

Preventive health indicators for Aboriginal and Torres Strait Islander people in Queensland and Australia 2012–13

Preventive Health Branch

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About this report

This report is designed for an audience with knowledge of the methodologies and data sources used to estimate the prevalence of health conditions and risk factors at population level. It assumes familiarity with survey methodologies, including the national health survey series conducted by the Australian Bureau of Statistics. This report builds on information released in *The health of Queenslanders 2014* report and includes data that has been released since then. It extends the reporting to a wider range of conditions and risk factors.

In this report, the Aboriginal and Torres Strait Islander people are referred to as Indigenous Queenslanders or Indigenous Australians.

The objective of this report is to provide an epidemiological overview of health status for Indigenous Queenslanders. Specifically, this report presents selected health conditions and their biomarkers, selected risks and protective factors. The data were sourced from the latest Australian Aboriginal and Torres Strait Islanders Health Survey series. The survey data have limitations and these are noted and discussed in the report (Appendix 2).

This report was prepared by Preventive Health Branch (Noore Alam and Margaret Bright). The investment and expertise associated with the data collection to inform this analysis is acknowledged.

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Summary

An overview of health of Indigenous Queenslanders

Aboriginal and Torres Strait Islander people in Queensland (Indigenous Queenslanders) experience a disproportionate burden of disease compared with other Queenslanders. As described in *The health of Queenslanders 2014* report, Indigenous Queenslanders are disadvantaged in many health conditions and risk factors. Compared to non-Indigenous Queenslanders, they die 23 year earlier and have 2.8 times the rate of avoidable deaths for preventable conditions and 3.2 times for treatable conditions.¹

Indigenous Queenslanders also fare disproportionately from some of the long-term health conditions such as diabetes (3.3 times the non-Indigenous Queenslanders rate), asthma and chronic kidney disease (both twice the non-Indigenous rates), and ear disease (31% higher) in 2012–13. They are also more likely to have a higher prevalence of some of the known risk factors for chronic disease such as daily smoking (2.5 times the non-Indigenous rate), being obese (39% higher) but not overweight, high blood pressure (17% higher) and being dyslipidaemic (13% higher) than non-Indigenous Queenslanders.

The disparity in many health conditions and their risk factors are also evident within Indigenous Australians living in different geographic areas. For example, the prevalence of diabetes among Indigenous Australian adults living in remote areas was 2.5 times that of Indigenous Australian adults living in major cities. Similarly, 2.8 times for chronic kidney disease, twice for asthma and 30% higher for dyslipidaemia. For selected chronic disease risk factors, 25% higher for daily smoking, 8% higher for overweight and obesity, 42% lower consumption of recommended daily serves of vegetables.

There are however some improvements in the health and wellbeing of Indigenous Queenslanders in recent years resulting in lowering or diminishing disparity between Indigenous and non-Indigenous Queenslanders. For example, in 2012–13 in Queensland, there was no difference in prevalence of both lifetime and single occasion risky drinking, and no difference in recommended daily consumption of vegetables and sedentary or low exercise levels between the two populations after adjusting for age differences between the populations. For children, more Indigenous Queenslanders met physical activity recommendation than non-Indigenous (49% compared to 38%). There were fewer undiagnosed diabetes cases in Indigenous Australians than non-Indigenous (1:7 compared to 1:4) and an earlier diagnosis (20 years earlier) in 2012–13.

Summary findings:

Selected health conditions, adults, 2012–13

Prevalence in Indigenous Queenslanders (non-age standardised):

- 1 in 12 (8.2%) had diabetes, based on fasting plasma glucose test.
- 1 in 7 (14%) had asthma.
- 1 in 6 (18%) had chronic kidney disease.
- 1 in 9 (11%) had ear disease or hearing problems.

Compared with the non-Indigenous, and after adjusting for age structure, Indigenous Australians were:

- 3.3 times as likely to have diabetes (16% compared to 5%)
- 40% less likely to be undiagnosed for diabetes (12% compared to 20%)
- 40% less likely to be managing their diabetes (28% compared with 47%)
- about twice as likely to have asthma (19% compared to 10%)
- more than twice as likely to have signs of chronic kidney disease (22% compared to 10%)
- 31% as likely to have ear disease including deafness (16% compared to 12%)

Selected risk and protective factors, adults and children, 2012–13

Prevalence in Indigenous Queenslanders (non-age standardised):

- 2 in 5 adults (45%) smoked on a daily basis.
- 1 in 5 adults (19%) consumed alcohol that exceeded the lifetime risk guideline.
- 3 in 5 exceeded the single occasion risky drinking guideline.
- 7 in 10 adults (70%) were measured as overweight or obese (30% overweight, 40% obese).
- 2 in 5 adults (41%) consumed recommended daily serves of fruit.
- 1 in 25 adults (4%) consumed recommended daily serves of vegetables.
- 3 in 5 adults (60%) were either sedentary or not doing sufficient physical activity for health.
- 1 in 5 adults (20%) had high blood pressure, and 2 in 3 (65%) were dyslipidaemic.
- 1 in 2 children aged 5–17 years (49%) were sufficiently active for health.

Compared with the non-Indigenous, and after adjusting for age structure, Indigenous Queenslanders were:

- 2.5 times as likely to smoke daily (adults: 42% compared to 17%).
- 5 times as likely to smoke daily (young people aged 15–17 years: 18% compared to 4%).
- adult risky drinking did not differ: lifetime or single occasion risky drinking.
- 39% more likely to be obese (adults: 42% and 30%).
- adult overweight prevalence did not differ.
- 12% less likely to eat recommended serves of fruit (adults: 43% and 48%).
- adult sedentary or low exercise prevalence did not differ (63% and 59%).
- the prevalence of high blood pressure in Indigenous Australian adults was 17% higher than the non-Indigenous rate (25% and 21% respectively), and 13% higher for dyslipidaemia (70% compared to 62%).

After adjusting for age difference, Indigenous Australians with dyslipidaemia were 56% more likely to take lipid lowering medication compared to non-Indigenous Australians (20% and 12.8% respectively).

1. Introduction

Aboriginal and Torres Strait Islander people in Queensland (Indigenous Queenslanders) experience a disproportionate burden of disease compared with other Queenslanders.¹ In 2011, Indigenous Queensland people made up of 4.2% of the state population.² The age structure of Indigenous Queenslanders is considerably younger than that of the non-Indigenous Queenslanders. After adjusting for age, Indigenous Queenslanders were 2.1 times more likely to suffer higher burden of disease and injury compared to non-Indigenous Queenslanders.³ An Indigenous Queensland male born today could expect to live 68.7 years compared to a non-Indigenous Queensland male who would live 79.6 years—a difference of 11 years in 2010–12.^{4,5} Similarly, an Indigenous Queensland female born today could expect to live 74.4 years compared 84.1 years for a non-Indigenous Queensland female—a difference of 10 years. They also die at younger ages on average compared with non-Indigenous Queenslanders with the median age of death being 57 years for Indigenous Queenslanders compared with 80 years for non-Indigenous Queenslanders, a difference of 23 years.¹

This report extends the reporting in *The health of Queenslanders 2014*¹ and describes the prevalence of selected health conditions such as diabetes, asthma, chronic kidney disease and ear disease including hearing loss in Indigenous people in Queensland and Australia. This report presents data on a number of chronic disease biomarkers and their interrelationship as risk factors. Additionally, this report describes the prevalence of some of the known risk and protective factors for chronic disease such as smoking, alcohol, overweight and obesity, fruit and vegetable consumption and physical activity. Understanding the prevalence of disease burden in Indigenous people and the impact of modifiable risk factors is essential for informing appropriate actions for prevention or reduction of those burdens. Where state specific data for Indigenous Queenslanders were not available or reportable, Indigenous Australian data were used (Appendix 2).

2. Methods

The data for this report were sourced from the *Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS) 2012–13*.⁶ The AATSIHS forms part of the broader *Australian Health Survey* and is based on a nationally representative sample of around 12,900 Aboriginal and Torres Strait Islander people across the nation. The AATSIHS is made up of three components⁷:

- (i) *National Aboriginal and Torres Strait Islander health survey.*
- (ii) *National Aboriginal and Torres Strait Islander nutrition and physical activity survey.*
- (iii) *National Aboriginal and Torres Strait Islander health measures survey.*

The biomedical data used in this report for diabetes, dyslipidaemia and chronic kidney disease were sourced from the *National Aboriginal and Torres Strait Islander health measures survey*, the largest biomedical survey conducted for Aboriginal and Torres Strait Islander Australians.⁷

This report utilised data released publicly by the Australian Bureau of Statistics (ABS),⁷⁻¹⁰ Australian Institute of Health and Welfare and customised data provided by ABS on request of the Department of Health, Queensland Government for development of *The Health of Queenslanders 2014* report.¹ The Department of Health, was, however, solely responsible for the extraction, analysis and statistical interpretation of the data presented in this report. Statistical interpretation is based on methods described by the Australian Bureau of Statistics and Department of Health.^{11,12} Unless otherwise specified, all data are for Indigenous adults aged 18 years and older who lived in non-remote areas in 2012–13.

In this report, data were compared across pre-determined variables such as age, sex, Indigenous status and remoteness. The difference between rates was considered significant and presented in this report if 95% confidence intervals did not overlap. All reporting of prevalence for Indigenous Queenslanders were non-age standardised. Where comparisons were made between Indigenous Queenslanders and non-Indigenous, age standardised prevalence was used.

Table 1: Prevalence of selected health conditions, selected biomarkers of chronic disease, and health risk and protective factors for Indigenous people, Queensland and Australia, 2012–13^{7,10,13}

