Aboriginal Health Profile

The Murrumbidgee Local Health District 2020

Population and health profile for Aboriginal people

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Copies available: https://www.mlhd.health.nsw.gov.au/about-us/population-data-and-health-statistics

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Tables

Aboriginal Health in Australia

Excerpt from the AIHW Australia's Health 2016

The health of Aboriginal and Torres Strait Islander Australians is improving on a number of measures, including significant declines in infant and child mortality and decreases in avoidable mortality related to cardiovascular and kidney diseases. Despite these improvements, significant disparities persist between Indigenous and non-Indigenous Australians. Indigenous Australians continue to have lower life expectancy, higher rates of chronic and preventable illnesses, poorer self-reported health, and a higher likelihood of being hospitalised than non-Indigenous Australians (AIHW 2015a, 2015b).

There are many dimensions to the poorer health status of Indigenous Australians compared with other Australians and a complex range of factors are behind these differences. These include:

- *differences in the social determinants of health, including lower levels of education, employment, income and poorer quality housing, on average, compared with non-Indigenous Australians*
- *differences in behavioural and biomedical risk factors such as higher rates of smoking and risky alcohol consumption, lack of exercise, and higher rates of high blood pressure for Indigenous Australians*
- *the greater difficulty that Indigenous people have in accessing affordable and culturally appropriate health services that are in close proximity.*

About this report

This report contains a compilation of information available about the health status of Aboriginal people in Australia, NSW and where available at the Murrumbidgee Local Health District level. "Aboriginal people" in this report includes Aboriginal and Torres Strait Islander people the term "Indigenous" is used where quoting Commonwealth Government data sources and reports and refers to the indigenous people of Australia i.e. Aboriginal and Torres Strait Islander people. The report looks at those factors which influence people's health "the determinants" as well as health status indicators such as death and hospitalisation rates.

A list of all the data available on health indicators for the Aboriginal population in NSW is available on HealthStats NSW at www.healthstats.nsw.gov.au. Look for "Topics" – "Aboriginal Health".

Data from the Australian Bureau of Statistics Census of 2016 has been incorporated in this version of the report.

Acknowledgement of country

Murrumbidgee Local Health District (MLHD) acknowledges the Traditional Custodians of the land in the MLHD region. We pay respect to past and present Elders of this land: the Wiradjuri, Yorta Yorta, Baraba Baraba, Wemba Wemba and Nari Nari peoples.

Aboriginal Health Summary

Section	Key finding	Impact
The population	11,461 Aboriginal people in 2016, compared to 9,504 in 2011 and increase of 2,021 people. Higher proportion of Aboriginal people in MLHD than in NSW (4.8% compared to 2.9%). Largest Aboriginal populations are in Wagga Wagga, Albury and Griffith. LGAs with the highest proportions of Aboriginal people are Lake Cargelligo area 14.6%, Narrandera (9.7%) and Carrathool (8.0%).	Proportion of population identifying as Aboriginal in MLHD is higher than the State therefore Aboriginal health issues are even more critical in MLHD. The Aboriginal population is not evenly spread across all LGAs so areas such as Lake Cargelligo, Narrandera and Carrathool need pay particular attention to cultural issues as well as LGAs such as Wagga Wagga, Albury and Griffith where there are higher numbers of Aboriginal people residing.
Social determinants of health	The most highly disadvantaged Aboriginal communities in MLHD were around Young, Deniliquin, Cootamundra-Gundagai and Griffith. Aboriginal children are twice as likely to be developmentally vulnerable in their first year at school as non-Aboriginal children. The unemployment rate for Indigenous people was 4.2 times as high as the rate for non-Indigenous people (based on age-standardised rates).	The relative socioeconomic disadvantage experienced by Aboriginal people in NSW continues to place them at a greater risk of exposure to behavioural and environmental health risk factors. Developmental vulnerability can effect learning, behaviour and health throughout life. Lowers “health literacy”.
Behavioural determinants	26% of Aboriginal adults aged 16 years and over were daily smokers in NSW, rates are declining NSW 10.7 (2018-2019).	Smoking is the single most preventable cause of ill health and death in Australia.

	Rates of hospitalisation attributable to smoking for Aboriginal people in NSW are triple the rates of the non-Aboriginal population. In MLHD the percentage of Aboriginal mothers smoking in pregnancy was 43% and non-Aboriginal mothers it was 15%, the rate has been declining since 2001. Both these rates are higher than the rest of NSW.	Efforts to prevent people taking up smoking and to help people quit smoking must remain a priority.
• Alcohol	Around 49% of Aboriginal adults reported levels of alcohol consumption considered a risk to health compared to 33% in non-Aboriginal people (NSW 2019). The rate of hospitalisations attributable to alcohol in the Aboriginal population was double the rate in the non-Aboriginal population in 2018-19.	Excessive alcohol consumption is one of the main preventable public health problems in Australia, with alcohol being second only to tobacco as a preventable cause of drug-related death and hospitalisation. Long term adverse effects of high consumption of alcohol on health include contribution to cardiovascular disease, some cancers, nutrition-related conditions, risks to unborn babies, cirrhosis of the liver, mental health conditions, tolerance and dependence, long term cognitive impairment, and self-harm. Harm from alcohol-related accident or injury is experienced disproportionately by younger people; over half of all serious alcohol-related road injuries occur among 15–24-year-olds. However, harm from alcohol-related disease is more marked among older people.
• Exercise	The adult Aboriginal population reported similar rates of adequate exercise to the non-Aboriginal population decreasing from 49 per cent in 2002 to close to 36 per cent in 2019	Physical activity is a preventive factor for cardiovascular disease, cancer, mental illness, diabetes mellitus and injury. MLHD must continue to support programs which encourage regular exercise and fitness (Aunty Jeans)

• Nutrition and Food Security	33% of Aboriginal adults consumed 2 or more serves of fruit daily and 3% consumed the recommended number of serves of vegetables daily (2019) The Aboriginal population in NSW was significantly more likely to report food insecurity than the non-Aboriginal population with rates of food insecurity in the past 12 months hovering around 15% for Aboriginal people from 2002 to 2010 with a rise in 2012 to 2014 to around 20%, rates for the non-Aboriginal population remained around 6 per cent from 2002 to 2014	Fruit and vegetable consumption is strongly linked to the prevention of chronic disease and to better health. Vegetables and fruit are sources of antioxidants, fibre, folate, and complex carbohydrates. The fibre and low-energy content of fruit and vegetables may benefit weight control. Food insecurity is associated with general poor health and poor nutrition and refers to not having sufficient food; running out of food and being unable to afford more; eating a poor quality diet as a result of limited food options; anxiety about acquiring food; or having to rely on food relief.
• Above healthy weight	67% of Aboriginal adults (aged 16 years and over) in NSW reported being **overweight or obese** in 2019 compared to 55% in the non-Aboriginal population The **obesity** rate in the Aboriginal population was 36 per cent compared to 22 per cent in the non-Aboriginal population. In the MLHD adult population obesity rate was 35 per cent and all those above healthy weight made up 69 per cent of adults. The rate of hospitalisations attributable to being overweight for Aboriginal people was around 1.5 times that of non-Aboriginal people.	Excess weight, especially obesity, is a major risk factor for cardiovascular disease, type 2 diabetes, some musculoskeletal conditions and some cancers. As the level of excess weight increases, so does the risk of developing these conditions. In addition, being overweight can hamper the ability to control or manage chronic conditions.
Self-rated health	59% of non-Aboriginal adult residents of NSW enjoyed excellent, very good or good self-rated health compared to 81% of Aboriginal adults.	Longitudinal studies worldwide have consistently shown that self-rated health is a strong and independent predictor of subsequent illness and premature death.

	From 2002 to 2015 the gap between Aboriginal and non-Aboriginal self-rated health has been around 10% in 2016 it was 20%.	
Mental health	The Aboriginal population consistently reported slightly higher levels of psychological distress in adults (approx. 20%) compared to the non-Aboriginal population (17%)	Mental ill health is one of the leading causes of non-fatal burden of disease and injury in Australia. Mental ill health was estimated to account for 12% of the disease burden in Australia in 2011, with anxiety and depression, alcohol abuse and personality disorders accounting for almost three-quarters of this burden.
Suicide	The Aboriginal suicide rate is 1.6 times that of non-Aboriginal people of all ages. Suicide rates for Aboriginal youth are approximately double that of non-Aboriginal 15-24 year olds (2014-2018). The suicide rate for Aboriginal males was 1.8 times that of non-Aboriginal males and for females the ratio was 1.4 times. The suicide rate for males in the non-Aboriginal population is three times that of the female population and in Aboriginal people the male suicide rate is 4 times as high as the female.	40 Aboriginal people on average died in NSW per year from suicide, 11 (25%) of these are aged 15-24 yrs and 30 (>75%) were male (2014-2018). Both suicide as a cause of death and identification of Aboriginality in death data would contribute to a possible under-enumeration of suicide death numbers and in particular Aboriginal suicide deaths. There are approximately 42 suicide deaths in MLHD annually, it would be reasonable to assume that at least 2 of these were Aboriginal people.
Intentional self-harm	Aboriginal people made up 10% of the total self-harm admissions at rate of three times that of the non-Aboriginal population. Females had higher rates of admission than males in both the Aboriginal and non-Aboriginal	Young people are generally over-represented in self-harm statistics. There were approximately 300 self-harm admissions in 2018-19 in MLHD, 100 of which were 15-24 year olds. Applying NSW ratios to MLHD numbers there could be around 30 admissions for

	populations however Aboriginal males had a rate of admission over three times higher than non-Aboriginal males. Aboriginal female admission rates were 2.7 times higher than non-Aboriginal female admission rates.	Aboriginal people for self-harm of which around 10 could be youth admissions.
Methamphetamine use	In 2016-17 there were 6,660 methamphetamine-related hospitalisations for NSW residents aged 16 years and over, comprising 0.2% of all NSW hospitalisations in that year. In 2016-17, Aboriginal people accounted for 16% of all patients with methamphetamine-related hospitalisations in that year. The population rate of hospitalisation among Aboriginal people was just under 6-fold higher than non-Aboriginal people. The number of methamphetamine-related hospitalisations in MLHD had risen from 22 in 2009-10 to 126 in 2014-15*. In NSW two-thirds (65%) of unplanned methamphetamine-related Emergency Department (ED) presentations in 2015-16 were not admitted, applying this figure to MLHD data could mean around 250 ED presentations locally*. **data by LHD has not been updated on HealthStats NSW in 2020.*	Methamphetamines are potent and illegal stimulants that speed up the function of the brain and nervous system. Regular methamphetamine users may suffer from poor mental health, including depression, anxiety, chronic sleep disturbance, mood changes, impaired concentration and lack of motivation. Methamphetamine can cause psychotic symptoms in otherwise healthy people and can also worsen or bring on psychotic symptoms in people with pre-existing mental health problems. The alarming increase in methamphetamine use in recent years should be of concern to the MLHD of particular concern is the higher likelihood of use in the Aboriginal population.
Infectious diseases	Acute respiratory infection and skin infections hospitalisation rates are significantly higher in Aboriginal populations.	The infectious disease groups that are most likely affected by environmental conditions include respiratory infections, gastrointestinal infections, skin infections, and eye and ear infections. Whilst some of these conditions may not be life

	Hearing loss is more common in Aboriginal children than non-Aboriginal children. The main causes of hearing loss are disorders of the middle ear, including otitis media (middle ear infection). Otitis media is common in children following an upper respiratory infection. Aboriginal people have : • 4 x rate of Hepatitis C • 2 x rate of Hepatitis B • 3 x rate of chlamydia • 6 x rate of gonorrhoea • 6 x rate of syphilis, compared to non-Aboriginal people in Australia.	threatening for adults, they can be for children, particularly those under 5 years old. The Housing for Health program aims to improve the health status of Aboriginal people, particularly children by assessing, and repairing or replacing health hardware so that houses are safe and the occupants have the ability to carry out "Healthy Living Practices" (HLPs). Housing for Health has been delivered to Aboriginal communities across NSW since 1997 Aboriginal Health staff in MLHD attend schools and pre-schools to perform OM screening and/or provide OM education. The screening includes otoscopy, tympanometry and audiogram. The aim of the program is to reduce the number of children with hearing problems by screening them regularly and referring them to their GPs if necessary. Higher rates of blood borne and sexually transmissible disease emphasises the need for promoting testing and treatment for Aboriginal people.
Oral Health	Among Aboriginal and Torres Strait Islander peoples: • children generally have more than twice the caries experience and a greater proportion of untreated caries; • adults have more missing teeth; • children and adults have worse periodontal health, with poor periodontal health evident in younger populations.	Oral health is an integral component of lifelong health and is much more than the absence of oral disease. Oral health includes a person's comfort in eating and social interactions, their self-esteem and satisfaction with their appearance. Oral health relates to the health of the mouth and related tissues, which enables an individual to eat, speak and socialise. Poor oral health is widespread, but is largely preventable through population-level interventions, good personal oral hygiene and regular, preventive dental care (AIHW 2011f). Oral health issues share common risk factors with other diseases and poor oral health occurs alongside a range of conditions such as cardiovascular disease, cerebrovascular disease, diabetes, preterm and low birth-weight babies, aspiration pneumonia, bloodborne

		disease, infective endocarditis and otitis media (Australian Government 2011). Oral health in Aboriginal communities, particularly in rural and remote locations, is affected by factors that operate from infancy through to old age, including water quality and fluoridation, diet, smoking, alcohol consumption, stress, infection, the cost and availability of dental services and transport issues (NACOH 2004).
Chronic disease	13.7 % of Aboriginal adults in NSW reported having diabetes compared to 11.3% in all NSW. Hospitalisation and death rates for diabetes in Aboriginal people are 3 times the rate of non-Aboriginal people. Hospitalisation rate for COPD in Aboriginal people is 5 times the rate of non-Aboriginal people. Hospitalisation rate for circulatory disease in Aboriginal people is 1.6 times the rate of non-Aboriginal people. Aboriginal people are more likely to hospitalised as younger ages for circulatory disorders.	Significant improvements in health outcomes (and reductions in hospitalisations) for Aboriginal people could be made through preventive care and early disease management as well as management of certain conditions outside the hospital system. Programs such as 48 Hours and Aunty Jeans are currently running in MLHD. Partnerships with the primary care providers should be strengthened.
Local hospitalisation data	The most common causes in term of numbers of hospitalisation for Aboriginal people in MLHD were dialysis, maternal and neonatal related causes, “other factors influencing health” , respiratory disease and injury and poisoning. Aboriginal people make up around 5% of the MLHD population and 6% of the hospitalisations for MLHD residents.	Even though the identification and recording of Aboriginality in the hospital data sets is reported to be low, Aboriginal people are over-represented in hospital statistics for some causes. Programs to reduce the likelihood of hospitalisation in the Aboriginal people should be encouraged as well as ensuring when hospitalisation is required the care available is culturally appropriate.

	Particular categories where Aboriginal people are "over-represented" proportionally are dialysis and mental disorders and the Acute preventable hospitalisations.	
Trends in major causes of hospitalisation	Trends of particular note for the Aboriginal population of MLHD are: • Circulatory diseases: High and decreasing in recent years (**Figure 44**) • Dialysis: High and increasing (**Figure 45**) • Endocrine diseases (includes diabetes): High but decreasing (**Figure 47**) • Infectious diseases: High and increasing (**Figure 49**) • Injury and poisoning: High and increasing (**Figure 50**) • Mental disorders: Very high compared to non-Aboriginal population and increasing (**Figure 54**) • Respiratory diseases: Very high and increasing (**Figure 56**) • Symptoms and abnormal findings: Very high and increasing (**Figure 59**)	Reporting/recording of Aboriginality in the hospital data in MLHD is improving which could be contributing to the increasing trends.
Potentially Preventable Hospitalisations	The age-adjusted rate of admission for potentially avoidable hospitalisations for Aboriginal people in 2016-17 in MLHD was significantly higher compared to non-Aboriginal people in MLHD and to Aboriginal people in NSW. Hospitalisation rates for Vaccine preventable, Acute and Chronic condition categories of PPH	"48 hour" program should help to reduce preventable readmissions for some causes. Primary care and self-management of chronic conditions will help reduce preventable admissions

	were all significantly higher for Aboriginal people in MLHD compared to non-Aboriginal people these rates were higher than rates for the total NSW Aboriginal population except for Vaccine Preventable Conditions.	
Life expectancy and mortality	Aboriginal people on average live 10 years less than non-Aboriginal people. The death rate for Aboriginal people overall ages in NSW is 1.4 times that of the non-Aboriginal population. For Aboriginal people in NSW 56 per cent of all deaths in 2014-18 period occurred in people aged less than 65 years compared to only 16 per cent of deaths for non-Aboriginal people.	Chronic diseases, such as cardiovascular diseases and cancer, as well as injuries, which usually occur in the 35 to 74 year age groups in the Indigenous population, are responsible for the majority of the life expectancy gap. • *Aboriginal people are dying from similar causes as non-Aboriginal people; however they die at a much younger age.* • *Aboriginal people are more likely to die from causes considered to be preventable, than non-Aboriginal people.*
Aboriginal and Torres Strait Islander mothers and babies	Aboriginal mothers made up 10 per cent of the mothers giving birth in MLHD in 2018. 274 Aboriginal babies were born in 2019 In MLHD in 2018, 14 per cent of Aboriginal mothers were aged under 20 years compared to 3.2 per cent of non-Aboriginal mothers. In MLHD for 2018, 73 per cent (75% in NSW) of Aboriginal mothers and 80 per cent (80% in NSW) of non-Aboriginal mothers commenced antenatal care before 14 weeks gestation in NSW. The percentage of mothers receiving antenatal care by 20 weeks increased to 84 per cent for	Focus on increasing antenatal care at very early stages of pregnancy to assess risks and improve health outcomes. Educate pregnant women and families about the risk factors associated with perinatal morbidity and mortality i.e. reducing alcohol and tobacco use in pregnancy and promote breastfeeding. Transport services, whether provided by public system, Aboriginal Community Controlled Organisations or the Aboriginal Maternal and infant Health Service (AMIHS) team, are essential for access to care. MLHD has AMIHS team members located in Griffith, Lake Cargelligo, Narrandera and Wagga.

	Aboriginal mothers and 92 per cent for non-Aboriginal mothers however rates were lower than NSW rates of 88 per cent and 93 per cent respectively. In MLHD 53 per cent of Aboriginal mother's giving birth in 2019 reported smoking during pregnancy compared to 15 per cent in the non-Aboriginal mothers. There is a decreasing trend in both Aboriginal and non-Aborginal mothers to smoke during pregnancy in MLHD although rates locally continue to be higher than the rest of NSW	
Immunisation	In MLHD the gap between rates of full immunisation in the Aboriginal and non-Aboriginal population has been closing gradually since 2008 for the 1 year age group and closed almost entirely in the 5 year age group. The percentage of Aboriginal children fully immunised at 5 years of age in MLHD is higher than the rate for non-Aboriginal children in the total NSW population	Immunisation services in MLHD focussing on Aboriginal children have been very effective in closing the gap in immunisation rates.
Health Checks	Murrumbidgee PHN (which has the same boundary as Murrumbidgee LHD) had 2,770 health checks registered in 2013-14 for a base population of 11,839 up from 1,874 checks in 2011-12 and 3,677 checks in 2017-18 for a base population of 14,095 with a usage rate 26.1% up from 23.4% in 2013-14.	Ensuring access to the health check is an important part of the Australian Government's commitments to *Closing the Gap* in both life expectancy and mortality. Use of health checks has increased substantially over time; nonetheless, only about 1 in 5 Indigenous people had such a health check in 2013–14.

