on health loss through their interaction with metabolic and behavioural risk factors, generally based on the influence of the built environment, that is the places where people live, learn, work and play. This section focuses on selected natural environmental risks that showcase the importance of a strong protection response to safeguard and improve the health of Queenslanders.

Foodborne illness

In 2013, notifications for foodborne disease increased markedly, principally due to *Salmonella* and *Campylobacter* contamination. Queensland maintains a multi-jurisdictional approach to the regulation of food safety, involving Queensland Health, the Department of Agriculture and Fisheries, and Safe Food Production Queensland.

In response to the increase in foodborne illness, the *Queensland Foodborne Pathogen Risk Mitigation Strategy March 2015 – March 2018* was developed. It is the only coordinated, whole-of-government strategy in Australia with a primary focus on reducing the risks associated with *Salmonella* and *Campylobacter* from production to consumption.

*Campylobacter* cases are influenced by per capita consumption of poultry meat products and changes in the patterns such as increased consumption of value added chicken portions. In general, as consumption increases, so do notifications. Poultry is the most affordable meat source and this is contributing to the increase in consumption and potential exposure to *Campylobacter*.

There was a steady rise in the rate of *Campylobacter* notifications from July 2013 onwards which prompted a more statewide focus (Figure 69a). Notifications declined in early 2016 and if sustained is consistent with effective protection and prevention initiatives.

*Salmonella* cases are influenced by climate (seasonality), consumption of egg and poultry products and changes in patterns of consumption, for example consumption of raw egg products. Notifications increase during the warmer months. *Salmonella Typhimurium*, is the most common cause of foodborne illness attributed to *Salmonella*. Since the strategy was introduced in March 2015, case numbers have reduced, with a significant reduction in *Salmonella Typhimurium* cases (Figure 69b).

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**Figure 69: Trends in notifications of foodborne pathogens, Queensland**

a. *Campylobacter*

b. *Salmonella*
Ongoing work under the strategy will concentrate on:

- maintaining and improving hygiene and other practices at production and processing stages of the food supply chain to minimise the presence of *Salmonella* and *Campylobacter* in raw food
- shifting the focus away from *Salmonella Typhimurium* to other *Salmonella* serovars
- investigation of on-farm practices that may spread or amplify presence of *Campylobacter* during production of meat birds
- gaining a better understanding of the types of *Campylobacter* species found in North Queensland compared to the rest of Queensland
- influencing consumer behaviour to improve the control of significant risks such as cross-contamination at retail level and in food preparation
- methods for detection and reporting that assist identification of the source of pathogens and prevention of future outbreaks.

**Lead exposure**

Lead is a cumulative poison that is particularly harmful to young children. Exposure is usually assessed through blood measurement. Elevated blood lead levels can adversely affect the development of the brain and nervous system. Children can absorb substantially more lead than adults and their hand-to-mouth behaviour often results in higher lead exposure due to ingestion of lead dust from surfaces and objects.

Lead can cause long-term harm in adults by increasing the risk of high blood pressure and kidney damage. Exposure of pregnant women to high levels of lead can increase the risk of miscarriage, stillbirth, premature birth and low birth weight, and also result in minor malformations.

Typical sources of environmental lead include mining, smelting, manufacturing and recycling activities, and lead paint. Historically, the primary source of lead in the environment was leaded petrol which was banned in Australia in 2012.

There has been a significant reduction in the levels of lead in ambient air over the past thirty years largely due to the phasing out of lead in petrol (Figure 70). As a result, routine monitoring of lead concentrations in ambient air by the Queensland Government ceased in south east Queensland in 2002. However, it is still undertaken in specific locations across Queensland, including Mount Isa and Townsville. This has greatly reduced lead exposure within Queensland, resulting in a significant decline in blood levels. In addition, there have been reductions in the blood lead notification levels and as of 1 January 2016, the notification level is 5µg/dL. Elevated blood levels of lead are now primarily due to workplace activities, soil contamination from industrial processes, building work and renovations, or some household products, including those that are imported. People working in or living near lead smelters and lead mines can also be exposed to higher levels of lead than are found in other areas.239

**Drinking water quality**

Queensland maintains a whole-of-government approach to addressing water quality issues. This includes a joint regulatory framework involving Queensland Health and the Department of Energy and Water Supply to manage the quality of drinking and recycled water.

*Escherichia coli* is used as an indicator for organisms that live in animal intestines and is typically transmitted via the faecal–oral route. It should be removed by water treatment processes, although there is a seasonal pattern associated with increased rainfall run-off during the warmer months resulting in detection spikes (Figure 71).

There has been a steady decrease in *E. coli* levels in drinking water in Queensland since late 2010. This is an encouraging trend suggesting that improved management and the awareness of water service providers of their responsibility to provide safe drinking water is improving drinking water quality.
National and international comparisons

Queensland does not differ from national prevalence for many risk factors (Table 24), with some exceptions:
- higher rates of smoking and risky lifetime drinking in 2013
- higher rates of decay experience in children’s teeth in 2012–2014
- lower rate of sufficient physical activity in 2014–15
- BreastScreen participation rates were higher than national rates and highest of the jurisdiction in 2013–14.

Australia compared well internationally in terms of low rate of daily smoking compared to OECD countries (4th of 35 countries in 2014). Among 31 OECD countries in 2013, Australia had the highest prevalence of daily fruit consumption among adults and second highest (following Korea) for daily vegetable consumption.