Selected indicators	Non-age standardised % (95% CI)		Age standardised % (95% CI)			
	Indigenous Queenslanders	Indigenous Australians	Indigenous Queenslanders	Non-Indigenous Queenslanders	Indigenous Australians	Non-Indigenous Australians
Selected health conditions						
Diabetes	8.2 (4.3-12.1)	11.1 (9.3-12.9)	-	-	15.7 (13.2-18.2)	4.8 (4.3-5.3)
Asthma	14.3 (11.8-16.8)	17.5 (16.2-18.8)	-	-	18.8 (17.3-20.3)	10.1 (7.0-13.2)
Chronic kidney disease	18.4 (13.4-23.4)	17.9 (15.7-20.1)	-	-	22.2 (19.7-24.7)	10.4 (9.6-11.2)
Ear disease	11.2 (9.4-13.0)	12.3 (11.2-13.4)	-	-	16.0 (14.6-17.4)	12.2 (9.6-14.8)
Selected biomarkers of chronic disease						
High blood pressure	-	20.4 (19.0-21.8)	-	-	24.6 (22.9-26.3)	21.0 (19.3-22.7)
Dyslipidaemia	63.1 (55.8-70.9)	65.3 (61.6-69.0)	-	-	70.5 (67.2-73.8)	62.4 (60.5-64.3)
Current daily smoking						
Adults (18+ years)	44.8 (41.6-48.0)	44.4 (42.6-46.2)	42.1 (38.9-45.3)	17.1 (15.9-18.3)	42.1 (40.3-43.9)	16.0 (13.0-18.1)
Children (15-17 years)	-	17.8 (14.3-21.3)	-	-	-	-
Alcohol consumption – 2009 NHMRC guidelines¹⁴						
Exceeded lifetime risk guidelines	19.4 (15.5-23.3)	19.7 (18.1-21.3)	18.2 (14.5-21.9)	20.1 (18.2-22.0)	19.2 (17.6-20.8)	19.5 (17.9-21.1)
Exceeded single occasion risk guidelines	59.3 (55.4-63.2)	57.1 (55.2-59.0)	53.3 (49.0-57.6)	47.2 (45.0-49.4)	51.9 (50.0-53.8)	51.9 (50.0-53.8)
Measured BMI: 18+ years						
Overweight	30.3 (27.4-33.2)	29.4 (27.9-30.9)	30.7 (27.6-33.8)	34.6 (32.8-36.4)	29.9 (28.4-31.4)	34.5 (33.5-35.5)
Obese	39.8 (36.6-43.0)	39.8 (38.2-41.4)	41.7 (38.5-44.9)	29.9 (28.3-31.5)	42.5 (40.8-44.2)	26.2 (24.6-27.8)
Overweight/obese	70.1 (66.9-73.3)	69.2 (67.6-70.8)	72.4 (69.4-75.4)	64.5 (62.7-66.3)	72.4 (70.9-73.9)	60.7 (59.9-61.5)
Measured BMI: 5–17 years						
Overweight	16.9 (14.8-19.0)	20.6 (16.9-24.3)	-	-	-	-
Obese	13.2 (11.4-15.0)	12.1 (8.3-15.9)	-	-	-	-
Overweight/obese	30.1 (27.6-32.6)	32.6 (27.6-37.6)	-	-	-	-
Fruit and vegetable consumption: 18+ years – 2013 NHMRC guidelines¹⁵						
Adequate daily fruit consumption	41.4 (38.0-44.8)	41.2 (39.6-42.8)	42.7 (39.4-46.0)	48.4 (46.9-49.9)	42.6 (41.0-44.2)	48.1 (47.4-48.8)
Adequate daily vegetables consumption	4.2 (3.0-5.4)	4.6 (3.9-5.3)	4.7 (3.4-6.0)	6.1 (5.2-7.0)	5.5 (4.7-6.3)	6.9 (6.4-7.4)
Fruit and vegetable consumption: 5–17 years – 2013 NHMRC guidelines¹⁵						
Adequate daily fruit consumption	68.0 (63.5-72.5)	68.1 (66.0-70.2)	-	-	-	-
Adequate daily vegetables consumption	8.9 (7.2-10.6)	8.1 (4.4-11.8)	-	-	-	-
Physical activity – 2014 guidelines¹⁶						
Sedentary/low exercise (non-remote areas)	59.5 (54.8- 64.2)	60.6 (58.2-63.0)	63.1 (58.4-67.8)	59.1 (56.2-62.0)	63.3 (61.0-65.6)	57.5 (56.3-58.7)

- Not available

Note: rates for children were non-age standardised

3. Selected health conditions

3.1 Diabetes

Diabetes is a metabolic disorder characterised by chronically elevated blood sugar due to failure of insulin function. It interferes with metabolism and can cause long term damage, dysfunction and failure of various organs. It predisposes people to cardiovascular disease, vision loss, amputations and renal failure. In 2012, diabetes was the second leading cause of death for Indigenous Queenslanders.¹⁷ The main types of diabetes are type 1, type 2 and gestational diabetes with type 2 being the most common. Obesity is a key determinant of type 2 diabetes, along with a sedentary lifestyle, and hypertension. Genetics influence the development of about 10% of diabetes, particularly type 1 diabetes.

3.1.1 Measurement

Diabetes is diagnosed by measurement of blood glucose with three tests used:

1. Fasting plasma (blood) glucose (FPG) test. This requires the person to have fasted for eight hours prior to the test.
2. Glycated haemoglobin (HbA1c) test used to detect and monitor diabetes in a non-fasting person.⁶
3. The gold standard test is the oral glucose tolerance test (OGTT), where the person undergoing test is given a high oral dose of glucose and over a two-hour period, blood glucose is monitored to assess the effectiveness of the insulin mechanisms in the body to re-establish normal glucose levels.

Fast facts

- Indigenous adults experience diabetes 20 years earlier than non-Indigenous adults.
- There were fewer undiagnosed diabetes cases in Indigenous Australians than non-Indigenous (1:7 compared to 1:4).
- Indigenous Australians with diabetes were 5 times more likely to have chronic kidney disease compared to Indigenous Australians without diabetes (53% compared to 11%).

In this report, the prevalence of diabetes is based on FPG as used in the biomedical components of the NATSIHMS.⁷ There is likely to have an underestimation of cases detected by this method in absence of the gold standard method (OGTT). The extent of the underestimation is unknown.

3.1.2 Prevalence

Queensland (2012–13)⁷

- 1 in 12 (8.2%) or 6600 Indigenous Queensland adult adults had diabetes based on FPG test.
- Queensland had the lowest prevalence of diabetes among five jurisdictions with available data.
- The Queensland rate (8.2%) did not differ from national rate (11%).

Australia (2012–13)⁷

- 31,600 Indigenous Australian adults (11%) had diabetes—14,200 males, 17,400 females.
- Of these, 27,200 (9.6%) had existing diabetes and 4300 (1.5%) had newly diagnosed diabetes.
- For every six diagnosed cases, there was one newly diagnosed at survey.
- There was no difference in prevalence of diabetes between Indigenous Australian males (10%) and females (12%) (Figure 1).
- The prevalence of diabetes in Indigenous Australians was 3.3 times that of non-Indigenous Australians (16% and 4.8% respectively), after adjusting for age.

- Compared to non-Indigenous Australians, Indigenous Australians were 40% less likely to be undiagnosed for diabetes (12% compared to 20%).
- Generally, the prevalence of diabetes increased with age for both Indigenous and non-Indigenous Australians with a 2 to 3 fold difference in prevalence across the age range. More specifically, Indigenous Australians aged 35–44 years (9%) was on par with that for non-Indigenous Australians aged 55 years and older (8.2%) suggesting that Indigenous Australians experience diabetes 20 years earlier than non-Indigenous (Figure 2).¹⁸
- The prevalence of diabetes among Indigenous Australians living in remote and very remote areas was 2.5 times that of those living in major cities (21% and 8.3% respectively). In newly diagnosed cases, it was 9.6 times indicating that under-diagnosis is more likely in remote areas.
- Indigenous Australians with diabetes were about five times more likely to have chronic kidney disease compared to Indigenous Australians without diabetes (53% and 11% respectively).

Figure 1: Prevalence of diabetes by sex and remoteness, Indigenous Australians 2012–13

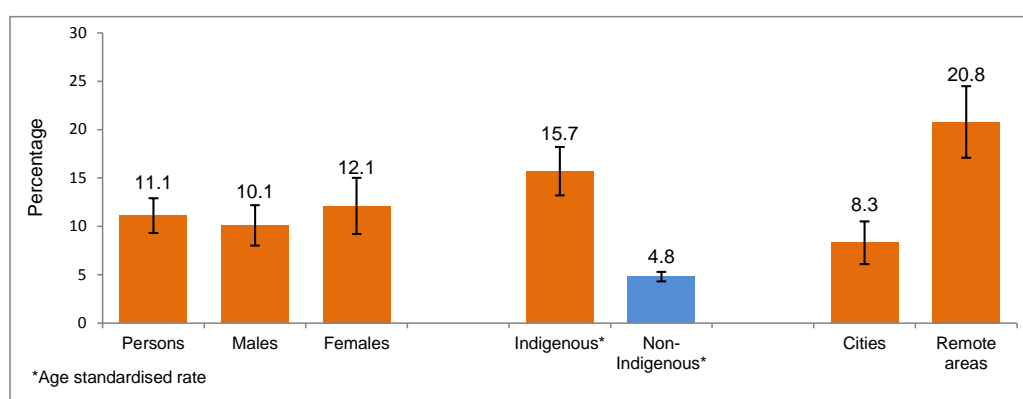
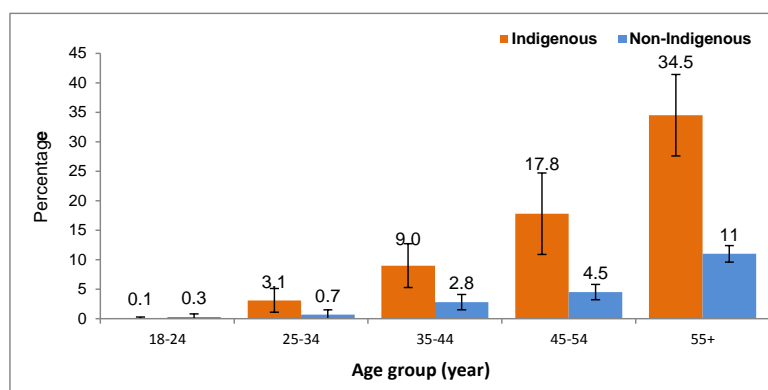


Figure 2: Prevalence of diabetes by age and Indigenous status, Australia, 2012–13



3.1.3 Diabetes management (2012–13)⁷

- Indigenous Australians with known diabetes (diagnosed by FPG):
 - 1 in 4 (28%) were effectively managing their condition compared with 1 in 2 (47%) non-Indigenous Australians
 - 2 in 5 (44%) met the target for albumin creatinine ratio, which measures kidney function, compared to 71% of non-Indigenous Australians
 - 1 in 20 (5.2%) were in the healthy weight range compared to 1 in 7 non-Indigenous Australians with known diabetes (14%).
- The prevalence of diabetes in Indigenous Australians living in remote areas was almost double that of those living in non-remote areas (16% compared with 8.5%). Additionally, those in remote areas were 23% less likely to be effectively managing their diabetes than those in non-remote areas (23% compared to 30%).

3.2 Asthma

Asthma is a respiratory condition affecting the airways of the lungs, causing episodes of wheezing, breathlessness and chest tightness due to the narrowing of the airways. Asthma affects people of all ages and can usually be managed through appropriate treatment. This section reports prevalence of asthma as a long-term health condition in Indigenous Queenslanders and Australians.⁸

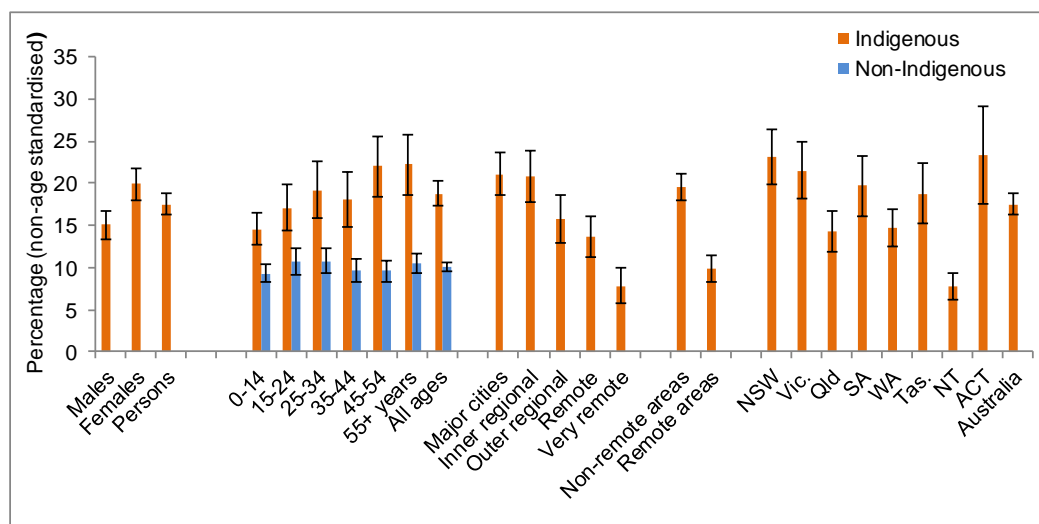
Queensland (2012–13)⁸

- 1 in 7 Indigenous Queenslanders (14%) reported having asthma as a long-term health condition.
- The prevalence in Queensland was similar to national (18%), and was second lowest among other jurisdictions after Northern Territory (7.8%).