Aboriginal Health workforce	93 Aboriginal people employed in MLHD making up 2.8% of the total workforce, Oct 2020 (increased from 79 staff Oct 2019). 21 out of 29 current staff working in Aboriginal Health in MLHD are Aboriginal people (72%) (November 2020) MLHD target for employment of Aboriginal people is 3% of the total by 2020.	Improving both Aboriginal representation in the health workforce and ensuring that they have access to career and development opportunities is an essential component of building a better working environment. Murrumbidgee Local Health District is creating a workforce that is affirming of Aboriginal culture and values which seeks to create targeted and general employment and career opportunities for Aboriginal people. NSW Health employees play a crucial role in contributing to and delivering health services to improve the health and wellbeing of the population of NSW. The engagement, support and growth of the Aboriginal workforce is crucial to ensuring the delivery of effective and culturally safe health services for Aboriginal people and communities.

MLHD facility Aboriginal health performance Indicators

(from Aboriginal Health Indicators Dashboard , MLHD)

2019/20 financial year in MLHD facilities	2018/19 comparison
217 unplanned readmissions within 28 days 4.1% - better than 5.6% target	279 unplanned readmissions within 28 days 4.6% - better than 4.7% target
609 patients who readmitted to ED within 48 hours 6.8% - higher than 5.1% target	563 patients who readmitted to ED within 48 hours 6.8% - higher than 5.1% target
192 patients Discharged against medical advice 3.3% - higher than 2.1% target	144 patients Discharged against medical advice 2.1% - higher than 1.0% target
828 patients left ED before treatment could be completed 5.9% - higher than 1.0% target	813 patients left ED before treatment could be completed 5.6% - higher than 1.0% target
21 Acute Mental Health patients who readmitted within 28 days 16% - higher than 13.0% target	22 Acute Mental Health patients who readmitted within 28 days 16.9% - higher than 13.0% target
166 mental health patients followed up within 7 days of discharge 78.3% - better than 70.0% target	

The population

Key facts

14,083	Aboriginal people in MLHD (2016 ABS ERP, 11,461 Census 2016)
5.8%	MLHD population is Aboriginal (2.9% in NSW)
21.7%	Lake Cargelligo area population identified as Aboriginal
4,238	Aboriginal people in Wagga Wagga
6%	Aboriginal people in MLHD are aged 65 years or over (Non-Aboriginal 21%)

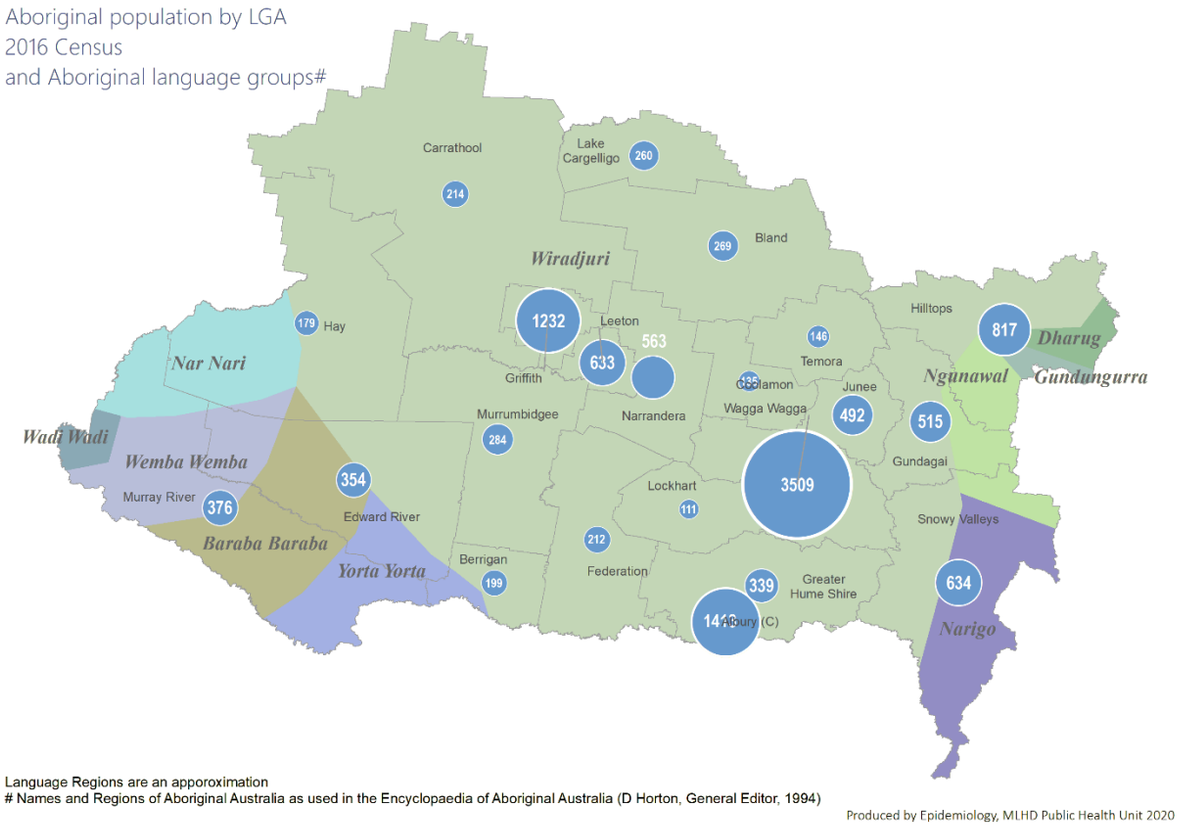


Figure 1 - Aboriginal population by LGA and language groups, 2016 Census

From the 2016 Census

There were an estimated 11,461 Aboriginal people living in MLHD (excluding 1,413 in Albury LGA) in August 2016 (ABS 2016 Census), this is an increase of over 2,000 people identifying as Aboriginal compared to the 2011 Census. In NSW, Aboriginal people made up 2.9 per cent of the total population and in MLHD the percentage of Aboriginal people was 4.8 per cent (Table 1). The map (Figure 1) shows the distribution of Aboriginal people in MLHD by local government area (LGA) by size of the Aboriginal population in that LGA. The LGAs with the highest proportions of Aboriginal people in MLHD are Lake Cargelligo - part of Lachlan Shire – (14.6% 260 people), Narrandera Shire (9.7%,

569) and Carrathool (8.0%, 217 people). The largest numbers of Aboriginal people in Wagga Wagga (3,508, 5.6%) and Griffith (1,226, 4.8%) - *Albury (1,413, 2.8%).* Murrin Bridge is an Aboriginal community of around 83 people just to the north of the Lake Cargelligo area border, within the shire of Cobar, it is considered part of the Lake Cargelligo health service catchment, but is not within the MLHD boundary.

Aboriginal people have a much shorter life expectancy than non-Aboriginal people. In 2010-12, life expectancy in NSW was estimated to be 70.5 years in Aboriginal males and 74.6 years in Aboriginal females, almost 10 years lower than in males and females in the general population (ABS 3302.0.55.003 2013).

Table 1 – Aboriginal people by Local Government Area, 2016 Census

LGA 2016	Aboriginal	Non Aboriginal	Total population	Per cent Aboriginal of total
Berrigan	199	7433	8462	**2.4%**
Bland	269	5045	5958	**4.5%**
Carrathool	214	2276	2723	**7.9%**
Coolamon	135	3720	4313	**3.1%**
Edward River	354	7619	8847	**4.0%**
Federation	212	11090	12279	**1.7%**
Greater Hume Shire	339	9364	10357	**3.3%**
Griffith	1232	22079	25635	**4.8%**
Gundagai	515	9838	11144	**4.6%**
Hay	179	2421	2945	**6.1%**
Hilltops	817	16437	18497	**4.4%**
Junee	492	5286	6295	**7.8%**
Lake Cargelligo (part of Lachlan Shire)	260	1322	1775	**14.6%**
Leeton	633	9555	11167	**5.7%**
Lockhart	111	2758	3121	**3.6%**
Murray River	376	10451	11682	**3.2%**
Murrumbidgee	284	3146	3838	**7.4%**
Narrandera	563	4689	5853	**9.6%**
Snowy Valleys	634	12568	14398	**4.4%**
Temora	146	5603	6110	**2.4%**
Wagga Wagga	3509	55373	62383	**5.6%**
ALL MLHD	11473	208073	237782	**4.8%**
* Murrin Bridge (Cobar Shire)	82		83	**98.8%**
Albury LGA	1413	46182	51080	**2.8%**
All NSW	***216176***			***2.9%***

The Aboriginal population in Murrumbidgee was significantly younger than the non-Aboriginal population, 36.4% of the Aboriginal population were aged 0 to 14 years, and 7.2% were aged 60 years and over, compared with 18.7% and 26.5% respectively non-Aboriginal people (

Figure 2 - Aboriginality by age group, Murrumbidgee 2016

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016, compiled through TableBuilder ABS, 2017.

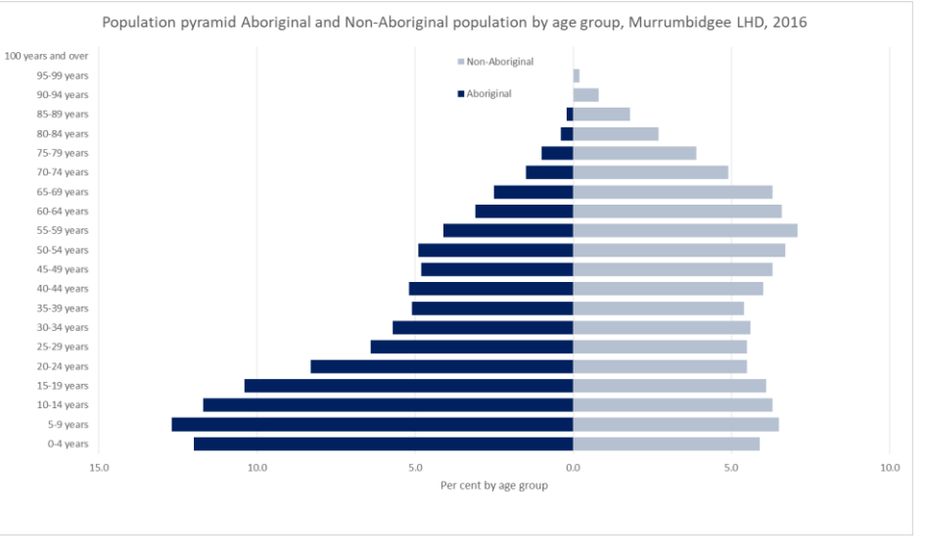
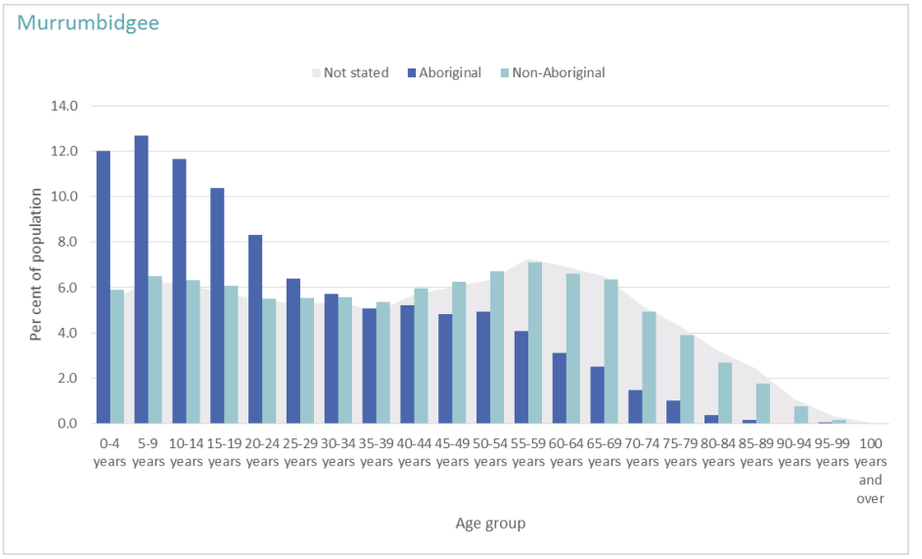


Figure 3 - Population pyramid by Aboriginality, MLHD 2016

Table 2, Figure 2 and Figure 3). There is also a substantial drop in the size of the Aboriginal population between 15-19 years and 25-29 years, reflecting a relatively high mortality rate among older teenagers as well as migration out of the area for 20-29 year olds. From 2006 to 2016 the proportion of Aboriginal people aged 75 years or over has increased from 1.0 per cent to 1.6 per cent.

The proportion of the Aboriginal population aged 0-4 years has decreased in MLHD from 13.6 percent in 2006 compared to 12.0 per cent in 2016.



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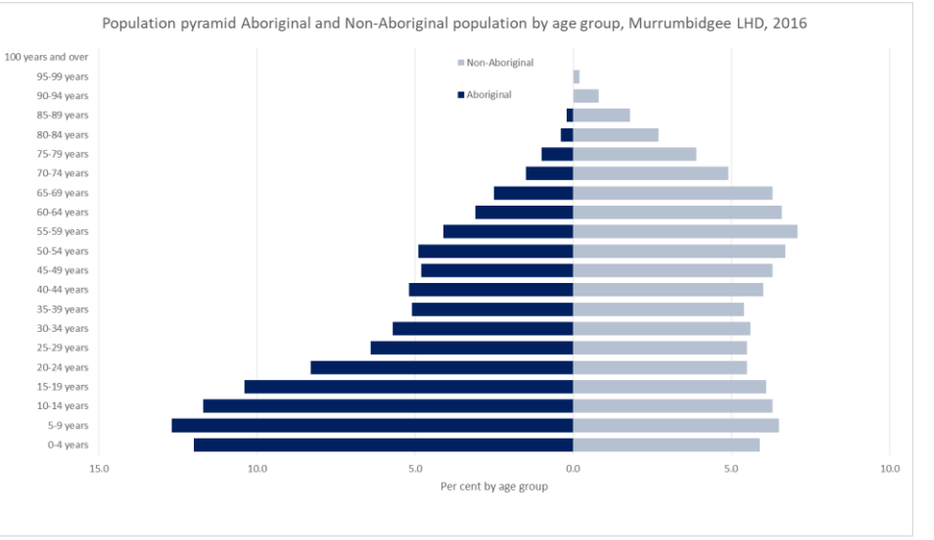


Figure 3 - Population pyramid by Aboriginality, MLHD 2016

Table 2- Aboriginality – By age group 2016, Murrumbidgee LHD

Age Groups	Number				Per cent			
	Aboriginal	Non-Aboriginal	Not stated	Total	Aboriginal	Non-Aboriginal	Not stated	Total
0-4 years	1379	12245	988	14615	12.0	5.9	5.4	**6.1**
5-9 years	1456	13532	1139	16131	12.7	6.5	6.2	**6.8**
10-14 years	1337	13164	1123	15634	11.7	6.3	6.2	**6.6**
15-19 years	1189	12637	1046	14864	10.4	6.1	5.7	**6.3**
20-24 years	952	11430	994	13374	8.3	5.5	5.5	**5.6**
25-29 years	732	11528	960	13211	6.4	5.5	5.3	**5.6**
30-34 years	655	11605	980	13249	5.7	5.6	5.4	**5.6**
35-39 years	581	11149	903	12632	5.1	5.4	5.0	**5.3**
40-44 years	600	12414	1035	14049	5.2	6.0	5.7	**5.9**
45-49 years	552	13031	1099	14679	4.8	6.3	6.0	**6.2**

Age Groups	Number				Per cent			
	Aboriginal	Non-Aboriginal	Not stated	Total	Aboriginal	Non-Aboriginal	Not stated	Total
50-54 years	564	13931	1155	15646	4.9	6.7	6.3	**6.6**
55-59 years	469	14805	1326	16610	4.1	7.1	7.3	**7.0**
60-64 years	358	13755	1259	15372	3.1	6.6	6.9	**6.5**
65-69 years	288	13193	1184	14672	2.5	6.3	6.5	**6.2**
70-74 years	168	10244	946	11361	1.5	4.9	5.2	**4.8**
75-79 years	118	8116	781	9009	1.0	3.9	4.3	**3.8**
80-84 years	45	5585	585	6225	0.4	2.7	3.2	**2.6**
85-89 years	19	3690	440	4151	0.2	1.8	2.4	**1.7**
90-94 years	3	1585	198	1786	0.0	0.8	1.1	**0.8**
95-99 years	5	381	64	448	0.0	0.2	0.4	**0.2**
100 years and over	0	34	9	44	0.0	0.0	0.0	**0.0**
Total	**11470**	**208071**	**18235**	**237771**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016, compiled through TableBuilder ABS, 2017.

Table 3 - Aboriginality in the Census 2016 and 2011

Murrumbidgee (usual residence)	2016			2011			Change
	Number	%	NSW %	Number	%	NSW %	2011 to 2016
Non-Aboriginal	208071	87.5	91.3	210107	91.5	92.5	-2036
Aboriginal Australians	11461	4.8	2.9	9440	4.1	2.5	+2021
• Aboriginal	11081	4.7	2.8	9127	4.0	2.4	+1954
• Torres Strait Islander	229	0.1	0.1	206	0.1	0.1	+23
• Both Aboriginal and Torres Strait Islander	151	0.1	0.1	107	0.0	0.0	+44
Not stated	18235	7.7	5.9	10023	4.4	5.0	+8212
Total population	**237771**	**100.0**	**100.0**	**229556**	**100.0**	**100.0**	+8215

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016, compiled through TableBuilder ABS, 2017.

A large proportion of the Murrumbidgee population did not state their indigenous status on the 2016 Census, 7.7% (18,235 people) compared to 5.9% of NSW (Table 3).

The major differences in the age structure of Aboriginal people to non-Aboriginal people in Murrumbidgee were:

- A smaller percentage of people aged 65 year or over (5.6% compared to 20.6%)
- A smaller percentage of people aged 35 to 64 years (27.2% compared to 38.0%)
- A larger percentage of children aged 0 to 14 years (36.4% compared to 18.7%)

The major differences in the age structure of Aboriginal people in Murrumbidgee and Aboriginal people in NSW were:

- A larger percentage overall (4.8% compared to 2.9%)
- Only very small differences were noted: more children age 0 to 14 years (36.4% compared to 34.4%); less people aged 20 to 34 years (20.5% compared to 21.6%)

Note: the age structure of the 18,235 people in MLHD who did not give their indigenous status was very similar to the population who were non-Aboriginal.

Major changes

From 2011 to 2016, Murrumbidgee's Aboriginal population increased by 2,021 people and the non-Aboriginal population decreased by 2,036, however the number of people not giving their indigenous status increased by 8,212 people. The population percentage of Aboriginal people increased from 4.1% in 2011 to 4.8% in 2016.