<table>
<thead>
<tr>
<th>Table 24: Risk and protective factors: interstate, national and international comparisons</th>
<th>Queensland compared to:</th>
<th>Interstate ranking</th>
<th>Australian ranking:</th>
<th>Year</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily smoking (adults)</td>
<td>18% higher</td>
<td>3rd highest of 8</td>
<td>National</td>
<td>Interstate ranking</td>
<td>International (OECD)</td>
</tr>
<tr>
<td>Adequate fruit consumption (adults)</td>
<td>Not different</td>
<td>2nd highest of 8</td>
<td>2014–15</td>
<td>1st highest of 31*</td>
<td>2014 (or nearest year)</td>
</tr>
<tr>
<td>Adequate vegetable consumption (adults)</td>
<td>Not different</td>
<td>3rd highest of 8</td>
<td>2014–15</td>
<td>2nd highest 31*</td>
<td>2014 (or nearest year)</td>
</tr>
<tr>
<td>Adequate fruit consumption (child)</td>
<td>Not different</td>
<td>4th highest of 8</td>
<td>2014–15</td>
<td>2014 (or nearest year)</td>
<td></td>
</tr>
<tr>
<td>Adequate vegetable consumption (child)</td>
<td>Not different</td>
<td>6th highest of 8</td>
<td>2014–15</td>
<td>2014 (or nearest year)</td>
<td></td>
</tr>
<tr>
<td>Exclusive breastfeeding (at 4 months)</td>
<td>Not different</td>
<td>Lowest of 8</td>
<td>2011</td>
<td>2011–12</td>
<td></td>
</tr>
<tr>
<td>Daily sugar sweetened drinks</td>
<td>Not different</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obesity (adult by measurement)</td>
<td>Not different</td>
<td>2nd highest of 8</td>
<td>2014–15</td>
<td>5th highest of 19</td>
<td>2014 (or nearest year)</td>
</tr>
<tr>
<td>Overweight (adult by measurement)</td>
<td>Not different</td>
<td>Lowest of 8</td>
<td>2014–15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overweight and obese (adult by measurement)</td>
<td>Not different</td>
<td>5th highest of 8</td>
<td>2014–15</td>
<td>12th highest of 33</td>
<td>2013 (or nearest year)</td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risky lifetime drinking</td>
<td>12% higher</td>
<td>4th highest of 8</td>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risky single occasion (monthly)</td>
<td>Not different</td>
<td>6th highest of 8</td>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption per capita</td>
<td></td>
<td></td>
<td></td>
<td>20th lowest of 35</td>
<td>2014 (or nearest year)</td>
</tr>
<tr>
<td>Sufficient physical activity (adults)</td>
<td>9% lower</td>
<td>2nd lowest of 8</td>
<td>2014–15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active every day (2–17 years)</td>
<td>18% higher</td>
<td>3rd highest of 8</td>
<td>2011–12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High blood pressure (adults)</td>
<td>Not different</td>
<td>5th highest of 8</td>
<td>2014–15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High total cholesterol (adults)</td>
<td>Not different</td>
<td>7th highest of 8</td>
<td>2011–12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent illicit drug use (14+ years)</td>
<td>Not different</td>
<td>4th highest of 8</td>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast screening participation</td>
<td>Higher than national</td>
<td>Highest of 8</td>
<td>2013–2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical cancer screening</td>
<td>Lower than national</td>
<td>3rd lowest of 8</td>
<td>2013–2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowel cancer screening</td>
<td>Not different</td>
<td></td>
<td>2013–14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevalence of decay experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–10 years (primary teeth)</td>
<td>20% higher</td>
<td>2nd highest of 8</td>
<td>2010–2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9–14 years (permanent teeth)</td>
<td>33% higher</td>
<td>2nd highest of 8</td>
<td>2010–2014</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* International comparison is for daily consumption of any fruit or any vegetable.
Data sources and methods: risk and protective factors

This chapter includes a selection of key risk and protective factors for Queensland. The ordering of risk factors follows the ranking of risks based on burden of disease analysis for Australia as described on page 11.

Many data sources are used in this chapter and each are cited. Prevalence data is largely derived from the Queensland preventive health surveillance system www.health.qld.gov.au/phsurvey and from national surveys conducted either by ABS or AIHW.

Additional data on risk factor prevalence and attributable hospitalisation for HHSs and sociodemographic groups is available in the statistical tables published online (page i for details).

Within this chapter, prevalence estimates are reported as both a percentage and the number of persons at risk. The number at risk is generated from percentage prevalence (derived from survey sample estimates), and estimated resident population. The projected population at risk is generated from prevalence trends and projected population estimates.

Assessment of risk factor trends is based on log linear models which are described in the companion methods report. Trend assessment should not be based on individual year comparisons. Caution should be exercised when comparing HHS results for 2015–16 and earlier years due to methodological changes that occurred in 2015. This caveat does not apply to state level reporting.

The methodology for estimating hospitalisations due to risk factors is described in the companion methods report.

For further information:

- Preventive health surveys including the self report survey series undertaken by Queensland Health
- Risk factor trends for Queensland
- Previous reports from the Queensland Chief Health Officer
- Australian Bureau of Statistics: National Health Survey series including Australian Health Survey