Australia (2012–13)⁸

- About 1 in 6 (18%) Indigenous Australians reported asthma as a long-term health condition.
- Indigenous Australian females were 32% more likely to report asthma as a long-term condition than Indigenous males (20% compared with 15%).
- For Indigenous Australians, the prevalence of asthma was 51% higher in those aged 45 years and older compared to 0–14 years. Whereas for non-Indigenous Australians, the rates did not change appreciably across age groups.
- Indigenous Australians living in non-remote areas were twice as likely as those in remote areas to report asthma (20% compared with 10%) and those living in major cities about 3 times more likely than those living in very remote areas.
- After adjusting for differences in age structure between the two populations, Indigenous Australians were almost twice as likely as non-Indigenous Australians to have asthma (19% and 10% respectively).

Figure 3: Prevalence of asthma in Indigenous Australians by sex, age, remoteness and jurisdiction, 2012–13



3.3 Chronic kidney disease

Chronic kidney disease (CKD) affects the kidney's ability to filter blood, leading to elevated fluid and waste within the body.⁷ Chronic kidney disease is also associated with other chronic diseases such as diabetes and cardiovascular disease. CKD was diagnosed using a combination of participants' estimated glomerular filtration rate and albumin creatinine ratio.

Queensland (2012–13)⁷

- 1 in 6 Indigenous Queenslanders (18%) had CKD as a long-term health condition.
- The prevalence in Queensland was similar to national, and other jurisdictions except Northern Territory (32%) (Figure 4).

Fast facts

- About 9 in 10 with signs of CKD were not aware they had it.
- Indigenous people are almost 4 times as likely to die with CKD as a cause of death than non-Indigenous.

Australia (2012–13)⁷

- About 1 in 6 Indigenous Australians (18%) had CKD (31,100 males, 28,500 females).⁷
- The male rate was similar to the female rate (19% and 17% respectively).
- The prevalence of CKD increased with age with the rate for those aged 55 years and older, 5.4 times that of 18–24 year olds. In contrast, the rates for non-Indigenous Australians were lower and stable across all age groups except in those 55 years and older (Figure 5b).
- After adjusting for age differences, the prevalence of CKD in Indigenous Australians was 2.1 times that of non-Indigenous Australians (22% and 10% respectively).
- The prevalence in remote and very remote areas was 2.8 times that of Indigenous Australians living in major cities (34% and 12% respectively).
- Indigenous Australians with CKD were about 6 times as likely to have diagnosed with diabetes as those with no CKD (38% compared to 6.4%). In contrast, the difference was 3.8 times for all Australians, (18% compared to 4.6%).

Figure 4: Prevalence of chronic kidney disease in Indigenous Australians by jurisdiction, 2012–13

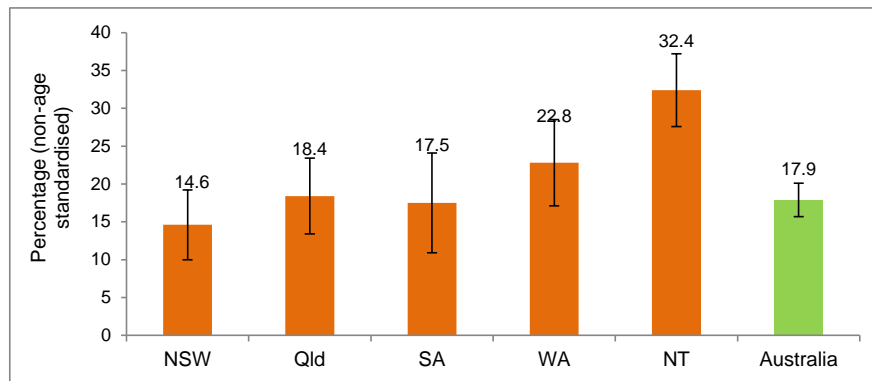
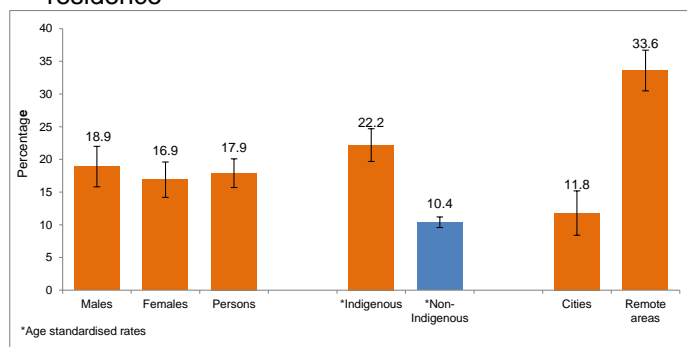
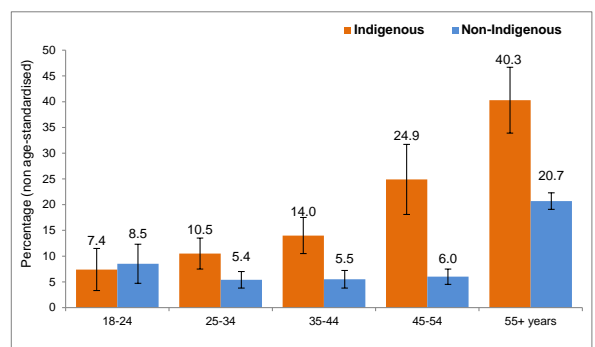


Figure 5: Prevalence of chronic kidney disease in Australian adults, 2012–13

a. Prevalence by sex, Indigenous status and area of residence



b. Prevalence by age and Indigenous status



3.4 Ear disease and hearing loss

Hearing loss affects 1 in 10 Queenslanders.⁸ The major reason for hospitalisation for an ear disease was otitis media or middle ear infection (60%).¹ Otitis media is a significant health problem for Indigenous Australians particularly for young children, affecting 1 in 2 children living in remote communities in Australia.¹⁹ In addition to the impact of hearing difficulties on daily social interactions, children who have hearing loss may have difficulty following lessons at school, which, in turn, may lead to poorer educational and employment outcomes in later life.⁸

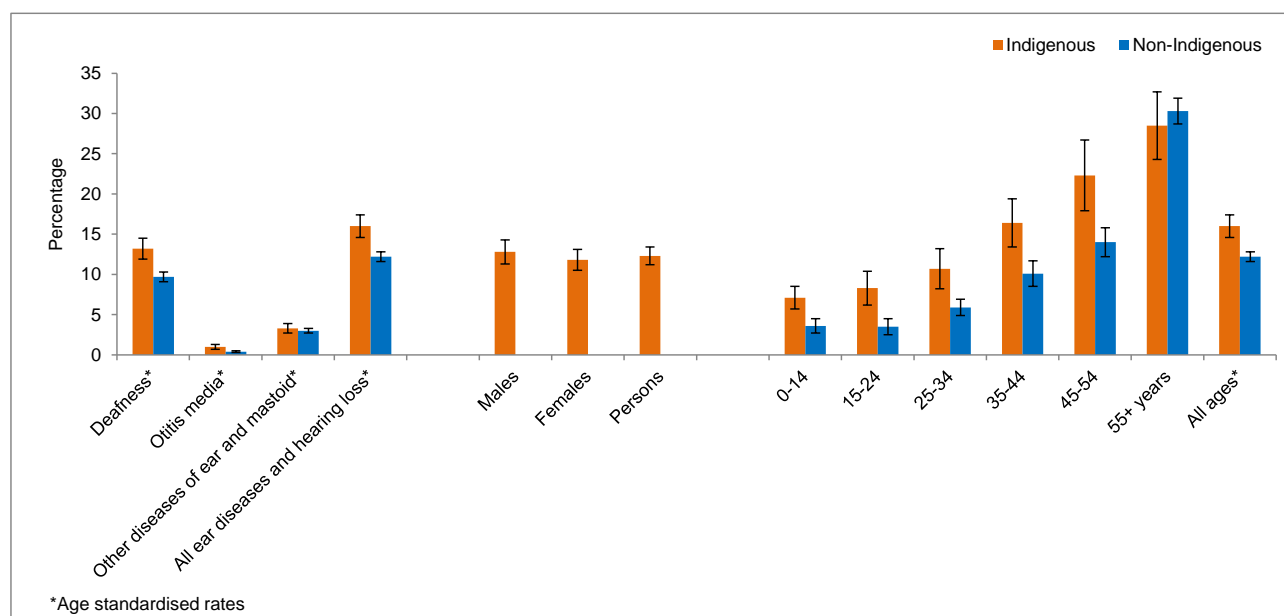
Queensland (2012–13)⁸

- About 1 in 9 (11%) Indigenous Queenslanders reported having a disease of the ear or a hearing problem (20,200 persons).
- The Queensland rate was similar to the national rate (12%) and the other jurisdictions.
- In 2008, 1 in 11 Indigenous Queensland children aged 4–14 years (9% or 3600) had ear or hearing problems with no difference between males and females.

Australia (2012–13)⁸

- About 1 in 8 (12%) Indigenous Australians reported having an ear disease or hearing problems as a long-term health condition (Figure 6).
- The rates were similar for Indigenous Australian males and females (13% and 12% respectively).
- The proportion of Indigenous Australians with ear disease or hearing problems increased with age, ranging from about 1 in 14 (7%) among children aged 0–14 years, to just over one-quarter (28%) of those aged 55 years and older.
- The prevalence of ear disease or hearing problems were the same for Indigenous Australians living in non-remote areas and remote areas (both 12%).
- After adjusting for differences in age structure, Indigenous Australians were 31% more likely to report a disease of the ear or hearing problem than non-Indigenous Australians (16% compared to 12%).