The largest changes in Aboriginal status in Murrumbidgee between 2011 and 2016 were:

- People not stating their Aboriginality (+8,212)
- Aboriginal people overall (+2,021)
- Non-Aboriginal people (-2,036)

2016 Estimated Resident Populations

The Australian Bureau of Statistics use a combination of the Usual Resident Populations (URP) of the 2016 Census and the 2016 Australian Bureau of Statistics Estimated Resident Population (ERP) data for LGAs to estimate the likely Aboriginal and Torres Strait Islander populations. Public Health Information Development Unit (PHIDU) have estimated the Lake Cargelligo (Lachlan – part b) area. These Estimated Resident Populations are higher than the Census URP.

Table 4 - Estimated Resident Populations for Aboriginal People - 2016 – PHIDU (from ABS-3238055001DO008_201609 Estimates of Aboriginal and Torres Strait Islander Australians, June 2016)

	Aboriginal People	Total Population	Aboriginal population as proportion of total population (%)
Berrigan (A)	256	8,609	**3.0**
Bland (A)	334	6,024	**5.5**
Carrathool (A)	270	2,793	**9.7**
Coolamon (A)	171	4,390	**3.9**
Cootamundra-Gundagai Regional (A)	621	11,291	**5.5**
Edward River (A)	444	8,991	**4.9**
Federation (A)	260	12,445	**2.1**
Greater Hume Shire (A)	404	10,519	**3.8**
Griffith (C)	1,557	26,356	**5.9**
Hay (A)	226	2,984	**7.6**
Hilltops (A)	987	18,756	**5.3**
Junee (A)	605	6,414	**9.4**
Lachlan (A) - part b	403	1,821	**22.1**
Leeton (A)	787	11,407	**6.9**
Lockhart (A)	136	3,173	**4.3**
Murray River (A)	445	11,872	**3.7**
Murrumbidgee (A)	365	3,929	**9.3**
Narrandera (A)	709	5,949	**11.9**
Snowy Valleys (A)	774	14,611	**5.3**
Temora (A)	175	6,210	**2.8**
Wagga Wagga (C)	4,238	63,906	**6.6**
Murrumbidgee LHD	**14,083**	**242,620**	**5.8**

Determinants of health

Key facts

43%	Aboriginal children in Australia developmentally vulnerable at first year of school (Non-Aboriginal 21%)
55%	Year 12 retention for Aboriginal students (83% Non-Aboriginal)
54%	20-24 yr old Aboriginal people in Australia completed Year 12
21%	Aboriginal labour force unemployed in Australia (5% non-Aboriginal 2013)
4%	Aboriginal people in MLHD are aged 65 years or over (Non-Aboriginal 18%)

Social determinants

The relative socioeconomic disadvantage experienced by Aboriginal people in NSW continues to place them at a greater risk of exposure to behavioural and environmental health risk factors. A range of socioeconomic indicators from the 2016 Census demonstrate the relative disadvantage of the Aboriginal population in NSW (Figure 4). In NSW, larger proportions of Aboriginal people are: unemployed; have no post-school qualifications; no household internet connection; a low weekly household income; rent, live in multi-family households; and reside in dwellings with 6 or more people than non-Aboriginal people.

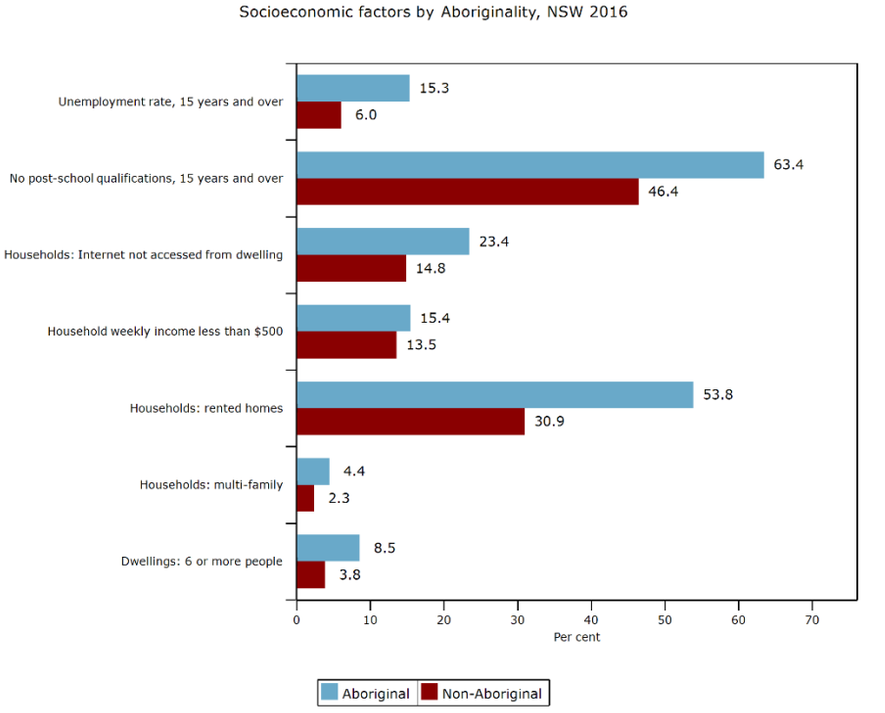


Figure 4 - Socioeconomic factors by Aboriginality NSW, 2016, (HealthStats NSW 2020).

Early childhood development, school achievements and Year 12 attainment[1]

The following statistics are at a national level from the Department of Education "Australian Early Development Census" and "Selected higher education statistics—2013 student summary, (Department of Education, 2014).

The majority of Indigenous children in their first year of full-time schooling were developmentally on track (57% in 2012). However, they were more than twice as likely as non-Indigenous children to be developmentally vulnerable in 1 or more areas (43% and 21%, respectively). The proportion of Indigenous children who were developmentally vulnerable in 1 or more areas declined between 2009 and 2012 (from 47% to 43%).

In 2013, 3 in 4 (74%) Indigenous children were enrolled in preschool in the year before full-time schooling, and 70 per cent were attending preschool.

The proportion of Indigenous students who achieved at or above the national minimum standard in reading in 2014 across the 4 school years tested (Years 3, 5, 7 and 9) ranged from 70% in Year 5 to 77 per cent in Year 7; in numeracy, the range was from 71 per cent in Year 5 to 80 per cent in Year 7. Between 2008 and 2014, there was no significant change in the proportion of Indigenous students who were at or above the national minimum standard in either reading or numeracy for each of the 4 school years tested.

Most (98%) Indigenous students who had begun secondary education at Year 7/8 in 2010/2011 completed Year 10 in 2013. However, retention rates decreased with each additional year of schooling, with the Year 12 retention rate being 55 per cent. Year 12 retention rates for Indigenous students increased substantially over time—from 36 per cent in 2001 to 55 per cent in 2013; however, the rates in 2013 remained below the rate for other students (83%).

Year 12 or equivalent attainment rates for Indigenous young people aged 20–24 increased from 41 per cent in 2001 to 47 per cent in 2006 and 54 per cent in 2011; the attainment gap between Indigenous and non-Indigenous young people narrowed by 4 percentage points between 2006 and 2011.

Employment and income [1]

In 2012–13, 60 per cent of Indigenous people aged 15 to 64 were in the labour force and the unemployment rate was 21 per cent. The unemployment rate for Indigenous people was 4.2 times as high as the rate for non-Indigenous people (based on age-standardised rates). Unemployment rates rose for both Indigenous and non-Indigenous people between 2008 and 2012–13; however, the rate for Indigenous people rose more, leading to an increase in the unemployment gap of 4 percentage points.

A larger proportion of Indigenous workers were employed as professionals in 2011 than in 2006 (14% compared with 12%), while a smaller proportion were employed as labourers (18% in 2011 and 25% in 2006).

Average disposable income for Indigenous people aged 15 and over increased from $391 per week in 2006 to $488 in 2011 (taking inflation into account); however, the ratio of Indigenous to non-Indigenous average income remained steady at 0.7 over the period.

[1] Excerpts from "The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2015" *(Australian Institute of Health and Welfare (AIHW), 2016)*

The Indigenous Relative Socioeconomic Outcomes index (IRSEO)

IRSEO is an Indigenous specific index derived by the Centre for Aboriginal Economic Policy Research (CAEPR) from the 2011 Census of Population and Housing, it is composed of 9 socioeconomic outcomes of the usual resident population (see Appendix 1) and reflects relative advantage or disadvantage at the Indigenous Area level, where a score of 1 represents the most advantaged area and a score of 100 represents the most disadvantaged area. There are approximately 400 Indigenous areas in Australia. The most disadvantaged Indigenous Area within the MLHD was Young, followed by Gundagai-Junee-Harden and Deniliquin-Murray had the same score as the Albury Indigenous area (Table 5). Young was among the most disadvantaged indigenous areas in NSW but just outside the top third most disadvantaged Indigenous Areas in Australia (Figure 5).

Table 5- Indigenous Relative Socioeconomic Outcomes index by Indigenous Area in MLHD

Indigenous Areas (ABS)	IRSEO	Aboriginal population
Albury	58	1,102
Carrathool - Murrumbidgee	48	418
Central Murray	30	480
Coolamon - Temora - West Wyalong	40	517
Cootamundra	39	307
Deniliquin - Murray	58	470
Griffith - Leeton	56	1,648
Gundagai - Junee - Harden	63	655
Narrandera	44	598
Tumut	42	499
Upper Murray	44	550
Wagga Wagga	34	2,736
Young	67	404

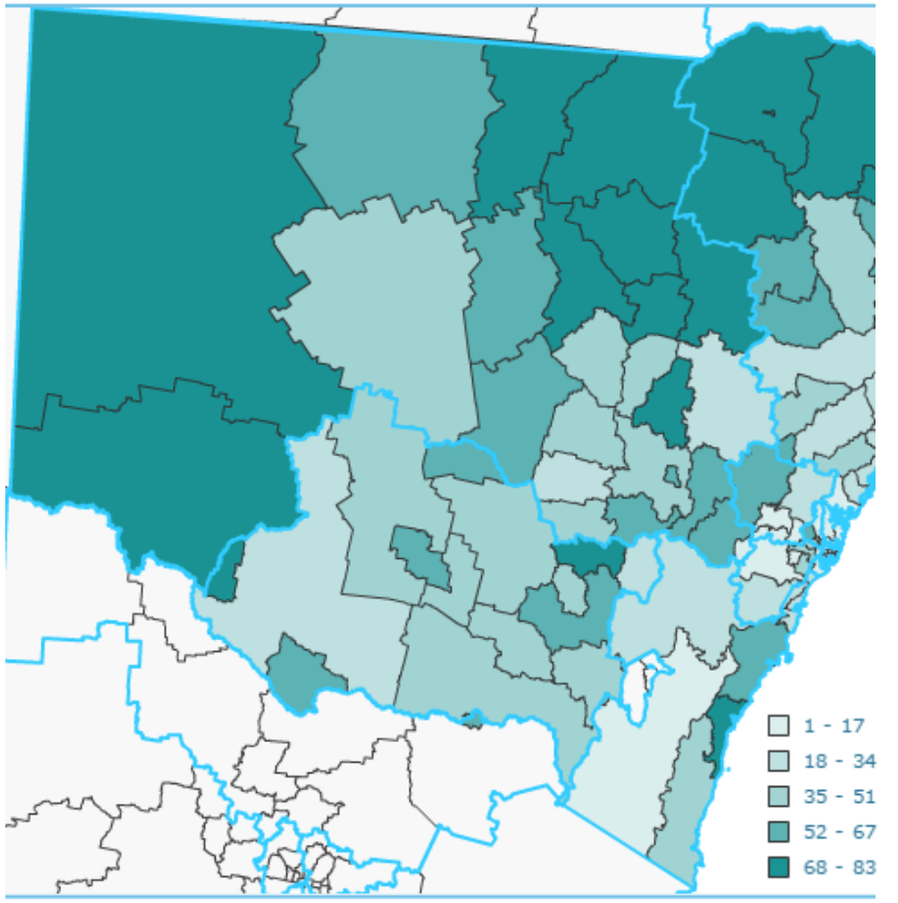


Figure 5 - Indigenous Relative Socioeconomic Outcomes index NSW by Indigenous Area (Centre for Aboriginal Economic Policy Research), source: PHIDU 2017.

Behavioural determinants

Key facts

26%	Aboriginal adults **smoke daily** in NSW (Non-Aboriginal 10%, 2018-2019) **Decreasing trend**
53%	Aboriginal **mothers smoked** during pregnancy in MLHD (15% Non-Aboriginal, 43% NSW Aboriginal mothers, 2019)
49%	Aboriginal adults **drank at risk levels** in NSW (33% Non-Aboriginal, 2019)
36%	Aboriginal adults exercised adequately (39% Non-Aboriginal, 2019)
3%	Aboriginal adults ate recommended amount of vegetables in NSW (6% Non-Aboriginal, 2019)
15%	Aboriginal people in NSW had experienced food insecurity (6% Non-Aboriginal, 2014)

Smoking

Tobacco smoking is the single most preventable cause of ill health and death in Australia, contributing to more drug-related hospitalisations and deaths than alcohol and illicit drug use combined. It is a major risk factor for coronary heart disease, stroke, peripheral vascular disease, cancer and a variety of other diseases and conditions.

Current smoking

26.4 per cent of Aboriginal adults aged 16 years and over were daily smokers as estimated from the 2018-2019 NSW Adult Population Health Survey, compared to 10.1 per cent in the Non-Aboriginal population. This percentage has dropped from over 30 per cent in 2015-2016, with a general decline since early 2000's (Figure 6).

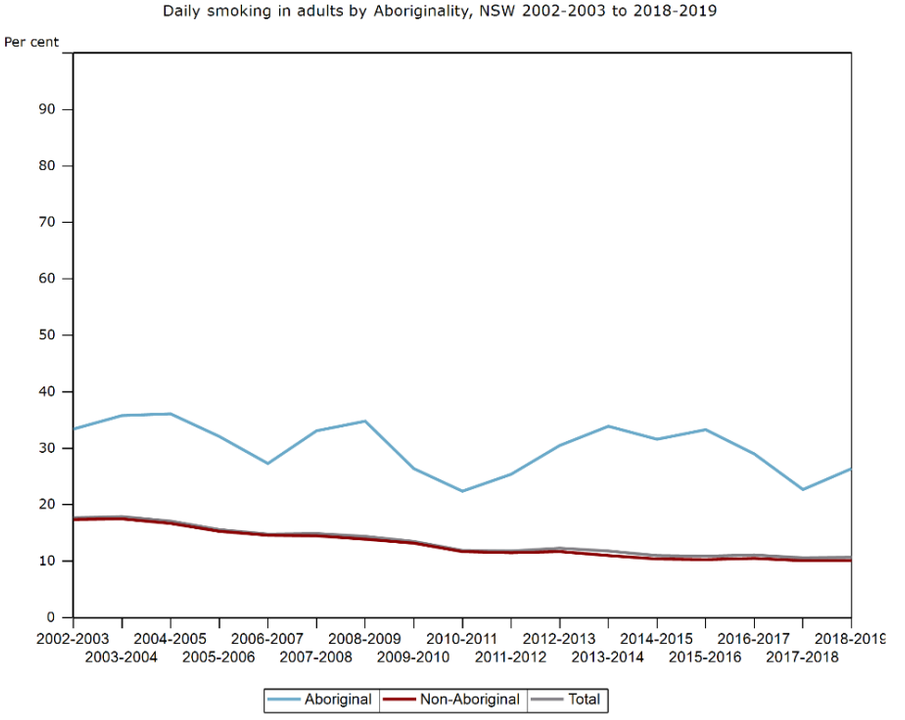


Figure 6 - Smoking by Aboriginality 2002 to 2019

Hospitalisations attributable to smoking

A total of 62,930 hospitalisations were attributed to smoking in the total NSW population in 2018-19, which was approximately 2 per cent of all hospitalisations. The rate of hospitalisations attributable to smoking

decreased in non-Aboriginal males by almost half from 2006 to 2013. The rate of hospitalisations attributable to smoking has increased in both Aboriginal males and Aboriginal females from 2006-07 to 2018-19 (Figure 7), the rates are almost triple the rates of the non-Aboriginal population.

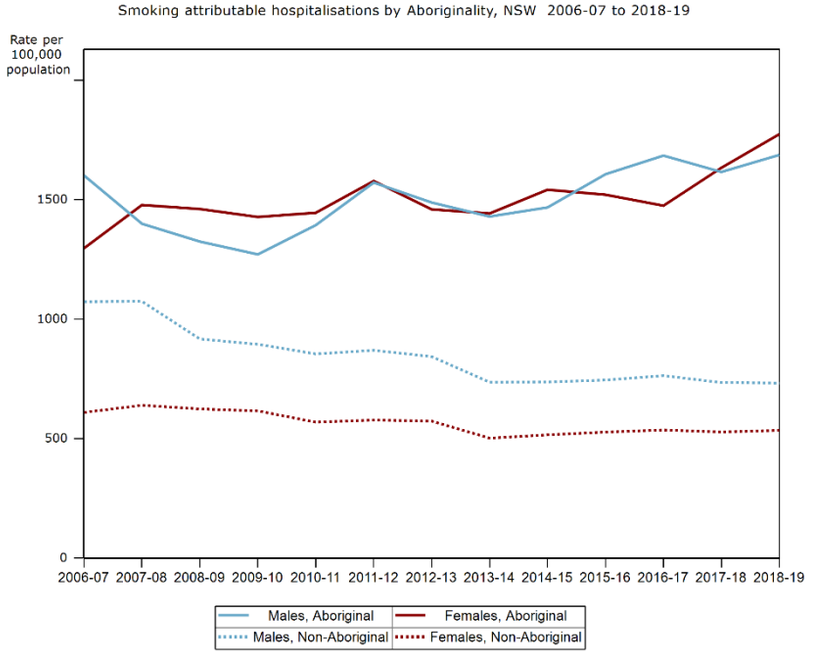


Figure 7 - Smoking attributable hospitalisation

Smoking in pregnancy

The proportion of mothers smoking in pregnancy among Aboriginal or Torres Strait Islander mothers was 43 per cent in 2019 in NSW. In MLHD the percentage of Aboriginal mothers smoking in pregnancy was 53 per cent and non-Aboriginal mothers it was 15 per cent (Table 6). The proportion of mothers who smoke during pregnancy has been declining from 2001 to 2019 however the proportion in MLHD has remained consistently higher than the rest of NSW for both Aboriginal and non-Aboriginal mothers (Figure 8), however the rate for Aboriginal mothers is more than double non-Aboriginal mothers. From 2011, two questions about smoking in pregnancy are asked at data collection. These revised questions provide more opportunity for women to report their smoking history and are likely to produce a more reliable measure of smoking rates in pregnancy than the original question asked in the previous years.

Table 6 - Percentage of mothers smoking during pregnancy by Aboriginality 2013 to 2015, MLHD and rest of NSW.