Figure 6: Prevalence of ear disease and hearing loss by type, sex, age and Indigenous status, Australia, 2012–13



4. Selected risk and protective factors

4.1 Smoking

Tobacco smoking is a well-established risk factor for a number of chronic diseases, including some cancers, lung diseases, and cardiovascular diseases. Tobacco kills up to half of its users globally.²⁰ In Australia, two-thirds of deaths of current smokers can be directly attributed to smoking.²¹

Queensland (2012–13)

- More than 2 in 5 Indigenous Queensland adults (45%) smoked on a daily basis compared to 1 in 6 non-Indigenous (17%).¹³
- After adjusting for age differences, the prevalence of daily smoking among Indigenous Queensland adults was 2.5 times the non-Indigenous rate (42% and 17% respectively).
- Indigenous Queensland mothers were about 4 times more likely to have smoked at some time during pregnancy compared to non-Indigenous Queensland mothers in 2009–2011 (48% and 13% respectively).¹
- The prevalence of daily smoking in Indigenous Queenslanders aged 15 years and older was similar to the national prevalence and similar to all states and territories in Australia except Northern Territory (51%).⁹

Australia (2012–13)⁹

- More than 2 in 5 (44%) Indigenous Australian adults smoked daily with similar rates for males and females (46% and 43% respectively).
- After adjusting for age, the prevalence of daily smoking in Indigenous Australian adults was 2.6 times that of non-Indigenous (42% compared to 16%), (Figure 7).
- Indigenous Australian rates were higher than non-Indigenous Australian rates in all age groups (Figure 7).
- Indigenous Australian adults living in remote and very remote areas were 25% more likely to smoke daily than those in non-remote areas (53% and 42% respectively).
- The daily smoking rate was about 80% higher in those whose highest year of school completed was year 10 or equivalent than those whose highest year of school completed was year 12 or equivalent (51% and 28% respectively).
- Unemployed Indigenous Australians were about 61% more likely to smoke daily compared to those who were employed (60% compared with 37%).
- Although the prevalence of daily smoking has decreased for both Indigenous and non-Indigenous Australians since 2001, the decline for Indigenous Australians was less than half the non-Indigenous decline—13% or 1.3% per year compared to 28% or 2.9% per year (Figure 8).
- Between 2002 and 2012–13, the prevalence of daily smoking in Indigenous Australian adults living in non-remote areas decreased by 17% or 1.4% per year; from 50% in 2002 to 42% in 2012–13, whereas, the prevalence remained unchanged for Indigenous Australian adults who lived in remote areas (53% in both 2002 and 2012–13) (Figure 9).

Figure 7: Prevalence of current daily smoking by sex, age, remoteness, education, employment and Indigenous status, Australia, 2012–13

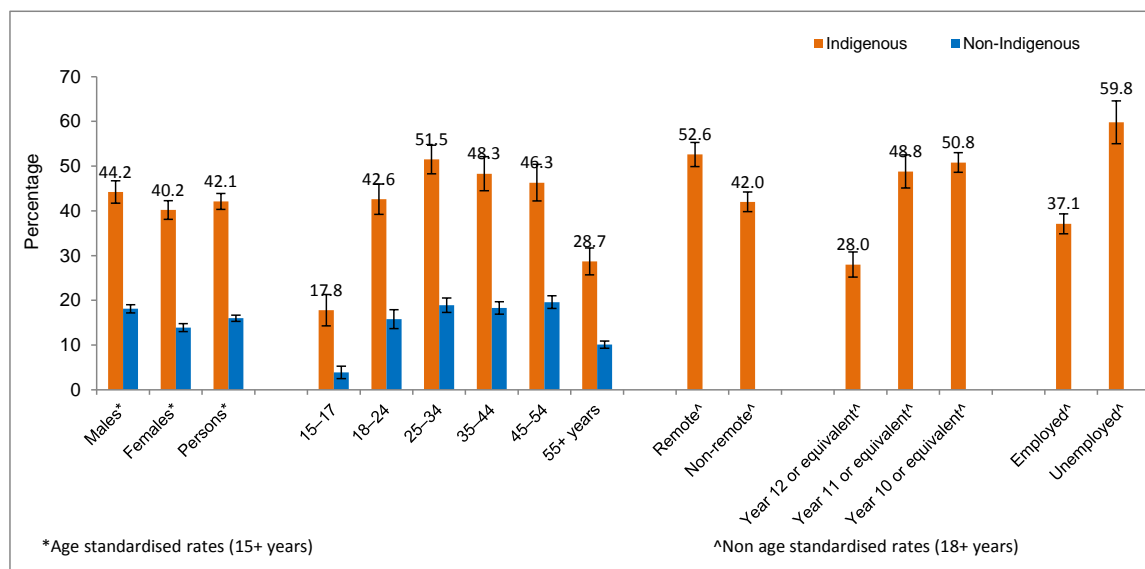


Figure 8: Trend in daily smoking in Australian adults by Indigenous status, 2001 to 2012–13

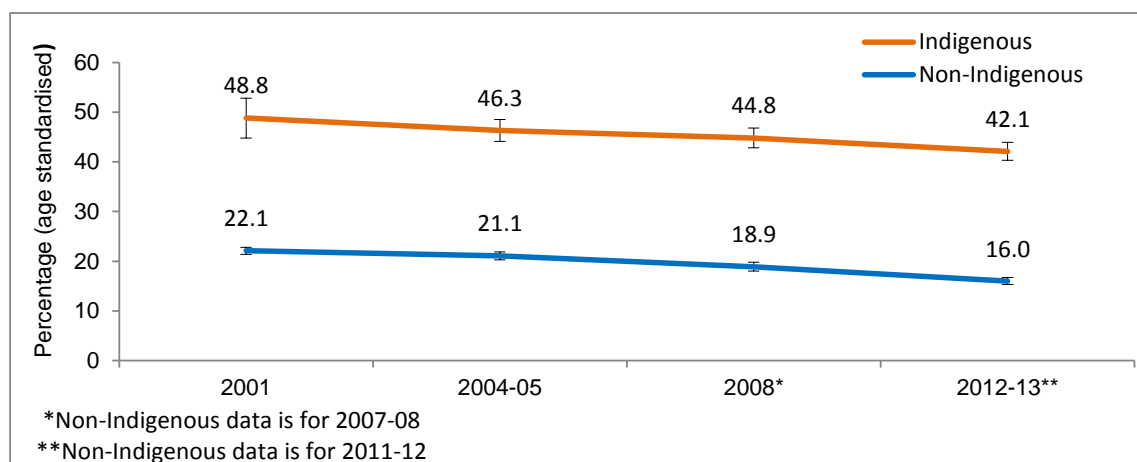
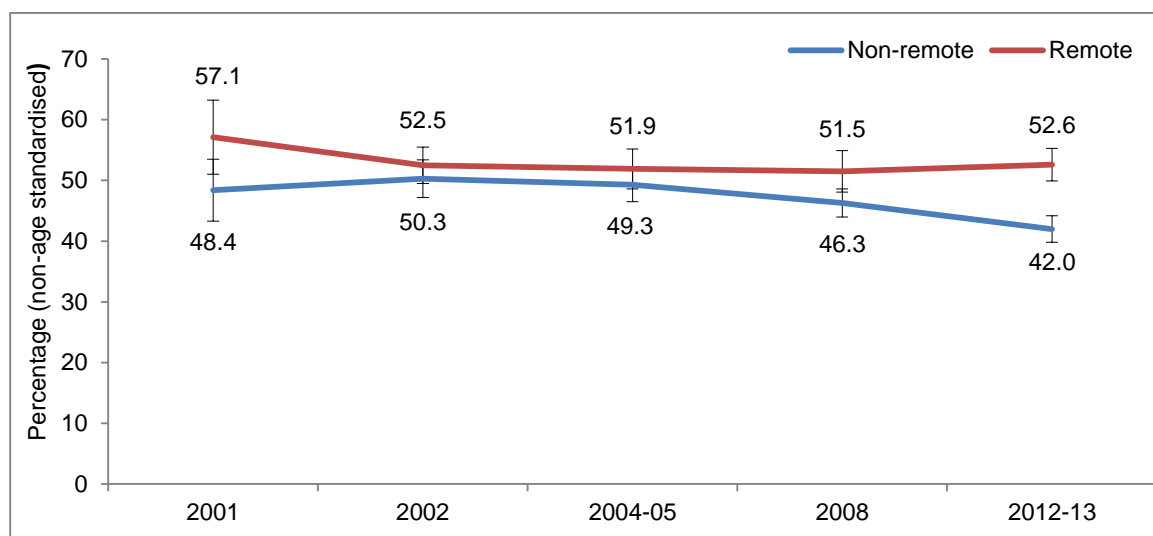


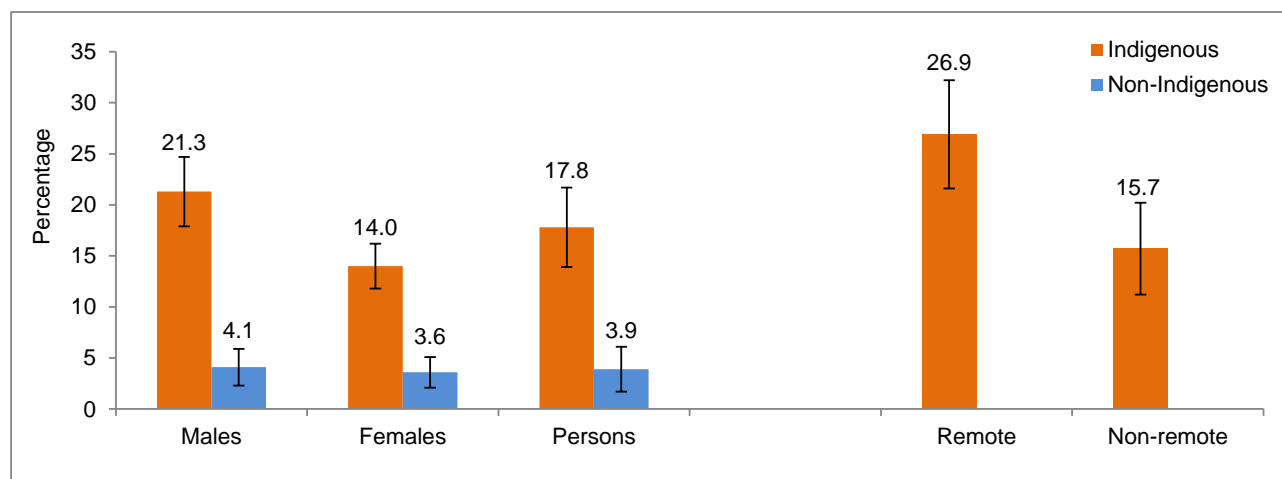
Figure 9: Trend in daily smoking in Australian Indigenous adults by remoteness, 2001 to 2012–13



4.1.1 Smoking in young Indigenous Australians, 2012–13

- 1 in 5 young Indigenous Australians (15–17 years) were current smokers (19%) where almost all smoked daily (18%).⁹
- Young Indigenous Australians were about 5 times as likely to smoke daily as young non-Indigenous Australians (18% and 3.9% respectively). Similar differences were observed for males and females (Figure 10).⁹
- Indigenous Australian children aged 0–14 years were 3 times as likely to be living in household with a current smoker who smoked at home indoors as non-Indigenous children (21% compared to 6.6%).²²

Figure 10: Prevalence in daily smoking in young people aged 15–17 years by sex, Indigenous status and remoteness, Australia, 2012–13