		MLHD		Rest of NSW		Total NSW	
Year	Aboriginality	N	%	N	%	N	%
2017	Aboriginal	106	52.0	1,667	41.9	1,773	42.4
	Non-Aboriginal	313	14.7	6,181	7	6,494	7.2
	Total	419	17.9	7,860	8.5	8,279	8.8
2018	Aboriginal	116	49.8	1,706	42.9	1,822	43.2
	Non-Aboriginal	327	15.2	6,398	7.3	6,725	7.5
	Total	444	18.6	8,119	8.8	8,563	9.1
2019	Aboriginal	117	52.5	1,792	42.7	1,909	43.2
	Non-Aboriginal	312	14.6	6,015	6.9	6,327	7.1
	Total	429	18.1	7,828	8.6	8,257	8.8

Source: HealthStats NSW, NSW Perinatal Data Collection (SAPHaRI), Oct 2020

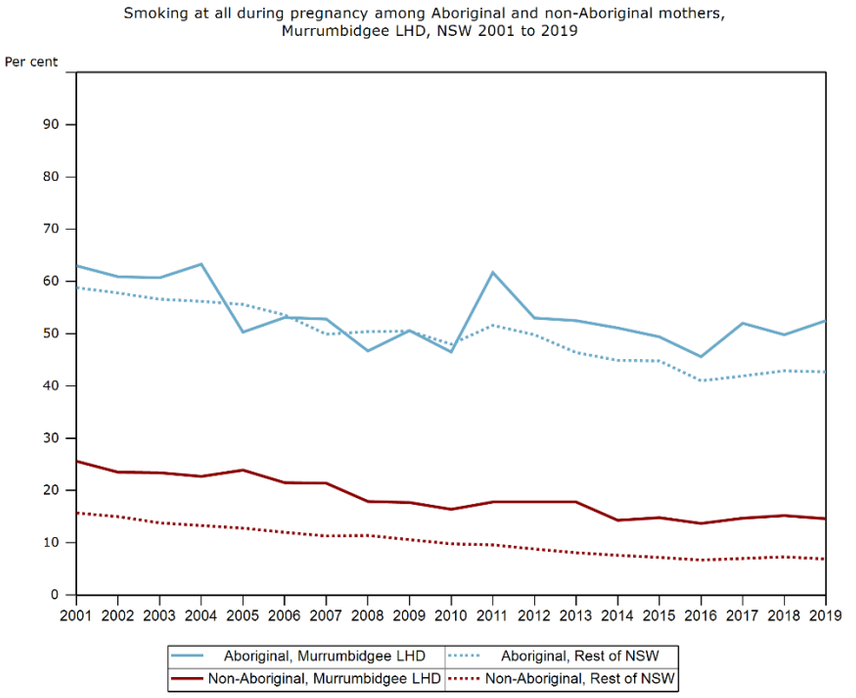


Figure 8 – Smoking during pregnancy by Aboriginality, MLHD and rest of NSW

Alcohol

Excessive alcohol consumption is one of the main preventable public health problems in Australia, with alcohol being second only to tobacco as a preventable cause of drug-related death and hospitalisation.

Forty-nine per cent of Aboriginal adults (aged 16 years and over) consumed alcohol at levels posing long-term risk to health (NSW Population Health Survey 2019) compared to 33 per cent in the non-Aboriginal population (Figure 9).

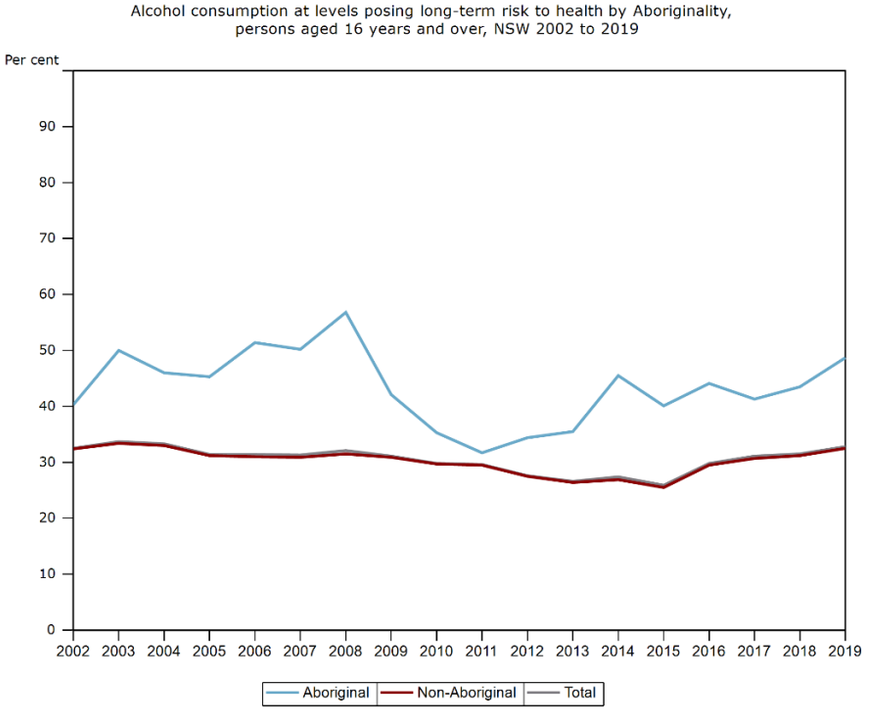


Figure 9 - Alcohol consumption in adults, NSW (HealthStats NSW)

The rate of hospitalisations attributable to alcohol has been increasing gradually since 2006-07, for both Aboriginal and non-Aboriginal people. However the rate for Aboriginal males was double that of non-Aboriginal males and Aboriginal females. However the Aboriginal female rate of hospitalisation was around 1.5 times that of non-Aboriginal females. The rate in the Aboriginal population was 1.8 times higher than the rate in the non-Aboriginal population in 2018-19 (Figure 10).

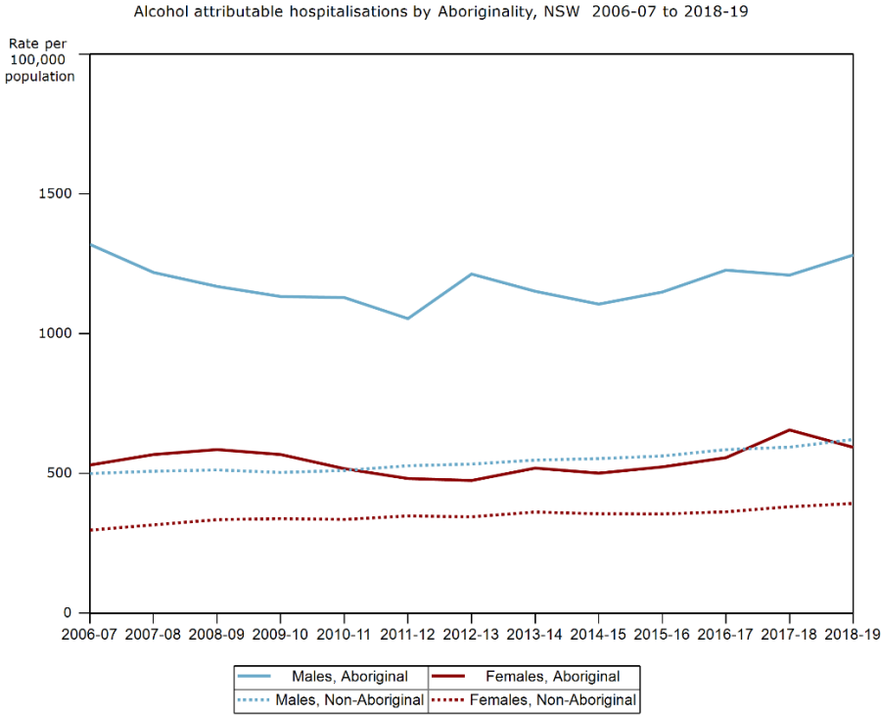


Figure 10 - Alcohol attributable hospitalisation (HealthStats NSW)

Exercise

Physical inactivity was responsible for 2.6 per cent of the total burden of disease in Australia in 2011 with the following diseases being most closely linked to inactivity: diabetes, bowel and uterine cancer, dementia, breast cancer, coronary heart diseases and stroke. Only 38.5 per cent of the NSW adult population reported insufficient physical activity in 2019, this has decreased significantly for the total population from 52.5 per cent in 2002. The adult Aboriginal population reported similar rates over the same period decreasing from 49 per cent in 2002 to close to 36 per cent in 2019 (Figure 11).

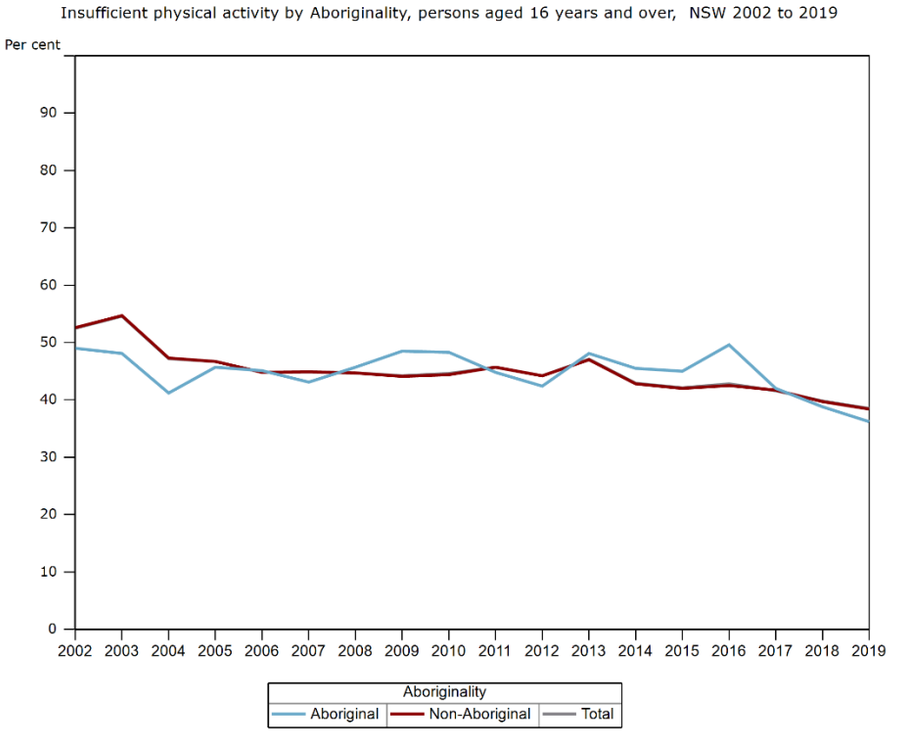


Figure 11 - Adequate physical activity by Aboriginality trend (HealthStats NSW).

Nutrition and Food Security

Fruit and vegetable consumption

Fruit and vegetable consumption is strongly linked to the prevention of chronic disease and to better health. Vegetables and fruit are sources of antioxidants, fibre, folate, and complex carbohydrates. The fibre and low-energy content of fruit and vegetables may benefit weight control. For adults, the dietary guidelines recommend consuming on average at least 2 helpings of fruit and 5 of vegetables each day, selected from a wide variety of types and colours and served cooked or raw, as appropriate.

33 per cent of Aboriginal adults aged 16 years and over consumed 2 or more serves of fruit daily and only 2.9 per cent of Aboriginal adults aged 16 years and over consumed the recommended number of serves of vegetables daily, as estimated from the 2019 NSW Population Health Survey. Fruit consumption had shown a slight increase from 2002 to 2010 but has declined to 2019. Vegetable consumption has remained relatively low for both Aboriginal and non-Aboriginal adult populations in NSW, and has decreased for Aboriginal people (Figure 12).

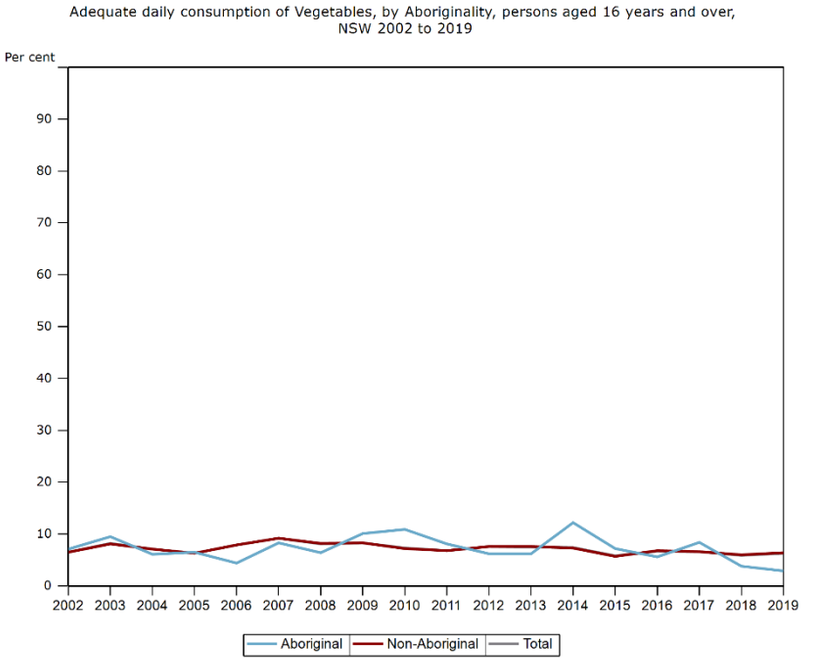


Figure 12 - Vegetable consumption by Aboriginality NSW 2002 to 2019 (HealthStats NSW).

Food insecurity

Food insecurity in Australia is considered to be an important social determinant of health and a significant public health issue. Food insecurity is associated with general poor health and poor nutrition and refers to not having sufficient food; running out of food and being unable to afford more; eating a poor quality diet as a result of limited food options; anxiety about acquiring food; or having to rely on food relief. The NSW Health Survey measures food insecurity in the adult population by telephone survey asking if in the last 12 months, were there times when they ran out of food and could not afford to buy more. The Aboriginal population in NSW was significantly more likely to report food insecurity than the non-Aboriginal population with rates of food insecurity in the past 12 months hovering around 15 per cent for Aboriginal people from 2002 to 2010 with a rise in 2012 to 2014 to around 20 per cent, rates for the non-Aboriginal population remained around 6 per cent from 2002 to 2014, *this has not been reported by NSW Health since 2014* (Figure 13).

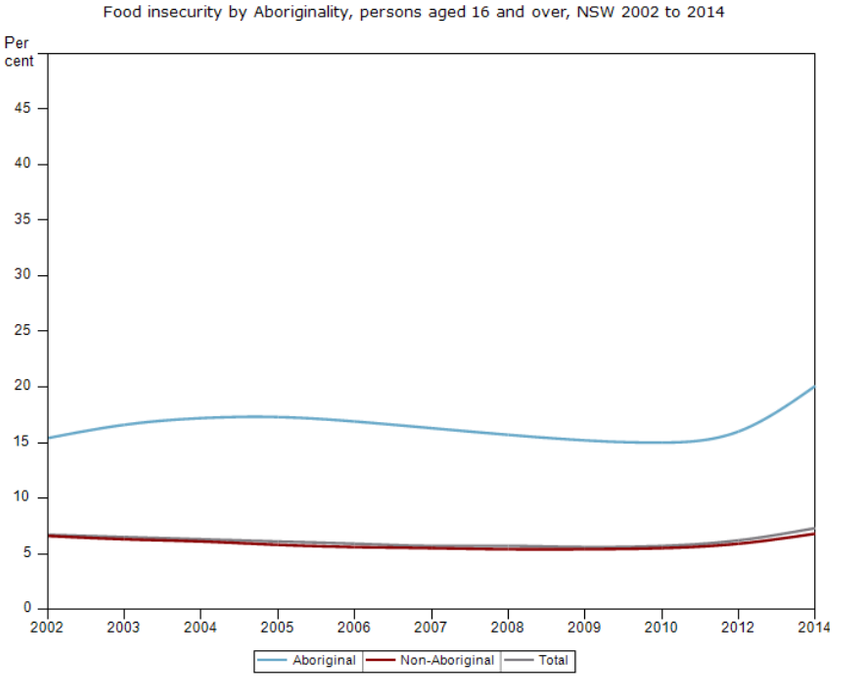


Figure 13 - Food insecurity by Aboriginality, NSW Health Survey (HealthStats NSW)

Above Healthy Weight

Excess weight, especially obesity, is a risk factor for cardiovascular disease, Type 2 diabetes, some musculoskeletal conditions and some cancers. As the level of excess weight increases, so does the risk of developing these conditions. In addition, being overweight can hamper the ability to control or manage chronic disorders.

Sixty-seven per cent of Aboriginal adults (aged 16 years and over) in NSW reported being overweight or obese in 2019 (NSW Population Health Survey 2019) compared to 55 per cent in the non-Aboriginal population (Figure 14). The obesity rate in the Aboriginal population was 36 per cent compared to 22 per cent in the non-Aboriginal population and in MLHD adult obesity overall was 35 per cent and all those above health weight made up 69 per cent of adults.

The rate of hospitalisations attributable to being overweight has been increasing for Aboriginal males from 2014-15 to 2018-19 and decreasing slightly for females. The rate for the non-Aboriginal population has remained fairly steady. However the rate for Aboriginal people was around 1.5 times that of non-Aboriginal people (Figure 15).

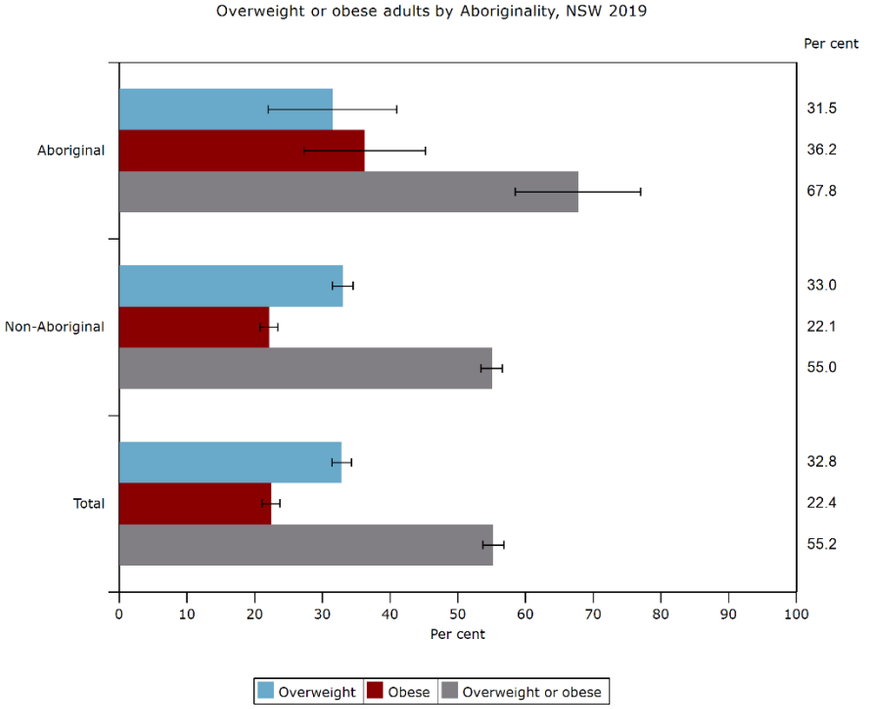


Figure 14 – Overweight and obesity, NSW (HealthStats NSW)

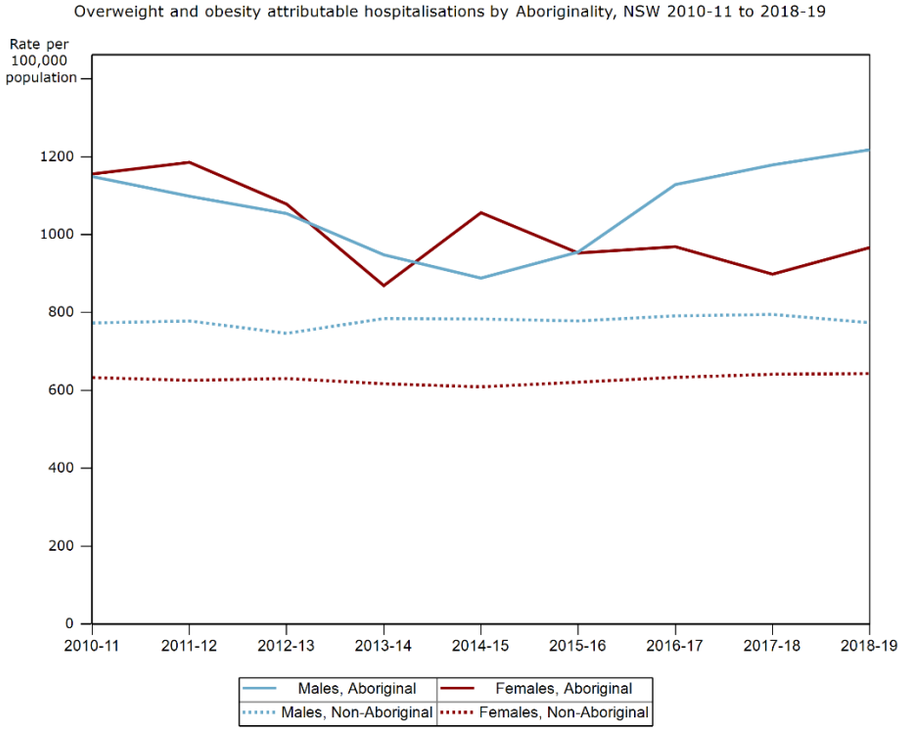


Figure 15 – High body mass attributable hospitalisation (HealthStats NSW)

Health status indicators

Key facts – mental health

59%	Aboriginal adults enjoyed good to excellent self-rated health in NSW (Non-Aboriginal 81%)
23%	Aboriginal adults reported psychological distress in NSW (17% non-Aboriginal, 2019)
2 x	Aboriginal youth suicide rate in NSW compared to non-Aboriginal
8%	Of self-harm admissions in NSW are for Aboriginal people (3 x the non-Aboriginal rate)
30-40	self-harm admissions in MLHD a year for Aboriginal people (430 non-Aboriginal)
14%	Of methamphetamine related admissions in NSW were for Aboriginal people (6 x the non-Aboriginal rate)

Self-rated health

Longitudinal studies worldwide have consistently shown that self-rated health is a strong and independent predictor of subsequent illness and premature death. 81 per cent of non-Aboriginal adult residents of NSW enjoyed excellent, very good or good self-rated health compared to 59 per cent of Aboriginal adults, from 2002 to 2015 the gap between Aboriginal and non-Aboriginal self-rated health has been around 10 per cent but this has increased to 20 per cent in 2016 (2016 NSW Population Health Survey, *this has not been updated by NSW Health since 2016*) (Figure 16).

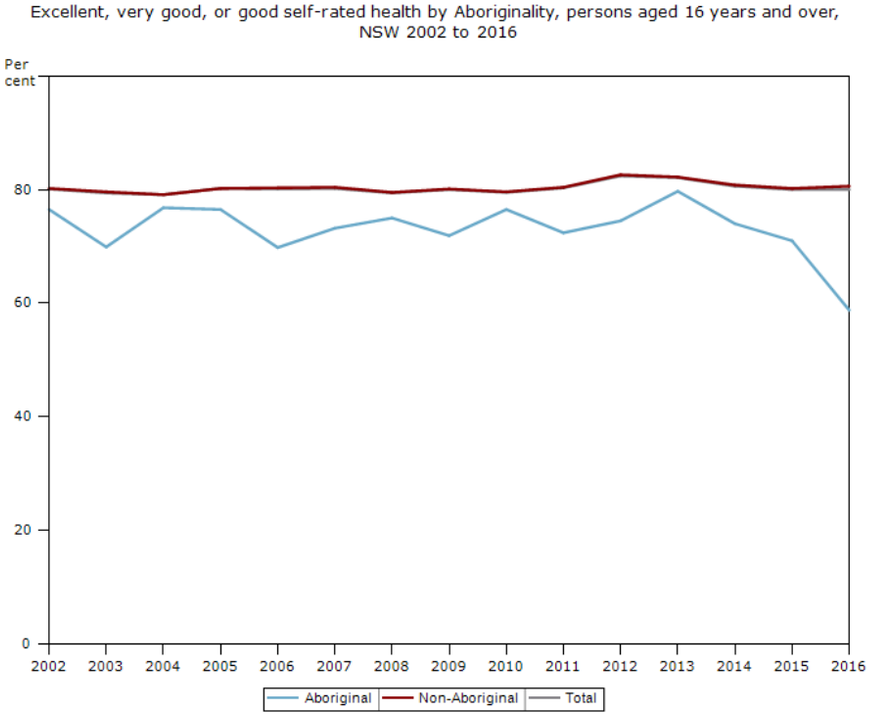


Figure 16 - Positive self-rated health by Aboriginality NSW (HealthStats NSW)

Mental health

Mental health disorders relate to behaviours and conditions which interfere with social functioning and capacity to negotiate daily life. Mental problems are also associated with higher rates of health risk factors, poorer physical health, and higher rates of deaths from many causes including suicide.

Mental ill health is one of the leading causes of non-fatal burden of disease and injury in Australia. Mental ill health was estimated to account for 12 per cent of the disease burden in Australia in 2011, with anxiety and depression, alcohol abuse and personality disorders accounting for almost three-quarters of this burden. Only 3.3 per cent of the burden from mental disorders is due to mortality, most of which is accounted for by fatal outcomes associated with substance abuse (AIHW 2016) (HealthStats NSW).

Self-reported psychological distress

17 per cent of adults aged 16 years and over experienced levels of psychological distress, as estimated from the 2019 NSW Adult Population Health Survey, the rate has risen significantly since 2013. The Aboriginal population consistently reported significantly higher levels of psychological distress in adults averaging around 20 per cent from 2003 to 2019 compared to the non-Aboriginal population which ranged from around 12 to 17 per cent (Figure 17).

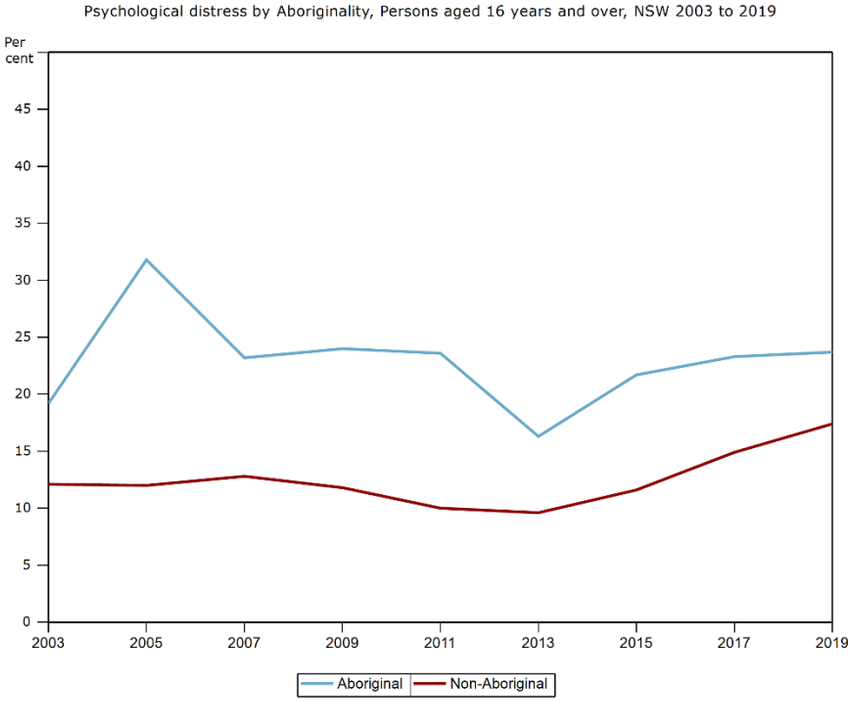


Figure 17 - high or very high psychological distress in adults by Aboriginality (HealthStats NSW).

Suicide

Overall suicide rates have increased in NSW between 2006-2010 and 2014-2018 (Figure 18). In 2018, 895 people died by suicide and males accounted for around 76 per cent of these deaths. Suicide rates for Aboriginal youth are around double that of non-Aboriginal 15-24 year olds, whereas for all ages the Aboriginal suicide rate is 1.6 times that of non-Aboriginal people of all ages (Table 7). The suicide rate for Aboriginal males was 1.8 times that of non-Aboriginal males and for females the ratio was 1.4 times. The suicide rate for males in the overall population is three times that of the female population

and in Aboriginal people the male suicide rate is 4 times as high as the female (Table 7).

There were approximately 42 suicide deaths in MLHD annually in 2017 to 2018, it would be reasonable to assume that at least 2 of these were Aboriginal people.

Table 7 - Suicide by Aboriginality and age, and Aboriginality and gender 2014-2018, NSW (HealthStats NSW)

NSW Aboriginality	Age (yrs)	Number per year	Rate per 100,000	LL 95% CI	UL 95% CI
Aboriginal	15-24 years	10.8	21.0	15.8	27.4
	All ages	39.6	17.7	15.0	20.6
Non-Aboriginal	15-24 years	95.0	9.9	9.1	10.9
	All ages	808.4	10.5	10.2	10.9
Total	15-24 years	108.8	10.7	9.9	11.7
	All ages	862.0	11.0	10.6	11.3
NSW	**Sex**	**Number per year**	**Rate per 100,000**	**LL 95% CI**	**UL 95% CI**
Aboriginal	Males	30.8	29.5	24.1	35.6
	Females	8.8	7.0	5.0	9.5
	Persons	39.6	17.7	15.0	20.6
Non-Aboriginal	Males	615.8	16.3	15.7	16.9
	Females	192.6	5.0	4.7	5.3
	Persons	808.4	10.5	10.2	10.9
Total	Males	656.8	17.0	16.4	17.6
	Females	205.2	5.2	4.9	5.5
	Persons	862	11.0	10.6	11.3
MLHD (2017-2018)	Persons	41.5	17.7	14.0	22.2
Significantly higher than NSW equivalent					

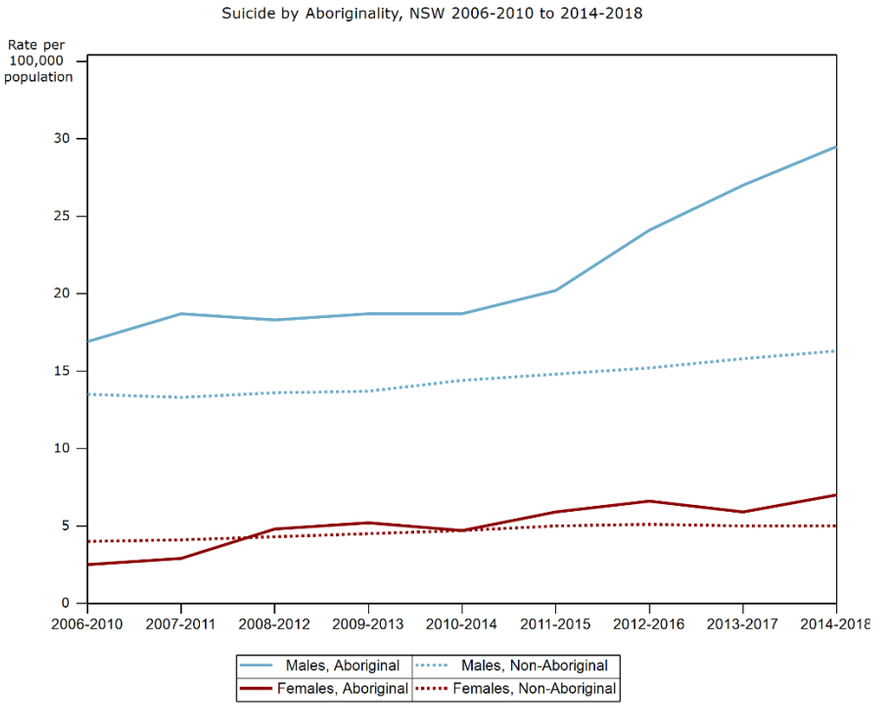


Figure 18 - Suicide by Aboriginality NSW (HealthStats NSW).

Intentional self-harm

In 2018-19, there were approximately 7,000 hospitalisations of NSW residents for intentional self-harm. Females accounted for more than 60 per cent of these hospitalisations. Aboriginal people made up 10 per cent of the total self-harm admissions at an age-standardised rate of three times that of the non-Aboriginal population (264.6/100,000 compared to non-Aboriginal 85.6/100,000). Females had significantly higher rates of admission than males in both the Aboriginal and non-Aboriginal populations. Aboriginal males had a

rate of admission 3.6 times higher than non-Aboriginal males (229.0/100,000: 63.1/100,000) and Aboriginal females admission rates were 2.7 times higher than non-Aboriginal female admission rates (298.4/100,000: 109.0/100,000). The ratio of male to female self-harm admissions in the Aboriginal and non-Aboriginal population was about 2 males to 5 females. The self-harm hospitalisation rate for Aboriginal people in NSW has shown a significant increase for males and females since 2011-12, which could also reflect better identification of Aboriginal people in the data (Figure 19).

Young people are generally over-represented in self-harm statistics. Aboriginal females aged 15-24 years had rates of admission in 2018-19 of 592 per 100,000 population which was significantly higher compared to Aboriginal males of the same age at 386 per 100,000 and non-Aboriginal females of the same age of 324 per 100,000 (Figure 20 and Table 8). There were approximately 306 self-harm admissions in 2018-19 in MLHD, 105 of which were 15-24 year olds. Applying NSW ratios to MLHD numbers there could be around 30 admissions for Aboriginal people of which around 10 could be youth admissions.

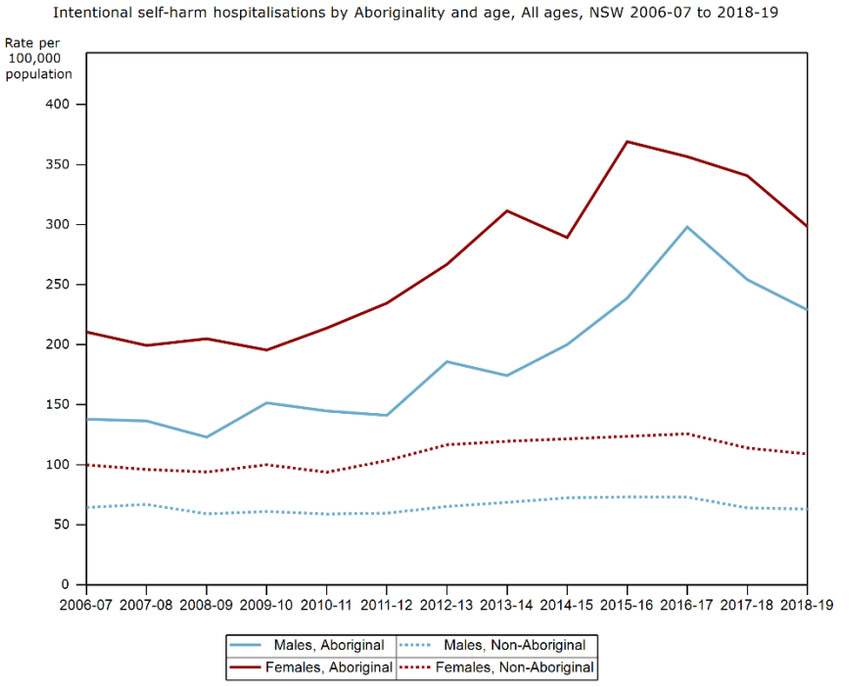


Figure 19 - Intentional self-harm hospitalisation by Aboriginality and sex (HealthStats NSW)

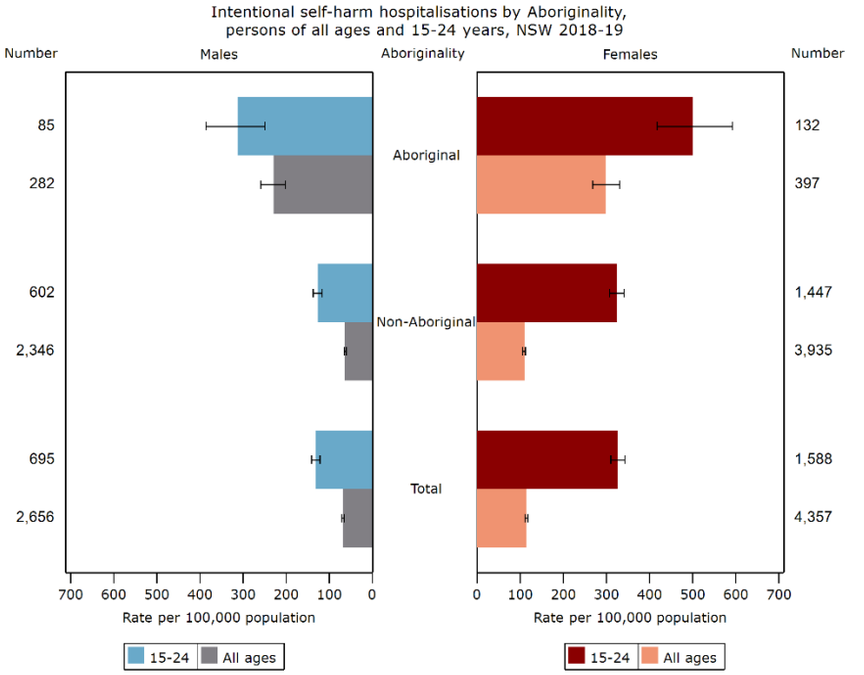


Figure 20 - Intentional self-harm hospitalisations by Aboriginality, sex and age (HealthStats NSW)

Table 8 - Intentional self-harm hospitalisation by age, sex and Aboriginality 2018-19, NSW (HealthStats NSW)

	15- 24 years				All ages			
Sex	N	Rate*	LL 95% CI	UL 95% CI	N	Rate	LL 95% CI	UL 95% CI
Aboriginal								
Males	85	311.9	249.2	385.7	282	229.0	201.7	258.8
Females	132	499.5	417.9	592.4	397	298.4	268.4	330.8
Persons	221	411.0	358.6	468.9	683	264.6	244.1	286.3
Non-Aboriginal								
Males	602	126.4	116.4	136.9	2,346	63.1	60.5	65.7
Females	1,447	324.0	307.4	341.1	3,935	109.0	105.5	112.5
Persons	2,050	222.8	213.2	232.6	6,282	85.6	83.5	87.8
Total								
Males	695	130.6	121.1	140.8	2,656	67.9	65.4	70.6
Females	1,588	326.0	310.1	342.6	4,357	114.3	110.9	117.8
Persons	2,288	225.9	216.7	235.4	7,018	90.7	88.6	92.9
MLHD								
Males	24	160.1	102.5	238.2	107	102.0	83.4	123.6
Females	81	585.1	464.6	727.3	199	191.5	165.5	220.4
Persons	105	364.5	298.1	441.3	306	145.6	129.6	163.1
Significantly higher than NSW equivalent								

** Age standardised rate per 100,000 population*

Methamphetamine use

Methamphetamines are stimulants, and part of the amphetamine group of drugs manufactured from common pharmaceutical drugs and readily available chemicals such as acetone, bleach, battery acid, and engine coolant. Methamphetamines are potent and illegal stimulants that speed up the function of the brain and nervous system. Regular methamphetamine users may suffer from poor mental health, including depression, anxiety, chronic sleep disturbance, mood changes, impaired concentration and lack of motivation. Methamphetamine can cause psychotic symptoms in otherwise healthy people and can also worsen or bring on psychotic symptoms in people with pre-existing mental health problems.