4.2 Alcohol

Alcohol is widely consumed in Australian society. Sensible use of alcohol usually does not pose an immediate health risk. However, excessive alcohol consumption is a cause of a wide range of health and other harms including road and other accidents, domestic and public violence, crime, liver disease and brain damage.²³ Moreover, excessive alcohol consumption contributes to family breakdown and broader social dysfunction. The Australian government has set national guidelines for safe consumption and to reduce harm from drinking alcohol (Appendix 3.1).¹⁴ Under these guidelines, to reduce the risk of lifetime alcohol-related harm, adults should drink no more than two standard drinks on any day, even if the drinking is daily. To reduce the risk of single occasion harm, no more than four standard drinks should be consumed on one occasion. This section presents data on alcohol consumption for Indigenous Queenslanders and Australians according to the Australian guidelines.¹⁴

Queensland (Indigenous Queenslanders 18 years and older, 2012–13)

Guideline 1: Lifetime risky drinking (on average more than 2 standard drinks per day)¹⁴

- 1 in 5 (19%) Indigenous Queensland adult exceeded the lifetime risk guideline.¹³

After adjusting for age differences:

- There was no difference between Indigenous Queensland adult and non-Indigenous who exceeded lifetime risk guidelines (18% compared to 20%) (Figure 11a).¹³
- There was no difference in prevalence of lifetime risky drinking between Indigenous Queenslanders and Indigenous Australians—19% and 20% respectively (Figure 11b).¹³

Guideline 2: single occasion risky drinking (more than 4 standard drinks on a single occasion)¹⁴

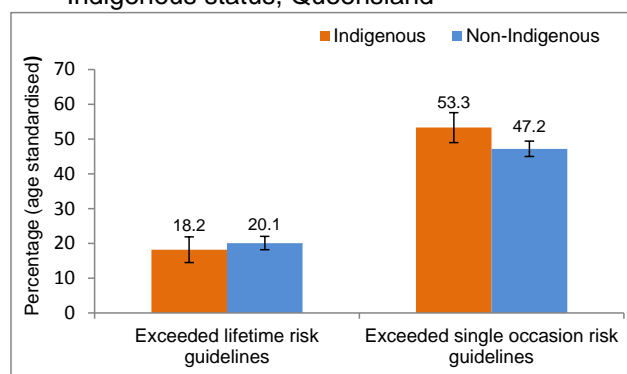
- 3 in 5 (59%) of Indigenous Queensland adult exceeded the guidelines for single occasion risky drinking in the past year.¹³

After adjusting for age differences:

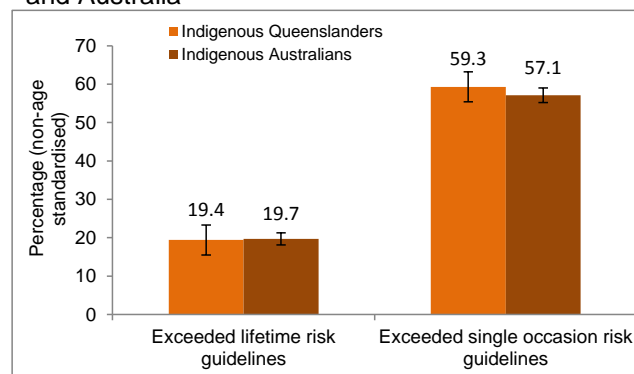
- There was no difference in prevalence between Indigenous and non-Indigenous Queensland adult who exceeded the guideline for single occasion risky drinking (53% compared to 47%, Figure 11a).¹³
- There was no difference in prevalence of single occasion risky drinking between Indigenous Queenslanders and Indigenous Australians in 2012–13 (59% and 57% respectively, Figure 11b).¹³

Figure 11: Prevalence of alcohol consumption in Queensland and Australian adults by Indigenous status, 2012–13

a. Exceeded alcohol risk guidelines by Indigenous status, Queensland



b. Exceeded alcohol risk guidelines, Queensland and Australia



Australia (Indigenous Australians 15 years and older, 2012–13)

Abstinence

- About 1 in 4 (26%) were abstainers, that is, they never consumed alcohol, or had not consumed alcohol within the past 12 months.⁸
- Males were 29% less likely than females to be abstainers (22% and 31% respectively).
- Indigenous Australians were 46% more likely to be abstainers compared to non-Indigenous Australians (26% compared to 18%).

Guideline 1: Lifetime risky drinking (more than 2 standard drinks per day everyday)¹⁴

- About 1 in 6 (18%) exceeded the lifetime risk guideline.⁸
- Males were 2.6 times more likely to exceed the lifetime risky drinking guideline than females (26% and 10% respectively).
- After adjusting for age, the prevalence of lifetime risky drinking in Indigenous Australians was similar to that of non-Indigenous Australians (18% and 19% respectively) (Figure 12a).
- The prevalence of lifetime risky drinking was similar between Indigenous Australians living in remote and non-remote areas (17% and 18% respectively) (Figure 12a).
- The prevalence of lifetime risky drinking did not vary across jurisdictions.

Guideline 2: single occasion risky drinking (more than 4 standard drinks on a single occasion)¹⁴

- About 1 in 2 (54%) exceeded the single occasion risky drinking guideline.⁸
- Males were 46% more likely to exceed the single occasion risky drinking guideline than females (64% and 44% respectively).
- After adjusting for age, the prevalence in Indigenous Australians was 13% higher than that of non-Indigenous Australians (50% compared to 44%) (Figure 12b).
- The prevalence in Indigenous Australians living in non-remote areas was 16% higher than that of those living in remote areas (55% and 48% respectively).
- Queensland rate was similar to the national rate and most jurisdictions except Northern Territory (38%) and Australian Capital Territory (66%) (Figure 13).

Figure 12: Prevalence of risky drinking in Australians aged 15 years and older by sex, age and remoteness, 2012–13

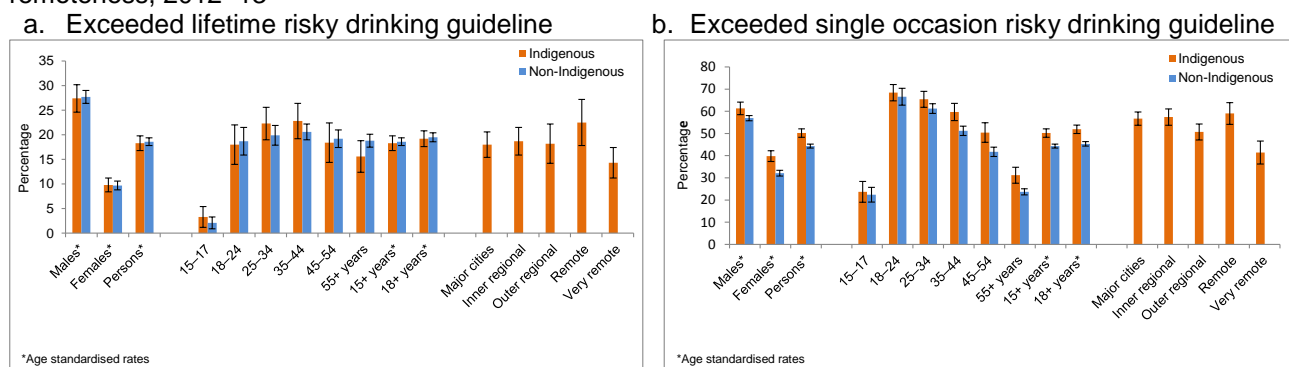
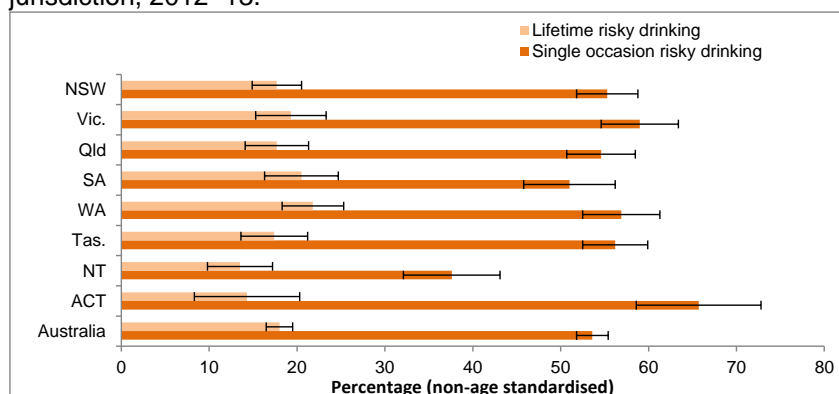


Figure 13: Prevalence of risky alcohol consumption in Indigenous Australians aged 15 years and older by jurisdiction, 2012–13.



4.3 Overweight and obesity

Overweight and obesity is a growing public health concern both in Australia and worldwide.²⁴ Overweight and obesity can lead to adverse metabolic effects on blood pressure, cholesterol, and insulin resistance increasing the risks of coronary heart disease, stroke and type 2 diabetes. In 2011–12, the prevalence of measured obesity in Queensland adults was highest of the jurisdictions and 10% higher than the national rate.⁹ Besides the overall high prevalence in overweight and obesity in the general populations in Queensland, there are particular population groups with a significantly higher burden of obesity, including those in disadvantaged areas and Indigenous Queenslanders (obesity only).¹

4.3.1 Measurement

Overweight and obesity is determined by body mass index (BMI) which is derived from a person's height and weight. The individual height and weight data can be obtained by physical measurement or by self report. Physical measurement is more accurate approach to determine a person's BMI than self report. This report used physical measurement of height and weight.¹³

Queensland (2012–13)¹³

Indigenous adults (18+ years):

- 7 in 10 (70%) were measured as overweight or obese—30% overweight and 40% obese.
- The prevalence of overweight and obesity, either separately or together, were similar to the national rates.
- After adjusting for age, Indigenous Queenslander adults were 39% more likely to be obese (42% and 30% respectively) than non-Indigenous adults (Figure 14).
- The prevalence of overweight did not differ between Indigenous and non-Indigenous adults.

Indigenous children (5–17 years):

- About 1 in 3 (30%) were measured as overweight or obese, 17% were overweight and 13% were obese.
- The prevalence of overweight or obesity for Indigenous Queenslander children did not differ from the non-Indigenous (27% were overweight or obese), nor from Indigenous Australian children (33%).

Australia (2012–13)⁹

Indigenous adults:

- 7 in 10 (69%) were measured as overweight or obese—29% overweight and 40% obese.
- Males were 21% more likely than females to be overweight (32% and 27% respectively).
- Females were more likely to be obese than males (43% compared to 36%).
- The prevalence of combined overweight and obesity was however similar between males and females (69% and 70% respectively).
- Indigenous Australians aged 55 years and older were 44% more likely to be overweight or obese than Indigenous Australians aged 18–24 years (80% compared to 55%).
- After adjusting for age differences, the prevalence of overweight and obesity for Indigenous Australian adults was 16% higher than non-Indigenous (72% compared to 63%) (Figure 15).
- Indigenous Australians aged 15 years and older living in non-remote areas were 8% more likely to be overweight or obese than those living in remote areas (67% compared to 62%) (Figure 15).
- Indigenous Australian adults who were employed were 20% more likely to be overweight and obese than those who were unemployed (73% compared to 61%) (Figure 15).
- Indigenous Australian adults who were either overweight or obese were 76% more likely to have higher abnormal total cholesterol than healthy weight or underweight Indigenous Australian adults (29% compared to 16%). They also were more likely to have elevated abnormal LDL (bad) cholesterol levels (2.3 times higher), lower HDL (good) cholesterol (49% higher) and higher abnormal triglycerides (4 times).⁷

Compared to healthy weight or underweight adults, Indigenous Australian adults who were overweight or obese were⁷:

- 6 times more likely to have been diagnosed with diabetes (by FPG) (14% compared to 2%)
- 76% more likely to have abnormal total cholesterol (29% compared to 16%)
- 51% more likely to be diagnosed with CKD (19% compared to 13%).