In 2016-17 there were 6,660 methamphetamine-related hospitalisations for NSW residents aged 16 years and over, comprising 0.2 per cent of all NSW hospitalisations in that year.

In NSW between 2010-11 and 2016-17, the rate of methamphetamine-related hospitalisation increased 10-fold from 10.7 to 113.4 per 100,000 persons. Over the same period the number of hospitalisations increased from 589 to 6,660. Males accounted for more than two-thirds of admissions. In 2014-15, the rate

of hospitalisation in men was 157.7 per 100,000 population and in women the rate was 69.6 per 100,000 population.

In 2016-17, Aboriginal people accounted for 16 per cent of all patients with methamphetamine-related hospitalisations in that year. The population rate of hospitalisation among Aboriginal people was just under 6 times higher than non-Aboriginal people (Figure 21). *These data reflect an increase in harms associated with amphetamine use, most likely related to the increased purity, frequency of use and mode of administration. These data are not reflective of general use in the community (HealthStats NSW).*

The number of methamphetamine-related hospitalisations in MLHD had risen from 22 in 2009-10 to 126 in 2014-15 at a rate of 82.6 per 100,000 total population which is similar to the NSW hospitalisation rate of 85 per 100,000 *this data has not been updated by LHD on Health Stats NSW.* There was a sharp rise in hospitalisations for Aboriginal people in NSW from 2011-12 to 2015-16, which has declined to 2016-17 (Figure 22).

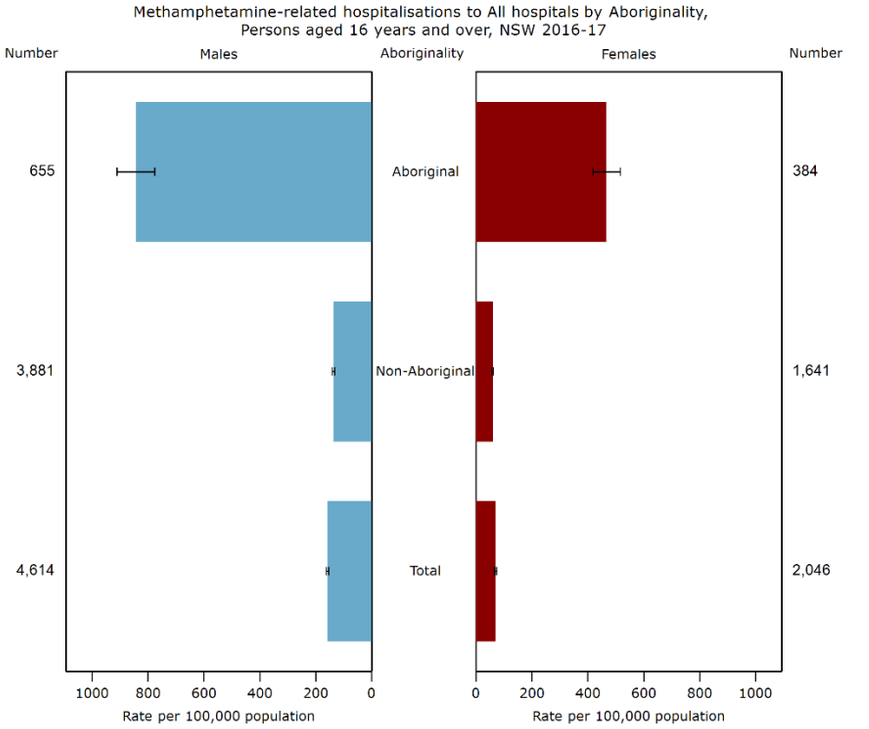


Figure 21 - Methamphetamine-related hospitalisations by Aboriginality, NSW (HealthStats NSW).

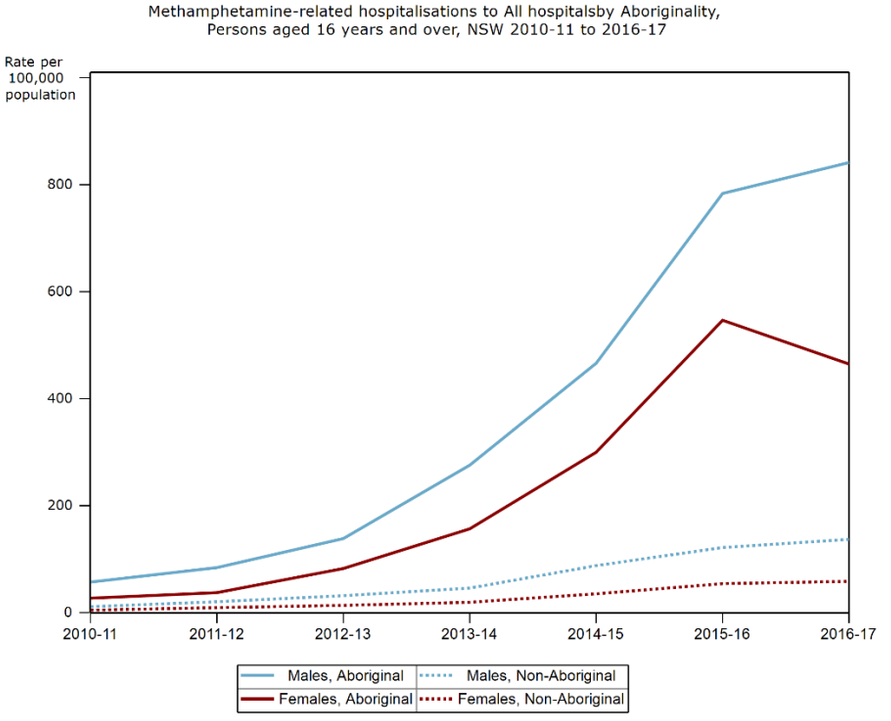


Figure 22 - Methamphetamine-related hospitalisations by Aboriginality 2010-11 to 2016-17 (HealthStats NSW).

Key facts – infectious disease

40%	Reduction in infectious diseases hospitalisation for Housing for Health recipients
2 x	Aboriginal hospitalisation rate for acute respiratory infection in NSW compared to non-Aboriginal
1.4 x	Aboriginal hospitalisation rate for gastrointestinal infection in NSW compared to non-Aboriginal
2.3 x	Aboriginal hospitalisation rate for skin infection in NSW compared to non-Aboriginal
96.2%	Aboriginal children fully vaccinated at age 1 year in MLHD (96.0% non-Aboriginal MLHD, 94.5% NSW Aboriginal children)
94.4%	Aboriginal children fully vaccinated at age 2 years (93.4% non-Aboriginal MLHD, 91.8% NSW Aboriginal children)
2 to 6 x	Aboriginal notification rate for Blood borne and sexually transmissible infections compared to non-Aboriginal

Infectious diseases

There is substantial evidence demonstrating a relationship between improved living environments and improved health of populations. Literature suggests that by targeting repairs to "health hardware" and improving the ability of a house to support healthy living practices, this will contribute to a reduction in the spread of infectious disease.

The infectious disease groups that are most likely affected by environmental conditions include respiratory infections, gastrointestinal infections, skin infections, and eye and ear infections. Whilst some of these conditions may not be life threatening for adults, they can be for children, particularly those under 5 years old.

The Housing for Health program aims to improve the health status of Aboriginal people, particularly children by assessing, and repairing or replacing health hardware so that houses are safe and the occupants have the ability to carry out "Healthy Living Practices" (HLPs). Housing for Health has been delivered to Aboriginal communities across NSW since 1997. Between 1997 and 2016, 113 community Housing for Health projects have been delivered. The program made significant improvements to house function, in particular electrical safety, structural safety and access, fire safety, working showers, laundry services, drainage and flush toilets (Figure 24).

In 2010, NSW Health published an evaluation of the program that assessed health outcomes from 1998 to 2008. This evaluation, called Closing the Gap: 10 Years of Housing for Health in NSW, provides evidence of a 40% reduction in hospitalisation with infectious diseases among residents of houses that received Housing for Health, compared to the rest of the rural NSW Aboriginal population. The MLHD had several communities participate: Darlington Point, Leeton, Grong Grong, Brungle, West Wyalong and Cummeragunja (Figure 23).

Figure 1: Before and After Rate Ratios for disease conditions in populations exposed to *Housing for Health* vs Rural NSW Aboriginal control populations over the same period, (where 1 = no change in rate of disease)

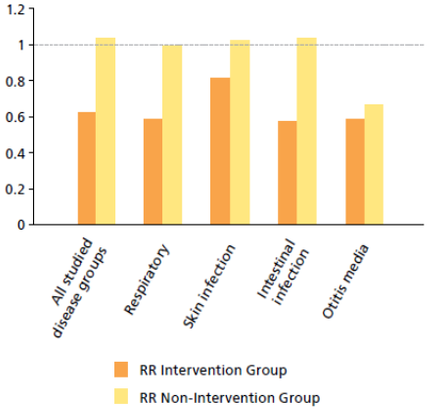


Figure 23 - Outcomes of Housing for Health in NSW 2010: Environmental Health Branch, Health Protection NSW and Centre for Epidemiology and Evidence, NSW Ministry of Health.

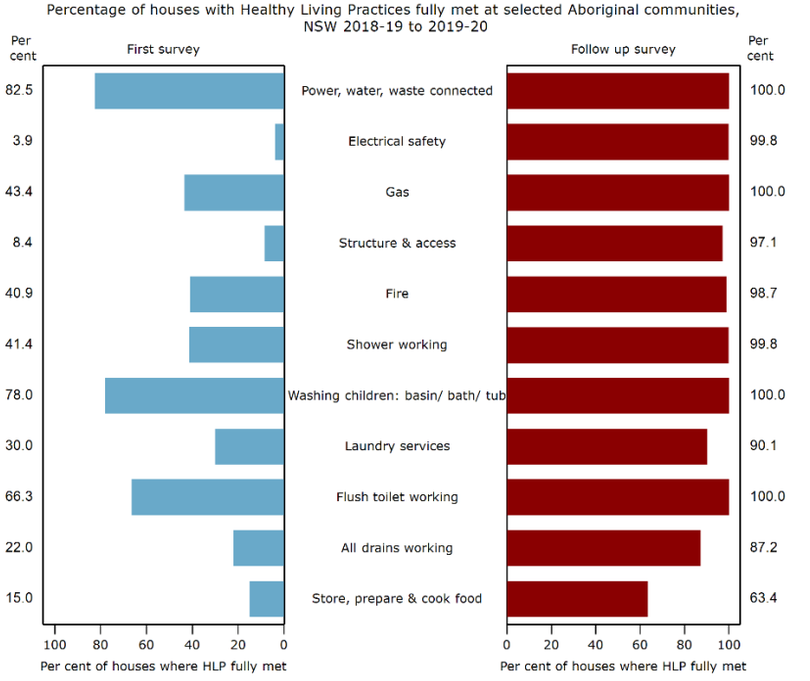


Figure 24 - Health Living Practices fully implemented 2018-19 – 2019-20, HealthStats NSW

Acute respiratory infection (Figure 25) and skin infections (Figure 26) hospitalisation rates are significantly higher in Aboriginal populations over time in NSW and appear to be increasing, this could in part be due to increasing identification of Aboriginal people in data bases. Rates of gastrointestinal infection hospitalisation have increased over time but only become significantly higher in the Aboriginal population compared to the non-Aboriginal population in recent years and more so in females than males (Figure 27).

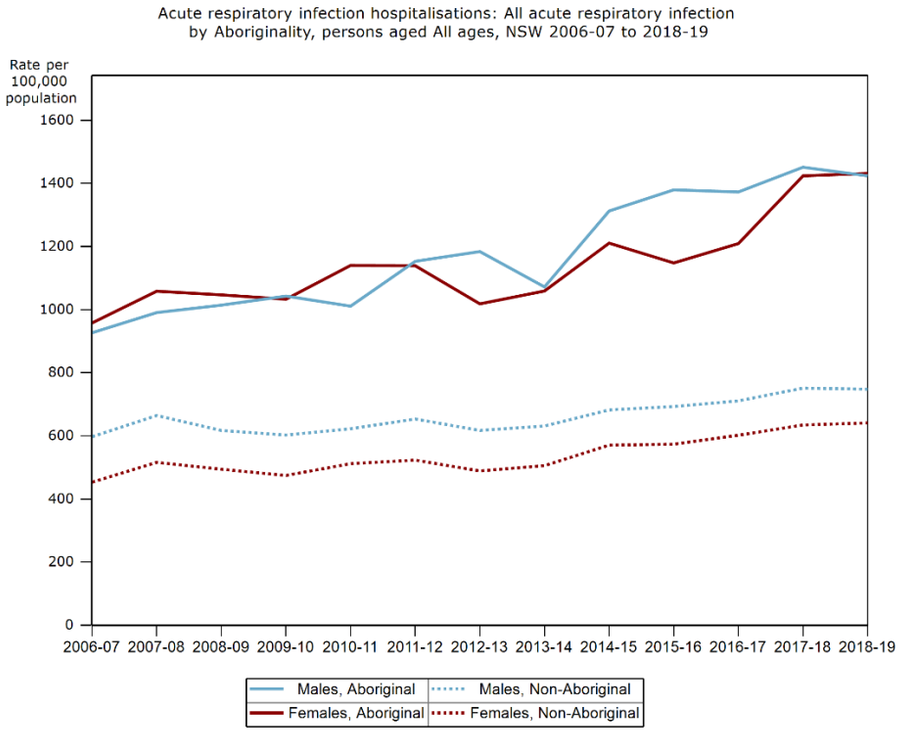


Figure 25 - Acute respiratory infection hospitalisations by Aboriginality, trend NSW (HealthStats NSW)

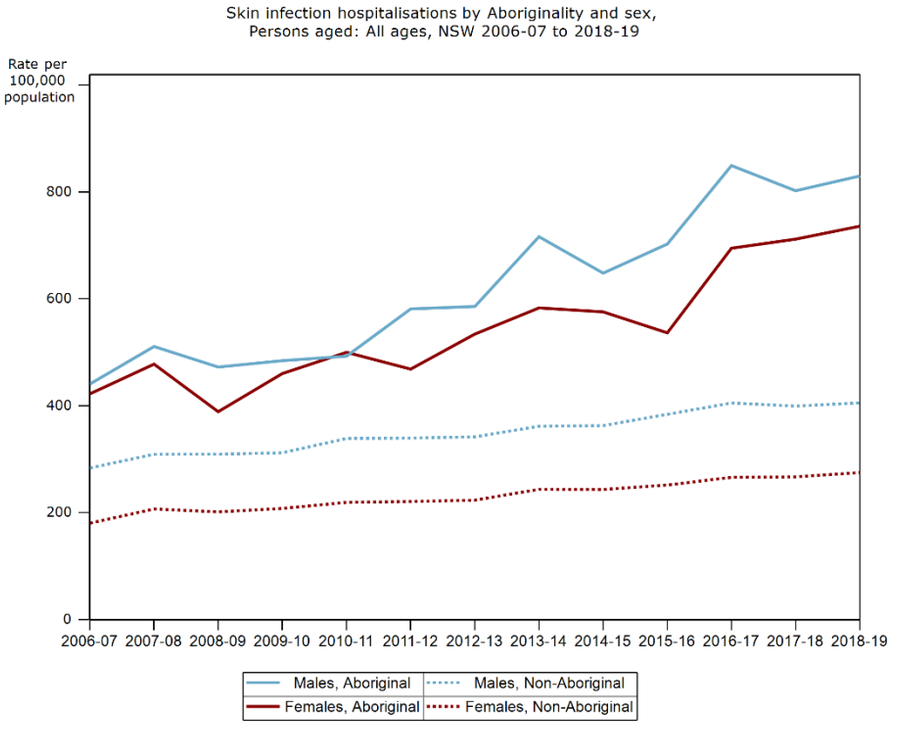


Figure 26 - Skin infection: hospitalisation by Aboriginality, trend NSW (HealthStats NSW)

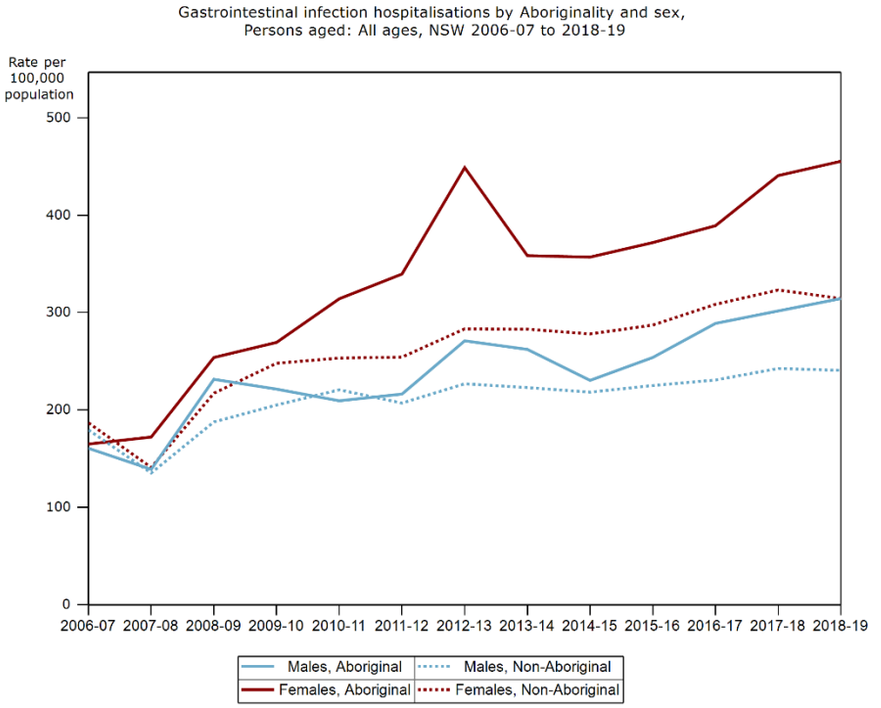


Figure 27 - Gastrointestinal infection: hospitalisation by Aboriginality, trend NSW (HealthStats NSW)

Hearing loss is more common in Aboriginal children than non-Aboriginal children. The main causes of hearing loss are disorders of the middle ear, including otitis media (middle ear infection). Otitis media is common in children following an upper respiratory infection. Repeated, unresolved episodes of otitis media can lead to perforations of the ear drum, hearing loss, and, particularly in younger children, delayed speech development, reduced learning ability, and reduced social interaction. Preventing otitis media among Aboriginal children involves improved socioeconomic status, improved environmental factors such as adequate housing and access to good quality water, reduced environmental smoke exposure, improved nutrition, and improved access to quality health care *(HealthStats NSW*).

Around 300 children are hospitalised for typmpanoplasty (surgical repair of the eardrum) annually in NSW around 20 of these were Aboriginal children making up around 7 per cent of the total (Figure 28) *(data has not been updated in HealthStats NSW 2020).*

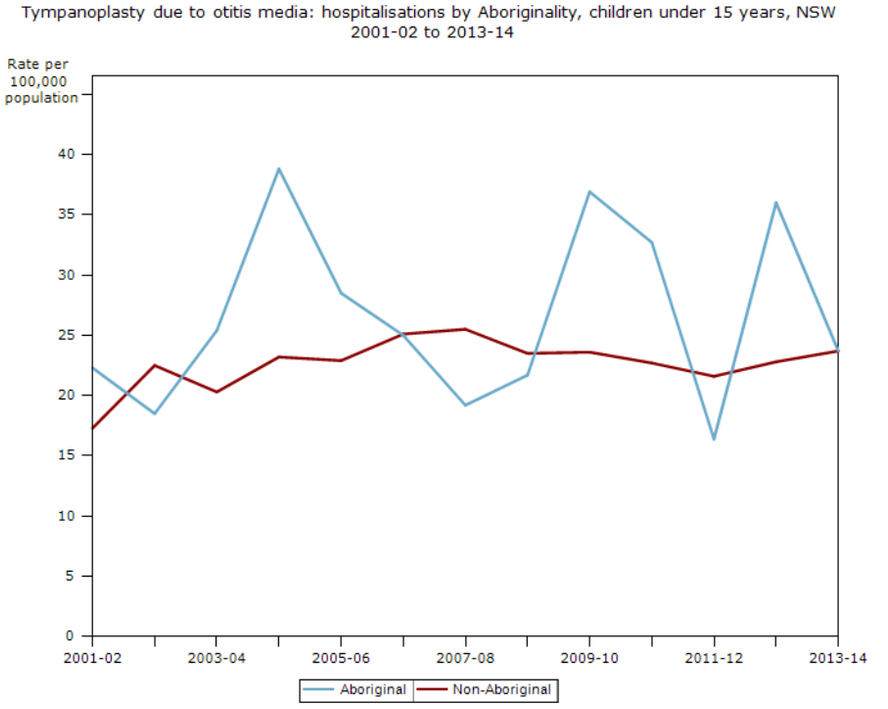


Figure 28 - Tympanoplasty due to otitis media: hospitalisation by Aboriginality, trend NSW (HealthStats NSW)

Immunisation

The Australian Immunisation Register (AIR) records information on the immunisation status of Australians registered with Medicare.

In NSW in 2019, 94.5% of Aboriginal children aged 1 year were fully immunised, compared with 85.0% in 2008. Coverage for children in the general population in NSW was 94.2% in 2019.

The gap in full immunisation rates between Aboriginal and non-Aboriginal children at 1 year, 2 years and 5 years has reversed in recent years. In 2008, there was almost a 7% gap in the proportion of Aboriginal children fully vaccinated at 1 year of age compared with non-Aboriginal children of the same age. In 2019, coverage for Aboriginal children was 0.3% higher than for non-Aboriginal children in this age group. During this period, Aboriginal immunisation health workers have been working with families and providers to close the immunisation gap in NSW.

A drop in the fully vaccinated coverage rate of children aged 2 years has been observed for both Aboriginal and non-Aboriginal children since 2014. This has occurred across Australia and is due to the inclusion of additional vaccines to meet the definition of "fully vaccinated".

Since 2009, the coverage in all children at 5 years of age has steadily improved. The immunisation rate in Aboriginal children aged 5 years has been higher than the rate in non-Aboriginal children since 2013. (Table 9).

In MLHD the gap between rates of full immunisation in the Aboriginal and non-Aboriginal population had been closing gradually since 2008 and has closed entirely for the 1 year and 5 year age group (Figure 29). The percentage of Aboriginal children fully immunised at 5 years of age in MLHD is higher than the rate for non-Aboriginal children in the total NSW population (Table 9, Figure 30). *Based on data from the Australian Childhood Immunisation Register. Health Protection NSW. Centre for Epidemiology and Evidence, NSW Ministry of Health.*

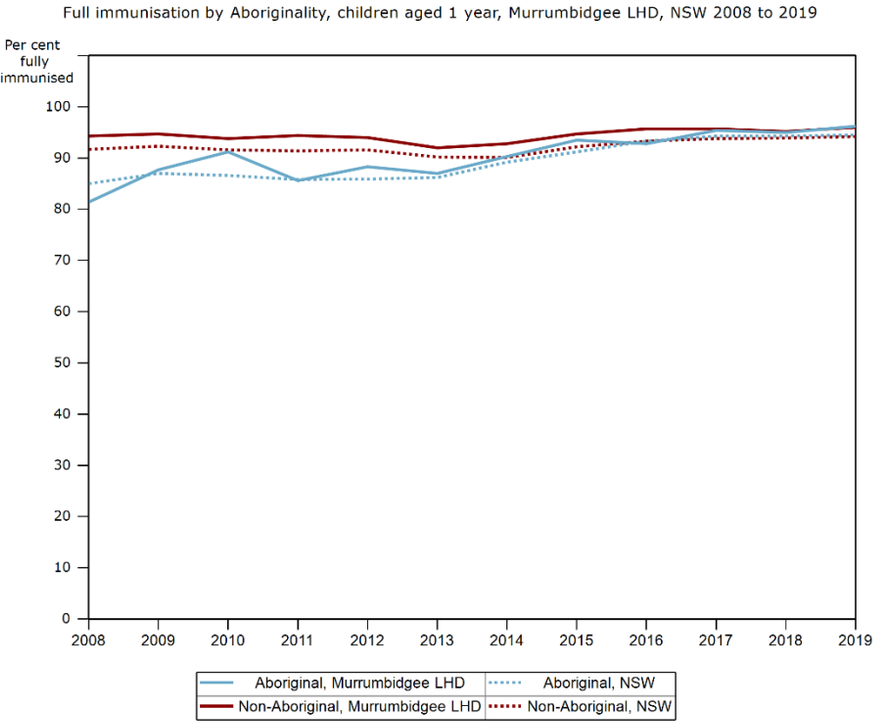


Figure 29 - Full immunisation by Aboriginality, children aged 1 year, MLHD and NSW trend (HealthStats NSW).

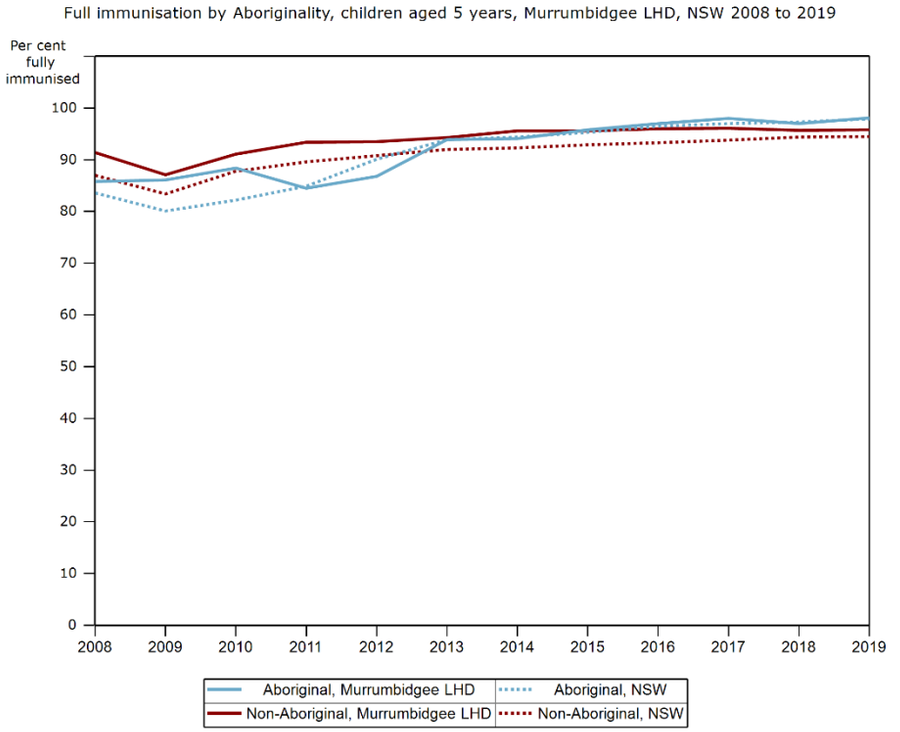


Figure 30 - Full immunisation by Aboriginality, children aged 5 years, MLHD and NSW trend (HealthStats NSW).

Table 9 - Full immunisation by Aboriginality, children aged 1 year, 2 years and 5 years 2009 to 2019 (Australian Childhood Immunisation Register. Health Protection NSW).

Age:		1 year		2 years		5 years	
Year		MLHD	NSW	MLHD	NSW	MLHD	NSW
2009	Aboriginal	87.7	87.0	89.2	90.5	86.1	80.1
	Non-Aboriginal	94.7	92.3	95.2	92.3	87.1	83.4
	Total	94.2	92.1	94.8	92.3	87.1	83.3
2014	Aboriginal	90.3	89.2	92.0	91.3	94.1	94.4
	Non-Aboriginal	92.8	90.1	94.1	90.7	95.6	92.3
	Total	92.6	90.1	93.9	90.7	95.5	92.4
2019	Aboriginal	96.2	94.5	94.4	91.8	98.1	97.9
	Non-Aboriginal	96.0	94.2	93.4	91.2	95.8	94.5
	Total	96.0	94.2	93.5	91.3	96.0	94.7

Blood borne viral and sexually transmissible infections

*(*data and commentary taken from: The Kirby Institute. Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: Surveillance and Evaluation Report 2015)*

As with many other health conditions, Aboriginal people are consistently over represented in the blood borne viruses (BBVs) and sexually transmissible infections (STIs) notification data.

HIV infection

The HIV notification rate has been higher in the Aboriginal and Torres Strait Islander population than in the Australian-born non-Indigenous population since 2009 and in 2017 was 1.6 times as high (4.6 per 100 000 vs. 2.8 per 100 000). In the five year period 2013–2017, a higher proportion of HIV notifications among the Aboriginal and Torres Strait Islander population were attributed to heterosexual sex (21%) and injecting drug use (18%) than in the Australian-born non-Indigenous population (18% and 3%, respectively). Based on the test for immune function (CD4+ cell count), a quarter (26%) of the new HIV notifications among Aboriginal and Torres Strait Islander people in 2017 were classified as late diagnoses (CD4+ cell count of less than 350 cells/µL). These notifications are likely to have been in people who had acquired HIV at least four years prior to diagnosis without being tested.

Hepatitis C

In 2017 the hepatitis C notification rate in the Aboriginal and Torres Strait Islander population was 4.4 times as high as in the non-Indigenous population (168.1 per 100 000 vs 38.4 per 100 000 respectively). The increasing rate of hepatitis C diagnosis among Aboriginal and Torres Strait Islander peoples, possibly relates to higher levels of re-use of injecting equipment in this population.

Hepatitis B

In 2017, the notification rate of hepatitis B infection for the Aboriginal and Torres Strait Islander population was 2.3 times greater than the non-Indigenous population (45.1 per 100 000 vs 19.2 per 100 000, respectively). In the past five years (2013–2017), the notification rate of hepatitis B infection in the Aboriginal and Torres Strait Islander population decreased by 37% from 71.6 per 100 000 in 2013 to 45.1 per 100 000 in 2017, with declines in all age groups but the greatest decline in people under 40 years of age, suggesting the immunisation programs for hepatitis B are starting to have a benefit.

Chlamydia

The chlamydia notification rate for the Aboriginal and Torres Strait Islander population of 1194 per 100 000 people in 2017 was 2.8 times that of the non-Indigenous notification rate (427 per 100 000), increasing to five times higher in remote/very remote areas. The higher chlamydia rates in the Aboriginal and Torres Strait Islander population as compared with the non-Indigenous population emphasise the need for higher coverage of testing and treatment in this population.

Gonorrhoea

In 2017, the gonorrhoea notification rate in the Aboriginal and Torres Strait Islander population was more than six times that of the non-Indigenous population (627 vs 96 per 100 000 population), increasing to nearly 30 times higher in remote and very remote areas.

In Aboriginal and Torres Strait Islander people, there were roughly an equal number of gonorrhoea diagnoses among males and females, indicating predominantly heterosexual transmission, and most resided in remote areas. In contrast, gonorrhoea diagnoses in non-Indigenous people were predominantly in men, in urban settings, suggesting that transmission is primarily related to sex between men.

Syphilis

In 2017, the infectious syphilis notification rate in the Aboriginal and Torres Strait Islander population was more than six times that of the non-Indigenous population (102.5 vs 15.5 per 100 000 population), increasing to 50 times as high in remote and very remote areas.

Congenital syphilis cases among Aboriginal and Torres Strait Islander peoples also increased over this period, with 7 reported cases in 2011, 1 in 2012, 3 in 2013 and 5 in 2014. In Aboriginal and Torres Strait Islander peoples, the rate among males and females is roughly equal, indicating predominantly heterosexual transmission. In contrast, diagnoses in non-Indigenous peoples are predominantly in men, in urban settings, suggesting that transmission is primarily related to sex between men. The resurgence of infection in remote communities after years of declining rates, bringing with it cases of congenital syphilis, emphasises the need for testing and treatment in this population, particularly in antenatal settings.

Oral health

Compared to the overall Australian population of similar age, Aboriginal and Torres Strait Islander people experience significantly more oral disease. Among Aboriginal and Torres Strait Islander peoples:

- children generally have more than twice the caries experience and a greater proportion of untreated caries;
- adults have more missing teeth;
- children and adults have worse periodontal health, with poor periodontal health evident in younger populations.

There is a significant difference in the proportion of Aboriginal and non-Aboriginal children with no history of dental decay (Figure 31). For children aged 5–6 years, 35% of Aboriginal children and 62% of non-Aboriginal children have never suffered dental decay. For children aged 11–12 years, 54% of Aboriginal children and 67% of non-Aboriginal children demonstrated no experience of dental decay in their permanent teeth *(data has not been updated in HealthStats NSW 2020).*

Data on hospitalisations for the removal or restoration of teeth for dental caries also demonstrate a significant disparity between Aboriginal and non-Aboriginal children for treatment of severe oral health conditions. In NSW in 2018–19, the hospitalisation rate for removal and restoration of teeth for dental caries for children aged 0–4 years was 403.2 per 100,000 Aboriginal children, and 293.9 per 100,000 non-Aboriginal children. This difference is significant, with Aboriginal children aged less than 5 years being 1.4 times more likely to be hospitalised for removal and restoration of teeth than non-Aboriginal children. Aboriginal children aged 5–14 years are 1.2 times more likely to be admitted to hospital for removal and restoration of teeth than non-Aboriginal children of the same age. Aboriginal people aged 15+ years were 1.6 times more likely to be hospitalised for removal and restoration of teeth than non-Aboriginal people. Aboriginal people were more likely to have procedures involving the removal of teeth for dental caries than non-Aboriginal people and the opposite was true for restoration procedures, generally indicating the severity of the dental condition when treated.

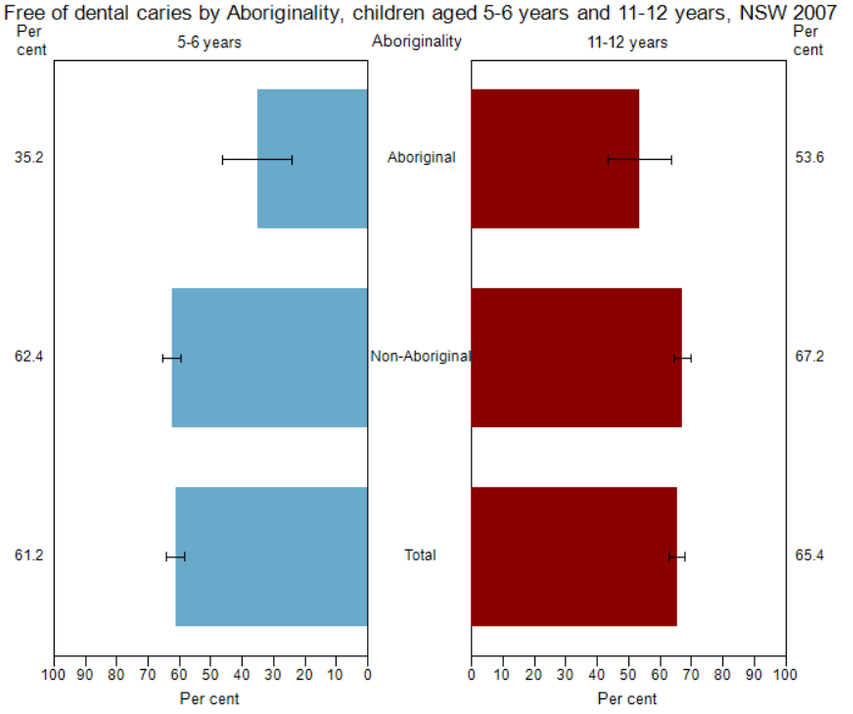


Figure 31 - Free of dental caries by Aboriginality, children by age, NSW 2007

Select chronic conditions

Key facts – chronic conditions

13.7%	Aboriginal adults have reported having diabetes in NSW (16.6% all MLHD, 11.3% all NSW)
4%	Aboriginal people are registered on NDSS in MLHD (5.8% all MLHD, 5.5% all Australia)
3 x	Aboriginal hospitalisation rate for diabetes in NSW compared to non-Aboriginal
3 x	Aboriginal death for diabetes in NSW compared to non-Aboriginal
5 x	Aboriginal hospitalisation rate for COPD in NSW compared to non-Aboriginal
2 x	Aboriginal hospitalisation rate for circulatory disease in NSW compared to non-Aboriginal

Diabetes

Prevalence

In NSW 11.3 per cent of adults aged 16 years and over had diabetes or high blood glucose as estimated from the 2019 NSW Adult Population Health Survey. In MLHD the prevalence of diabetes in adults was estimated to be 16.6 per cent and for the Aboriginal adult population in NSW in 2019 it was 13.7 per cent. It is likely that there are many people with diabetes in NSW who are unaware they have it. Prevalence estimates have been increasing over time (Figure 32).

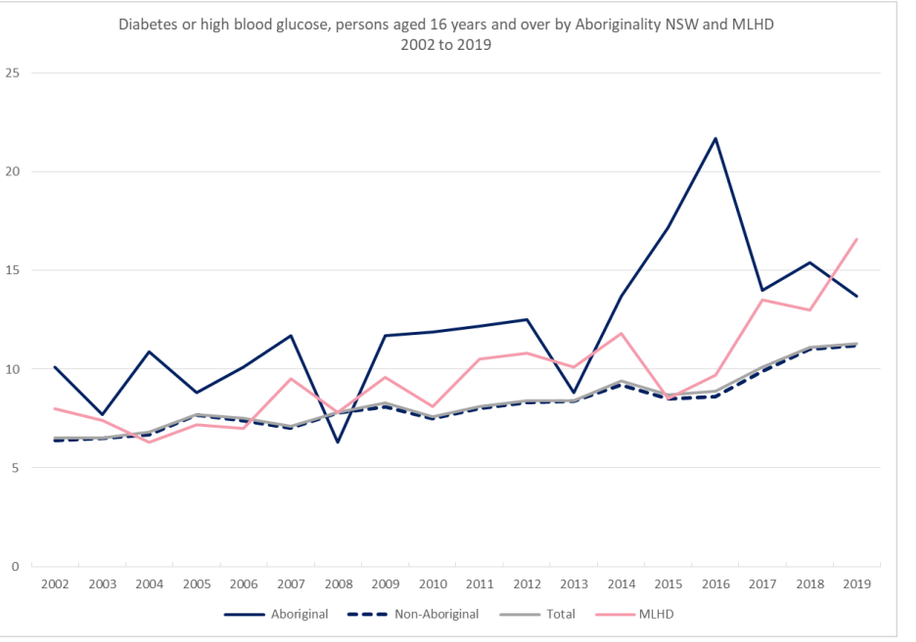


Figure 32 - Diabetes prevalence trend in adults by Aboriginality NSW 2002 to 2019 (HealthStats NSW).