Similar differences in prevalence were observed for Queensland populations (Indigenous and non-Indigenous)²⁵ (Figure 16).

Figure 14: Age standardised rates of measured body weight in adults by Indigenous status, Queensland, 2012-13

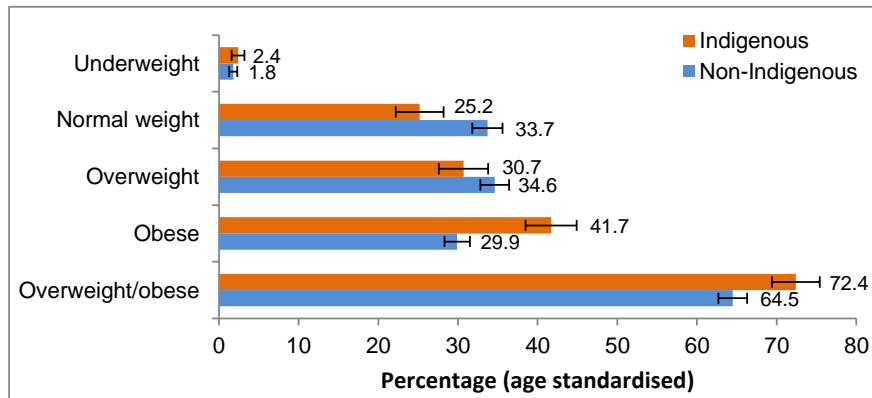
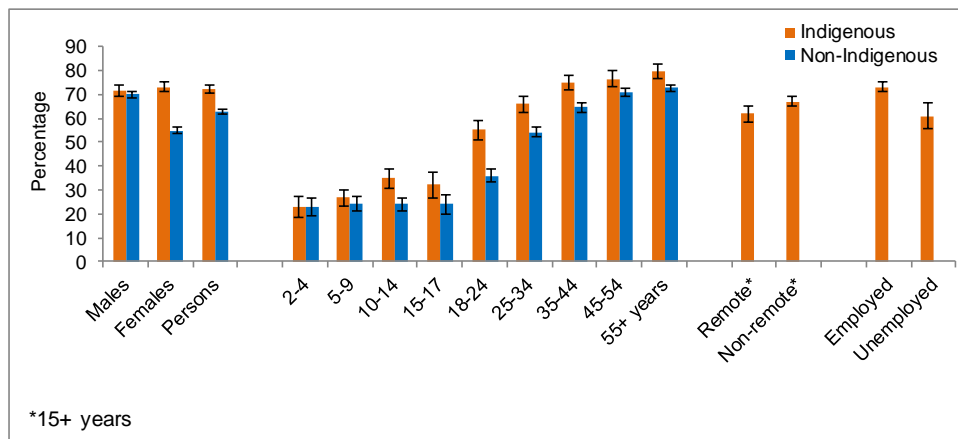
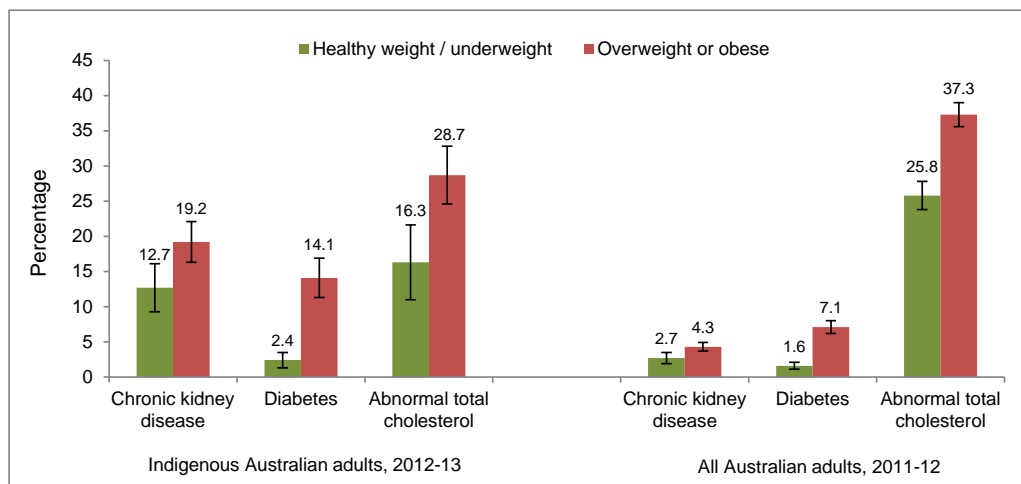


Figure 15: Prevalence of overweight and obesity by Indigenous status, sex, age, remoteness, education and employment status, Australia, 2012–13



*15+ years

Figure 16: Prevalence of chronic disease biomarkers by Indigenous status and BMI, Australia



4.4 Fruit and vegetable consumption

Good nutrition including an adequate, well balanced diet combined with regular physical activity is vital for good health. Consumption of sufficient fruit and vegetable has many health benefits including reduced risk of cardiovascular diseases and certain types of cancer.²⁶ *The Australian dietary guidelines* recommend two serves of fruit and five serves of vegetable for adults (six serves for males).¹⁵ For children and pregnant and lactating women, the guidelines provide different recommendations (Appendix 3.2). This section describes the prevalence of consumption of adequate fruit and vegetables.

Queensland (Indigenous Queenslanders adults, 2012–13):

- About 2 in 5 (41%) consumed the recommended daily serves of fruit, and 1 in 25 (4.2%) consumed the recommended daily serves of vegetables (Figure 17).¹³
- After adjusting for age differences, Indigenous adults were 12% less likely to consume the recommended daily serves of fruit than non-Indigenous (43% and 48% respectively).
- Consumption of recommended daily serves of vegetables did not differ between Indigenous and non-Indigenous adults (4.7% and 6.1% respectively) (Figure 19).¹³
- Queensland prevalence of fruit and vegetables consumption was similar for Indigenous Queenslanders aged 15 years and older to the national and other jurisdictions except Northern Territory.⁹

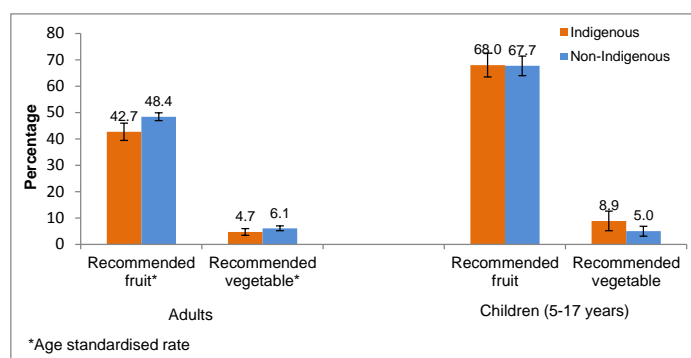
Indigenous Queensland children (5–17 years, 2012–13)

- About 2 in 3 (68%) consumed the recommended daily serves of fruit, and 1 in 11 (9%) consumed recommended daily serves of vegetables (Figure 17).¹³
- There was no difference in prevalence of fruit and vegetable consumption between Indigenous and non-Indigenous Queensland children, or between Indigenous Queensland and Indigenous Australian children.^{9,13}

Australia (Indigenous Australians aged 15 years and older, 2012–13)⁹

- About 2 in 5 (42%) consumed the recommended daily serves of fruit and about 1 in 20 (4.8%) consumed the recommended daily serves of vegetables.
- Indigenous males were 67% less likely to consume the recommended daily serves of fruit and vegetables combined compared with Indigenous females (1.5% compared with 4.6%). They were also 11% less likely to consume adequate fruit (40% compared with 45%), and 64% less likely to consume the recommended daily serves of vegetables (2.5% compared with 7%).
- The prevalence of adequate daily fruit intake was highest among Indigenous Australians aged 55 years and older (49%) and lowest among 25–34 years (38%). For vegetables, the prevalence of recommended daily intake was highest in those aged 55 years and older (9.1%) and lowest among those aged 18–24 years (2.7%).
- Indigenous Australians who lived in remote areas were 13% more likely to consume the recommended daily serves of fruit than those in non-remote areas, but 42% less likely to consume the recommended daily serves of vegetables.

Figure 17: Prevalence of recommended daily fruit and vegetable consumption in adults and children by Indigenous status, Queensland, 2012–13



4.5 Physical activity

Physical activity has numerous health benefits for people of all ages. Adequate levels of physical activity reduce the risks of cardiovascular disease, diabetes, hip or vertebral fracture, some cancers, depression and help control weight.²⁷ There is a growing evidence of adverse health effects of sedentary behaviours. Even an individual is generally physically active, prolonged sitting or resting increases the risk of being overweight and obese, and poorer cardiovascular, musculoskeletal, mental and behavioural health.¹ Australian physical activity and sedentary behaviour guidelines describe the recommended level of physical activity and sedentary behaviour for Australian adults and children (Appendix 3.3).¹⁶

This section discusses the prevalence of physical activity and sedentary behaviour for people living in non-remote areas of Queensland and Australia.

Queensland (Indigenous Queenslanders, 2012–13)

- About 3 in 5 (60%) adults were either sedentary or were doing low level of exercise.¹³
- After adjusting for age, Indigenous Queensland prevalence was similar to the non-Indigenous (63% and 59% respectively).¹⁰
- About 1 in 2 (49%) Indigenous Queensland children (5–17 years) met the physical activity recommendation compared with only 1 in 3 (38%) non-Indigenous children.¹⁰
- Indigenous Queensland children spent an average of 111 minutes per day on physical activity, 51 minutes more than the recommendation. The rate was similar to the national (119 mean minutes per day) and the jurisdictions except Northern Territory (141 mean minutes per day).¹⁰
- Indigenous Queensland children spent an average of 2.6 hours per day on sedentary screen-based activities, 36 minutes more than the recommended maximum sedentary time per day. The Queensland rate was similar to other jurisdictions in Australia.¹⁰ Most of the sedentary time (1.7 hours per day) was spent on watching TV, DVDs or videos.

Australia (Indigenous Australians, 2012–13)¹⁰

- Indigenous Australian adults were 19% less likely to be sufficiently active for health benefit compared with non-Indigenous Australian adults (35% and 43% respectively).
- The prevalence did not differ between males (39%) and females (32%) (Figure 18).
- Queensland prevalence was similar to the national and those of other jurisdictions (Figure 19).
- About 1 in 2 (48%) Indigenous Australians aged 18–24 years were engaged in sufficient physical activity compared to 1 in 4 (27%) of those aged 55 years and older.
- Indigenous Australians spent an average of 252 minutes in physical activity in the past week, achieving the recommended minimum.
- Indigenous Australians spent an average of 36 hours in the past week on sedentary behaviour (5.1 hours per day), 9% lower than non-Indigenous Australians.
- About 1 in 2 (48%) Indigenous Australian children aged 5–17 years met the physical activity recommendation compared with 1 in 3 (35%) non-Indigenous children.
- Compared to non-Indigenous Australian boys, Indigenous Australian boys were 43% more likely to meet the physical activity recommendation (54% and 38% respectively, Figure 20). The rate was similar for girls.
- The prevalence of sufficient physical activity decreases with increasing age for both Indigenous Australians and non-Indigenous Australian children with highest prevalence in 5–8 year olds (Figure 21).
- Indigenous Australian children spent an average of 2.6 hours per day on sedentary screen-based activities, 36 minutes more than the recommended maximum daily minutes on sedentary behaviour. The rate was similar to non-Indigenous Australians (2.5 hours per day).
- Older Indigenous Australian children (aged 15–17 years) spent more time in screen-based activities than younger (aged 5–8 years) children (3.3 hours per day compared to 1.9 hours).

Figure 18: Prevalence of sufficient physical activity by sex and Indigenous status, Queensland adults, 2012–13

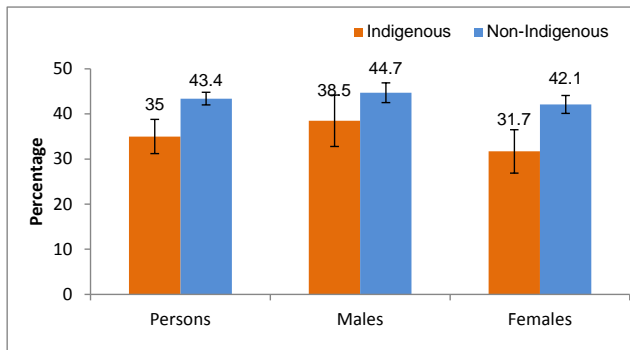


Figure 19: Prevalence of sufficient physical activity by jurisdiction for Australian adults, 2012–13

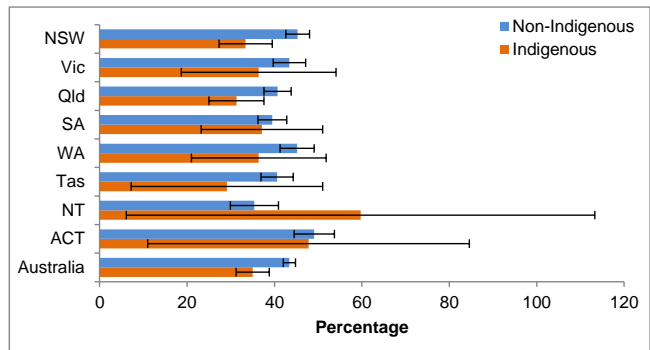


Figure 20: Prevalence of sufficient physical activity by sex and Indigenous status, children aged 5–17 years, Australia, 2012–13

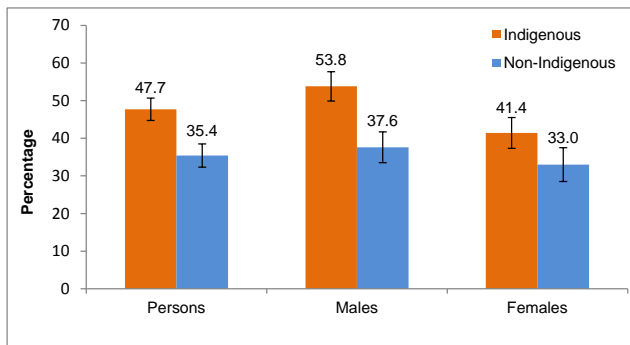
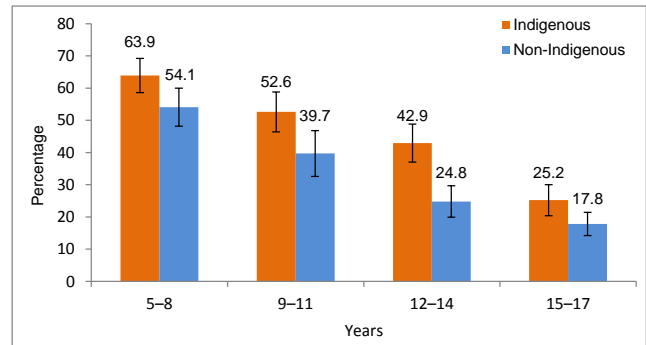


Figure 21: Prevalence of sufficient physical activity by Indigenous status, children aged 5–17 years, Australia 2012–13



4.6 High blood pressure

High blood pressure, also known as hypertension, is one of the risk factors for chronic disease (Appendix 1). Persistent high blood pressure can lead to serious health problems including hypertensive disease, heart attack, stroke, heart failure or kidney disease. High blood pressure data was based on physical measurement as described in the *Australian Aboriginal and Torres Strait Islander Health Survey*.⁹

Queensland (2012–13)

- Data for Indigenous Queenslanders are not available.

Australia (Indigenous Australian adults, 2012–13)⁹

- 1 in 5 (20%) or 64,200 had high blood pressure by measurement—35,400 males and 28,900 females.
- The prevalence was 28% higher in males than females (23% compared to 18%, Figure 22)
- After adjusting for age differences, Indigenous Australian adults were 17% more likely to have high blood pressure than non-Indigenous (25% and 21% respectively).
- Prevalence increased with increasing age from 6.6% in those aged 18–24 years to 36% in those aged 55 years and older.
- Of those with measured high blood pressure, 20% reported hypertensive disease (19% males, 22% females) with similar rates for non-Indigenous.
- Indigenous Australians with high blood pressure were 3.1 times as likely to have been diagnosed with diabetes (24% compared to 7.6%), and twice as likely to be diagnosed with chronic kidney disease (29% compared to 15%) as those with normal blood pressure.⁷ For all Australian adults, similar differences in prevalence were also observed for diabetes and chronic kidney disease but not for abnormal total cholesterol which was 32% higher in those with high blood pressure compared to those with normal blood pressure (41% compared to 31%)²⁵ (Figure 23).

Figure 22: Prevalence of high blood pressure in Indigenous Australians by sex, Indigenous status and age, 2012–13

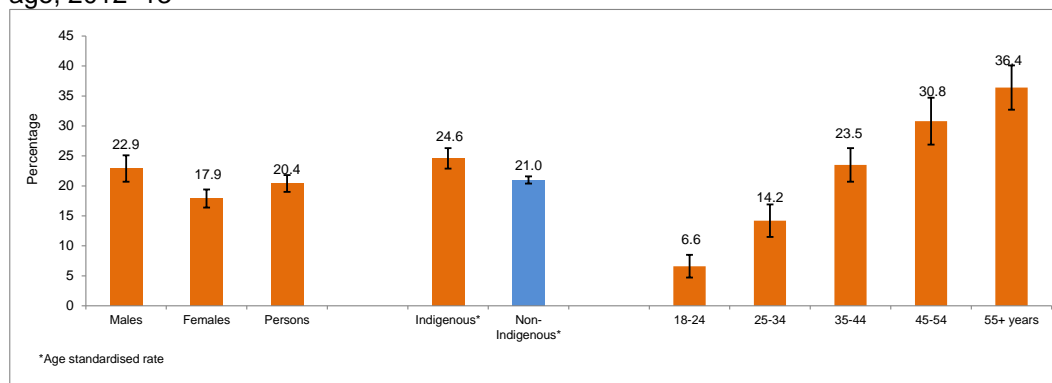
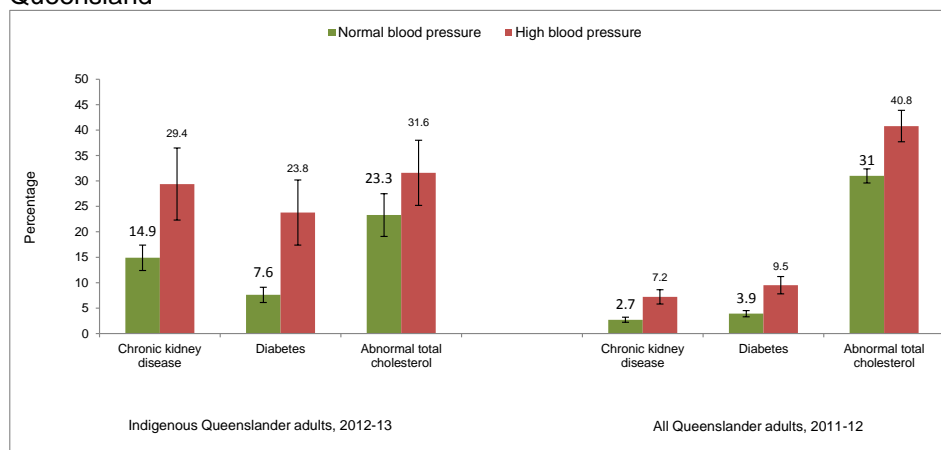


Figure 23: Prevalence of chronic kidney biomarkers by blood pressure and Indigenous status, Queensland



4.7 Dyslipidaemia and actions

Dyslipidaemia is a condition where abnormal total or low-density lipoprotein (LDL) cholesterol levels, or low levels of high-density lipoprotein (HDL) cholesterol are present in the blood.²⁸ Dyslipidaemia is an important risk factor for coronary heart disease or stroke. The methods of measurement of dyslipidaemia are described in the *Australian Aboriginal and Torres Strait Islander Health Survey: biomedical results, 2012–13*.⁷

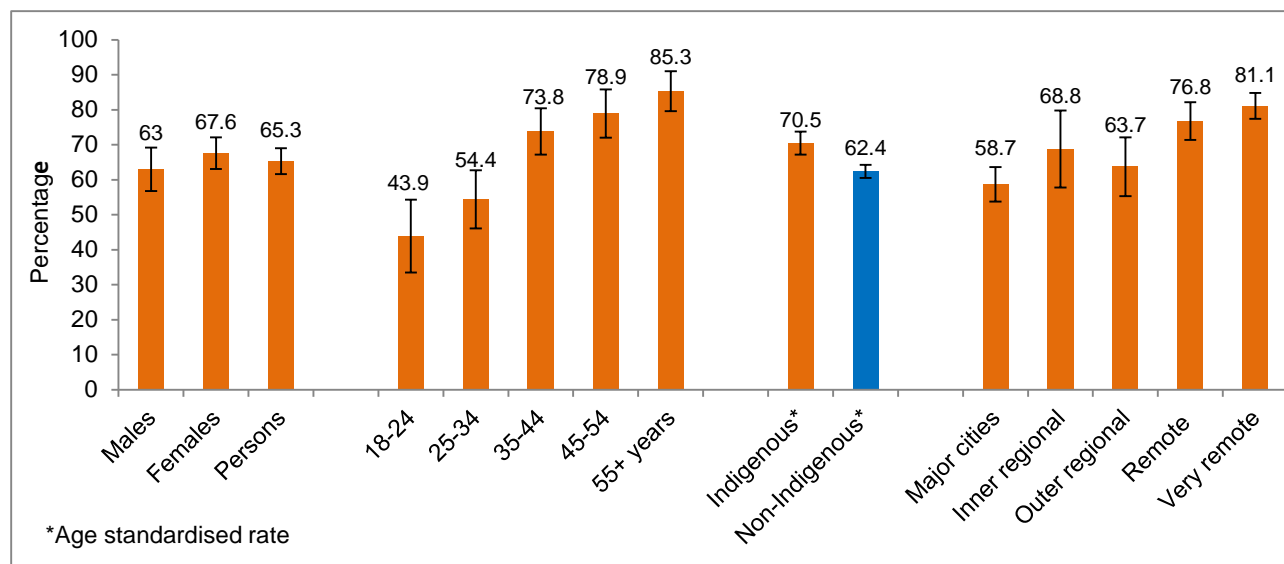
Queensland (2012–13)⁷

- 63% of Indigenous Queenslanders adults (50,800) were dyslipidemic.
- The Queensland rate was similar to national (65%) and the other jurisdictions.

Australia (2012–13)⁷

- About 2 in 3 Indigenous Australian adults had dyslipidaemia (65%) with similar rates for males and females (63% and 68% respectively, Figure 24).
- The prevalence of dyslipidaemia increased with age from 49% in 18–34 year olds to 85% in those aged 53 years and older.
- After adjusting for differences in the age structure, the prevalence of dyslipidaemia in Indigenous Australian adults was 13% higher than non-Indigenous (71% and 62% respectively).
- The prevalence of dyslipidaemia in Indigenous Australian adults living in remote and very remote areas was about 30% higher than in major cities (77% in remote and 81% in very remote areas compared to 59% in major cities).
- Of the Indigenous Australians with dyslipidaemia, 14% were using lipid lowering medication with no difference between males and females.
- After adjusting for age difference, Indigenous Australians with dyslipidaemia were 56% more likely to take lipid lowering medication compared to non-Indigenous Australians (20% and 13% respectively).

Figure 24: Prevalence of dyslipidaemia in Indigenous Australians by sex, Indigenous status and remoteness, 2012–13



Appendix 1: Abbreviations and definitions

ABS: Australian Bureau of Statistics (<http://www.abs.gov.au/>)

AATSIHS: Australian Aboriginal and Torres Strait Islander Health Survey

The *Australian Aboriginal and Torres Strait Islander Health Survey 2012–13* (AATSIHS) was conducted by the Australian Bureau of Statistics in 2012–13. The AATSIHS combines the existing ABS *National Aboriginal and Torres Strait Islander Health Survey* (NATSIHS) together with two new elements - a *National Aboriginal and Torres Strait Islander Nutrition and Physical Activity Survey* (NATSINPAS) and a *National Aboriginal and Torres Strait Islander Health Measures Survey* (NATSIHMS). The ABS has published several reports from the AATSIHS. They are part of the suite of data collections undertaken under the umbrella of the Australian Health Survey. These reports are available at the ABS website <http://www.abs.gov.au/>.⁷⁻¹⁰

Blood pressure

The force exerted by the blood on the walls of the arteries as it is pumped around the body by the heart. It is written, for example, as 134/70 mmHg, where the upper number is the systolic pressure (the maximum force against the arteries as the heart muscle contracts to pump the blood out) and the lower number is the diastolic pressure (the minimum force against the arteries as the heart relaxes and fills again with blood). Levels of blood pressure can vary greatly from person to person and from moment to moment in the same person.⁹

BMI: Body mass index

Overweight and obesity is determined by body mass index (BMI) which is derived from a person's height and weight. The BMI of a person is calculated by dividing the weight in kilograms by square of height in meters.²⁹ For adults, BMI is categorised as follows²⁴:

- underweight BMI <18.5
- normal BMI ≥18.5 to <25
- overweight BMI ≥25 to <30
- obese BMI ≥30

Developing one simple index for the measurement of overweight and obesity in children and adolescents is complex because of their growth over time. Therefore, the WHO combines different methods of calculations for children of different age groups to determine their healthy weight levels.³⁰

Cholesterol⁷

Cholesterol is a type of fat that circulates in the blood. It is essential for many metabolic processes, including the production of hormones and in building cells. There are two main types of cholesterol: high density lipoprotein (HDL) and low density lipoprotein (LDL).

HDL cholesterol is the measure of "good" cholesterol. HDL picks up excess cholesterol in the blood and takes it to the liver where it is broken down. High levels of HDL cholesterol reduce the risk of heart disease, while low levels increase the risk. In the ATSIHMS, abnormal HDL cholesterol is defined as less than 1.0 mmol/L for males, and as less than 1.3 mmol/L for females.

Low density lipoprotein (LDL) cholesterol is the measure of "bad" cholesterol in the blood. Over time, LDL cholesterol can build up in the blood vessels and arteries, blocking the passage of blood flow. In the ATSIHMS, abnormal LDL cholesterol is defined as 3.5 mmol/L or greater for both males and females.

COPD: Chronic obstructive pulmonary disease

COPD is a progressively disabling respiratory condition that limits airflow in the lungs. People with COPD are prone to severe episodes of shortness of breath which may not be fully reversible even with treatment. Tobacco smoking is a key risk factor for COPD.

CKD: Chronic kidney disease

Kidney disease is a chronic disease in which a person's kidney function is reduced or damaged. This affects the kidney's ability to filter blood and therefore control the body's water and other hormone levels, leading to increased fluid and waste within the body.³¹ Kidney disease is also associated with several other chronic diseases such as diabetes and cardiovascular disease.

Diabetes (diabetes mellitus)

A chronic condition in which the body cannot properly use its main energy source, the sugar glucose. There are three main types of diabetes: type 1, type 2 and gestational diabetes. The NATSIHMS used two tests to measure diabetes: a fasting plasma glucose test and a glycated haemoglobin test, commonly referred to as HbA1c.⁷

Dyslipidaemia

Refers to a number of different lipid disorders; that is, conditions where there are too many fats in the blood.⁷ A person was considered to have dyslipidaemia if they had one or more of the following:

- taking cholesterol-lowering medication
- total cholesterol ≥ 5.5 mmol/L
- HDL cholesterol < 1.0 mmol/L for men and < 1.3 mmol/L for women
- LDL cholesterol ≥ 3.5 mmol/L
- triglycerides ≥ 2.0 mmol/L.

FPG: Fasting plasma glucose

A blood test that measures the amount of glucose (a sugar) in the blood. Fasting plasma glucose levels of ≥ 7.0 mmol/L indicate diabetes. A fasting plasma glucose level from 6.1 mmol/L to < 7.0 mmol/L is known as impaired fasting plasma glucose and indicates that a person is at high risk of diabetes.⁷

HDL cholesterol: See cholesterol.

High blood pressure

High blood pressure, also refer to as hypertension, is a medical condition that significantly increases the risks of heart and kidney disease. Hypertension is diagnosed if a measured blood pressure reading of 140/90 mm Hg (millimetres of mercury) or higher is recorded.

Hypertension

Hypertension is a significant risk factor for heart disease, stroke and other cardiovascular diseases. Hypertension is defined as those persons 18 years and older who had measured high blood pressure (a systolic reading of 140 mmHg or more and/or a diastolic reading of 90mmHg or more) or were taking hypertension medications.³²

LDL cholesterol: See cholesterol.

NATSIHMS: See AATSIHS

Prevalence

The number of events such as cases of diabetes in a given population at a designated time. Prevalence is expressed as a percentage of the given population in this report.

Total cholesterol

Total cholesterol is a measure of all the different types of fats in the blood. In the NATSIHMS, abnormal total cholesterol is defined as 5.5 mmol/L or greater.⁷

Appendix 2: Methodological limitations

Reporting of small numbers

This report is based on survey data for both Indigenous Queenslanders and Indigenous Australians depending upon the availability of data. The reporting of small numbers is problematic for two reasons; (1) data potentially becomes identifiable, (2) statistical limitations (uncertainty).

Australia's Indigenous population was estimated to be 669,881 in 2011, which was 3% of the total Australian population. There were 155,825 Indigenous Queenslanders, 4.2% of the Queensland population.³³ Due to the small numbers of Indigenous populations, or even smaller numbers in some areas, it was not possible to report some conditions due to confidentiality reasons as well as uncertainty surrounding the small numbers. Statistical significance was determined on the basis of difference in two estimates where their 95% confidence intervals did not overlap.

Indigenous status

Both the completeness and accuracy of Indigenous status in health data collections and reporting are paramount to make any valid comparison of health status between the Indigenous and non-Indigenous populations. In Australia, the major primary data collectors acknowledge that not all Indigenous people are identified in the different data sets.³⁴ The extent of undercount of Indigenous population in 2011 census was estimated to be 17% or 114,000 persons. About 1 million census records (5%) had an unknown Indigenous status.³⁵

Measurement of diabetes

The prevalence of diabetes reported in this report was based on NATSIHMS which used fasting plasma glucose (FPG) test.⁷ Reporting diabetes prevalence by using FPG test alone instead of using a combination of FPG and oral glucose tolerance test was likely to have underestimated the true prevalence.³⁶

Appendix 3: Australian guidelines

3.1 Australian guidelines to reduce health risks from drinking alcohol¹⁴

Guideline 1: Reducing the risk of alcohol-related harm over a lifetime		Guideline 2: Reducing the risk of injury on a single occasion of drinking	
Evidence	Guideline	Evidence	Guideline
The lifetime risk of harm from drinking alcohol increases with the amount consumed	For healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury	On a single occasion of drinking, the risk of alcohol-related injury increases with the amount consumed	For healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion
Guideline 3: Children and young people under 18 years of age		Guideline 4: Pregnancy and breastfeeding	
Evidence	Guideline	Evidence	Guideline
Children under 18 years of age are at greatest risk of harm from drinking	Young people aged 15–17 years should delay initiation of drinking as long as possible. Not drinking is the safest option	Maternal alcohol consumption can harm the developing fetus or breastfeeding baby	For women who are pregnant, are planning a pregnancy, or are breastfeeding, not drinking is the safest option

3.2 Australian dietary guidelines 2013¹⁵

	Fruit serves (150g)	Vegetable serves (75g)
Children		
2-3 years	1	2.5
4-8 years	1.5	4.5
9-11 years	2	5
Adolescent		
Boys 12-18 years	2	5.5
Girls 12-18 years	2	5
Adults		
Males	2	6
Females	2	5
Pregnant women	2	5
Lactating women	2	7.5

3.3 Australian physical activity guidelines¹⁶

Age group	Duration	Intensity	Frequency	Additional notes
5–17 years	Minimum 60 minutes	Moderate to vigorous	Everyday	Not more than 2 hours of recreational use of electronic media
Adults	Minimum 30 minutes	Moderate (at least)	Most days (preferably all)	Not applicable
Older people 65+ years	Minimum 30 minutes	Moderate (at least)	Most days (preferably all)	Incorporating strength, fitness, balance and flexibility

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