Another estimate of the prevalence of diabetes for specific communities is registration through the National Diabetes Services Scheme (NDSS). There were a total of 16,100 registrants with the NDSS in MLHD in 2019 of which 560 were for Aboriginal people (3.5%). The prevalence of diabetes in the total population using this estimate is 5.8 per cent in MLHD (5.4% in Australia) and for Aboriginal people in MLHD was 4.0 per cent. The registration prevalence for Aboriginal people by LGA showed Hay LGA have a higher prevalence than Australian averages and lower than average in Coolamon and Temora (Figure 33).

The likelihood of registration on the NDSS is reduced in Aboriginal communities as the materials subsidised by the NDSS for the general population are available to the Aboriginal population through the Aboriginal Medical Services (AMS), where available, without NDSS registration.

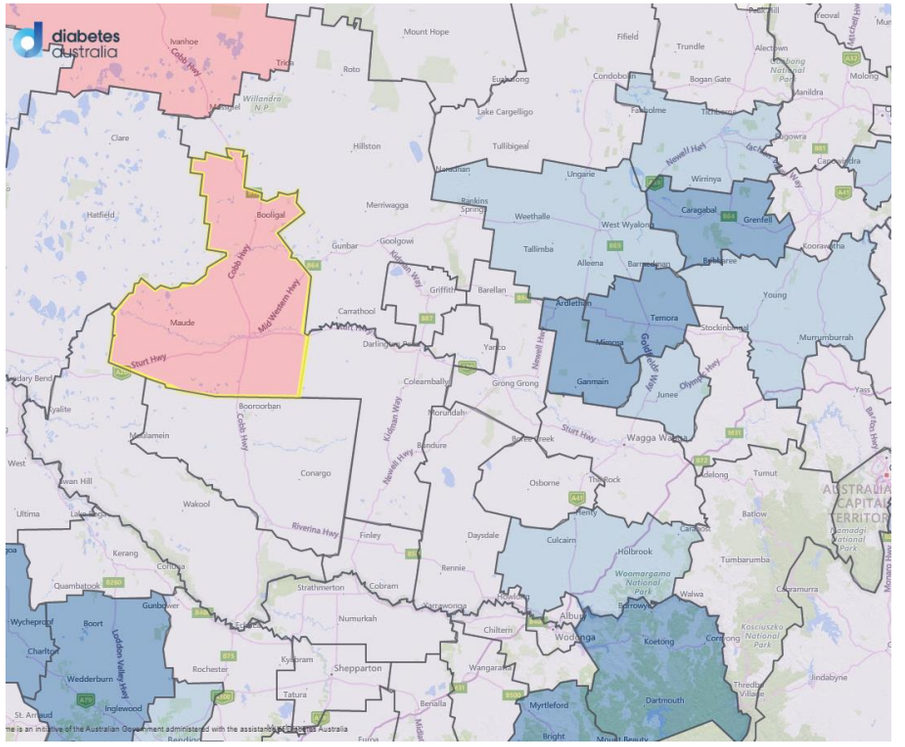


Figure 33 - NDSS registration for Aboriginal people by LGA (NDSS map 2019)

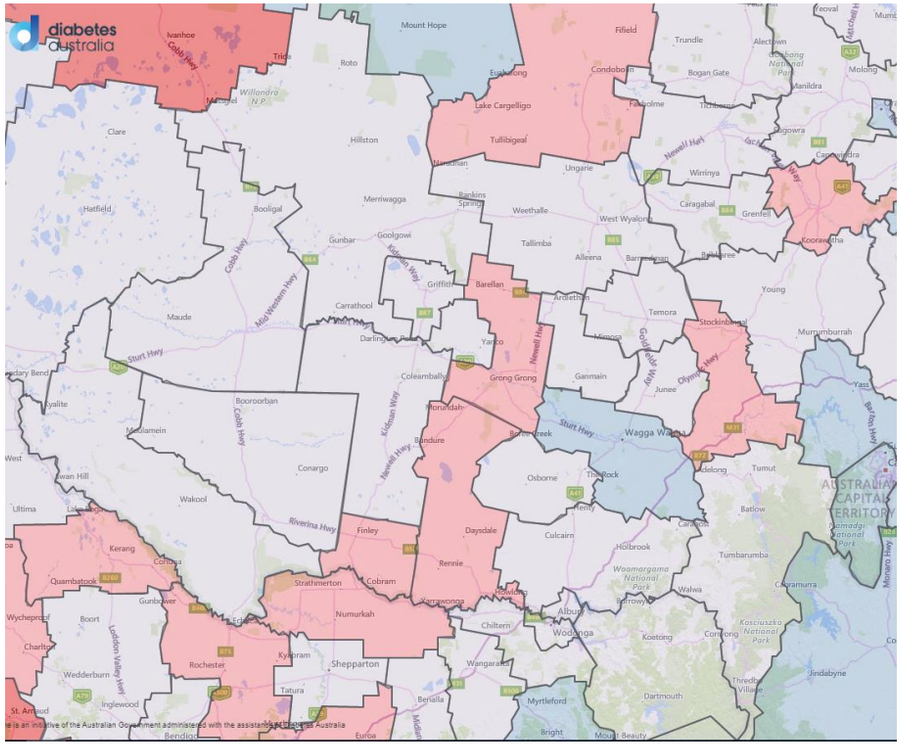


Figure 34 - NDSS registration by LGA (NDSS map 2019)

Hospitalisation for diabetes

The rate of hospitalisation for diabetes as a principal diagnosis was 162.5 per 100,000 population in NSW in 2018-19 and the rate for the Aboriginal population was over three times that at 508.8 per 100,000 population (Figure 35). Aboriginal people make up 7 per cent of the diabetes admissions in NSW. The rate of hospitalisation has been increasing steadily since 2012-13. Where diabetes is listed as a co-morbidity for an admission the rate rises to 8,073 hospitalisations per 100,000 people for Aboriginal populations and 3,134 per 100,000 in non-Aboriginal people.

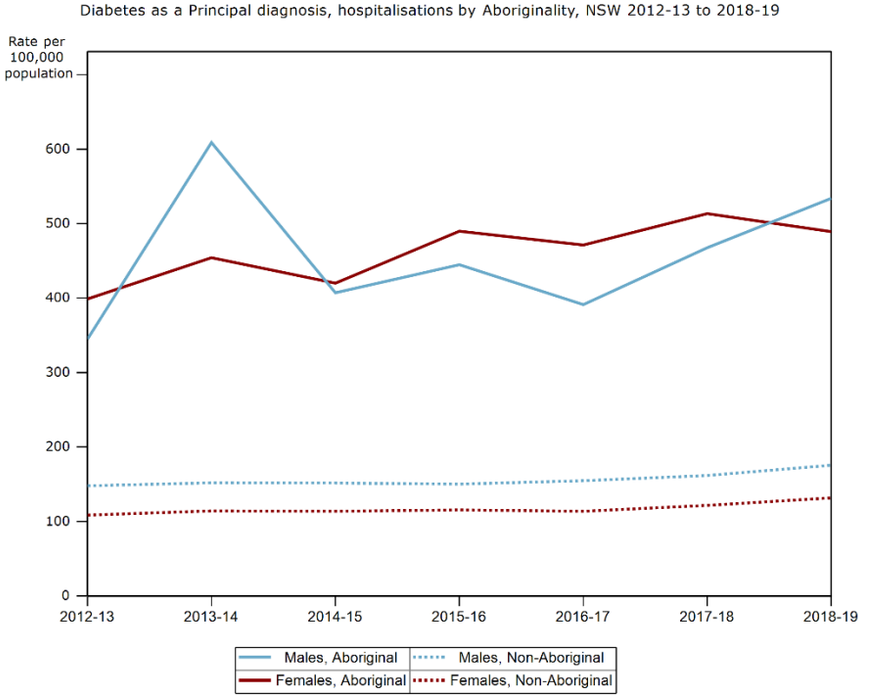


Figure 35 - Diabetes as a principal diagnosis by Aboriginality and sex, trend (HealthStats NSW).

Deaths related to diabetes

While diabetes was the principal (underlying) cause of around 3% of all deaths in NSW in 2017 (1,602 deaths), around 6% of all deaths in that year were directly related to diabetes (2,903 deaths) and 11% (6,013) involved diabetes in some way. Cardiovascular disease was the most common cause of death among people with diabetes. The death rate from diabetes as the underlying or associated cause (2017-2018) in all NSW was 58.7 per 100,000 population while the rate for the Aboriginal population was three times that at 139.0 per 100,000. The rate in the non-Aboriginal population has remained fairly constant over time, while the rate in Aboriginal people had been decreasing since 2010—2011 but seen an increase in recent years (Figure 36).

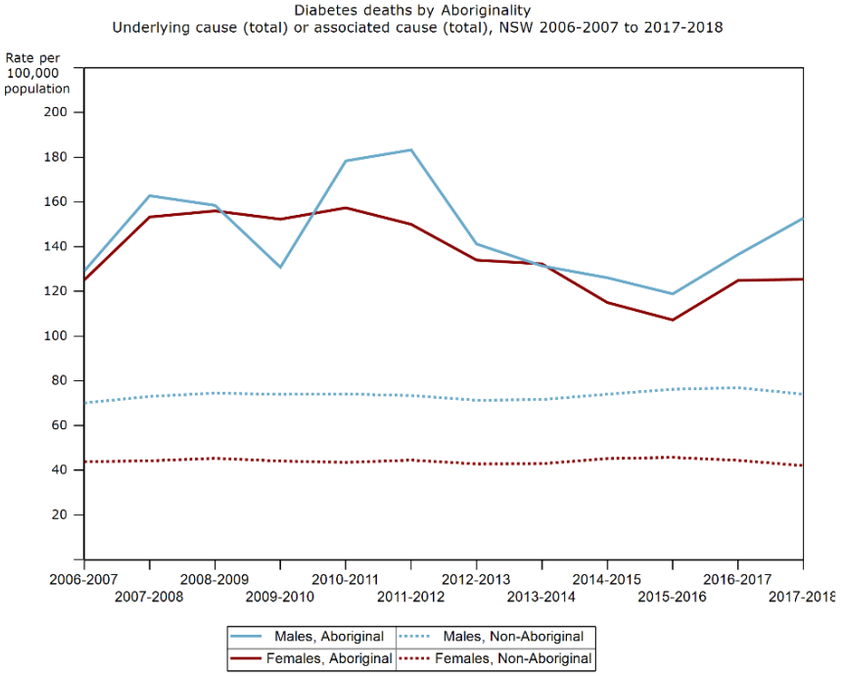


Figure 36 - Diabetes deaths by Aboriginality Underlying cause (total) or associated cause (total), 2006-2007 to 2017-2018 (HealthStats NSW)

Chronic Obstructive Pulmonary Disease

Chronic bronchitis and emphysema are the two main conditions comprising chronic obstructive pulmonary disease (COPD). In Australia in 2015, COPD was estimated to account for 3.9 per cent of the disease burden (AIHW 2019). In NSW in 2018-19, Aboriginal people were 5 times more likely to be hospitalised than non-Aboriginal people for COPD at a rate of 1188 per 100,000 Aboriginal people compared to 204/100,000 non-Aboriginal people. The rate for Aboriginal people aged 65 years or over was 6110 per 100,000 compared to non-Aboriginal people of 1259 per 100,000 (Figure 37).

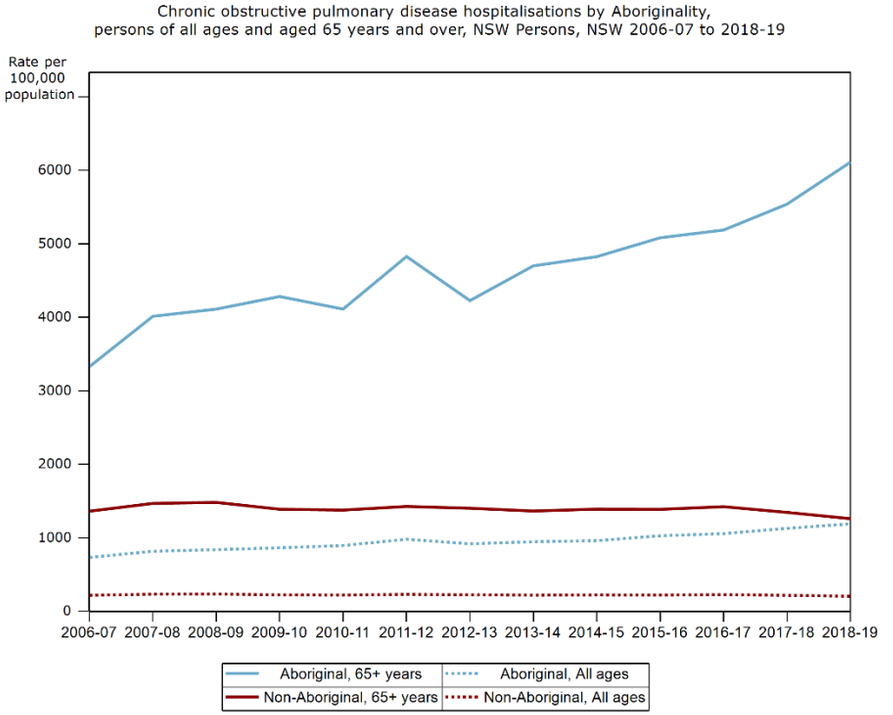


Figure 37 - Chronic obstructive pulmonary disease hospitalisations, by Aboriginality, persons of all ages and aged 65 years and over, NSW 2006-07 to 2018-19 (HealthStats NSW).

Circulatory disease

Circulatory diseases cause more than 15,000 deaths and 150,000 hospitalisations of NSW residents in each year. Coronary heart disease and atrial fibrillation and flutter contribute the most to these diseases' hospitalisation burden, followed by heart failure and strokes.

The four major causes of death from cardiovascular disease share a number of behavioural risk factors (tobacco smoking, physical inactivity, poor diet, risky alcohol consumption) leading to physiological risk factors (high blood pressure, elevated blood lipids, diabetes mellitus, and overweight or obesity) all of which are elevated in the Aboriginal population of NSW.

In NSW in 2018-19, Aboriginal people were 1.6 times more likely to be hospitalised than non-Aboriginal people for circulatory disease at a rate of 2535 per 100,000 Aboriginal people compared to 1605 per 100,000 non-Aboriginal people (Figure 38). The rate of coronary heart disease hospitalisation in the 25-74 year age group for Aboriginal people (1037/100,000) was double the rate for non-Aboriginal people (514/100,000) however the rate for those aged 75 years or over was similar in Aboriginal and non-Aboriginal populations indicating earlier onset of chronic heart conditions in the Aboriginal population. Older non-Aboriginal people had hospitalisation rates 5.4 times that of the 25-74 year olds compared to 3 times higher in the Aboriginal population.

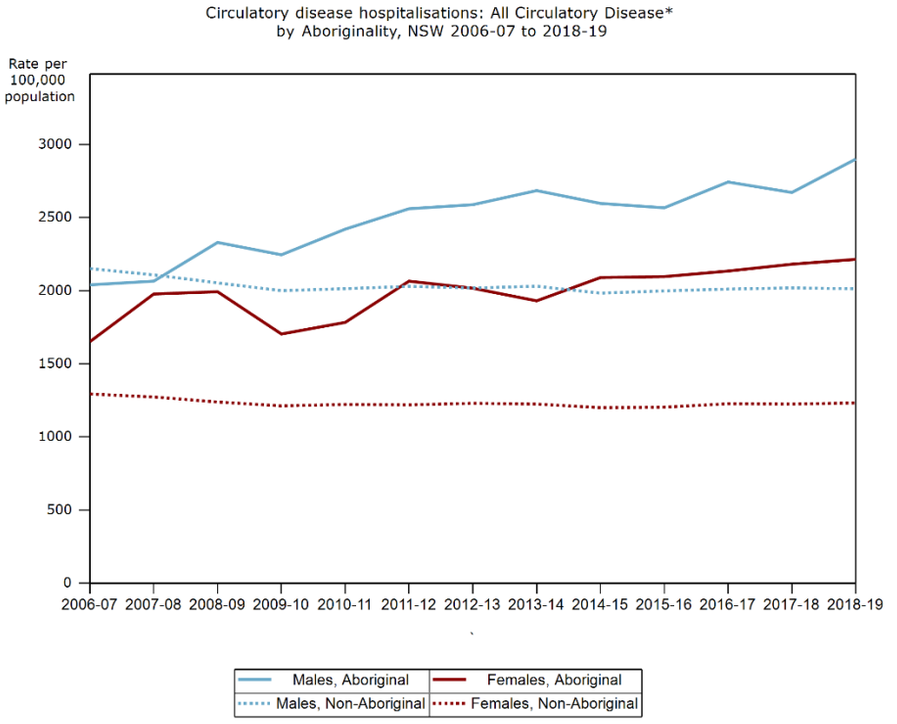


Figure 38 - Circulatory disease hospitalisations by Aboriginality and sex, trend (HealthStats NSW).

Key facts – MLHD hospitalisation

Significantly higher in **Aboriginal** population compared to **non-Aboriginal** in MLHD:		
• Circulatory disease	• Maternal and neonatal	• Symptoms and signs
• Dialysis	• Mental disorders	• All causes
• Endocrine disease	• Nervous system	
• Injury and poisoning	• Respiratory diseases	
Significantly higher in MLHD Aboriginal population compared to NSW Aboriginal population:		
• Circulatory disease	• Injury and poisoning	• Sense organs
• Dialysis	• Maternal and neonatal	• Respiratory disease
• Digestive disease	• Musculo-skeletal	• All causes
• Genitourinary		

Local hospitalisation data

Hospitalisation rates reflect the occurrence of conditions requiring hospital treatment and access to hospital treatment. In NSW and MLHD in 2018-19, Aboriginal people were between 1.6 and 1.7 times more likely to be hospitalised than non-Aboriginal people. The most common causes in term of numbers of hospitalisation for Aboriginal people in MLHD were dialysis, maternal and neonatal related causes, "other factors influencing health"[2], respiratory disease and injury and poisoning (Table 10). The highest age-standardised rates besides dialysis were symptoms and signs[3], "other factors" and digestive system disease (Figure 39). *Note: Hospitalisations due to dialysis reflect repeated hospitalisations for a small number of people.*

The proportion of hospitalisations by cause and Aboriginality is shown in Figure 40) showing that Aboriginal people make up around 5 per cent of the MLHD population and 6 per cent of the hospitalisations for MLHD residents. Particular categories where Aboriginal people are "over-represented" proportionally are dialysis and mental disorders.

[2] "Other factors influencing health status" when a person who may or may not be sick encounters the health services for some specific purpose, such as receive limited care, can refer to examinations and live-born infants.

[3] "Symptoms and signs" are generally cases for which no more specific diagnosis can be made at the time, or patients are transferred elsewhere for further diagnosis, or symptoms were transient and of unknown cause.

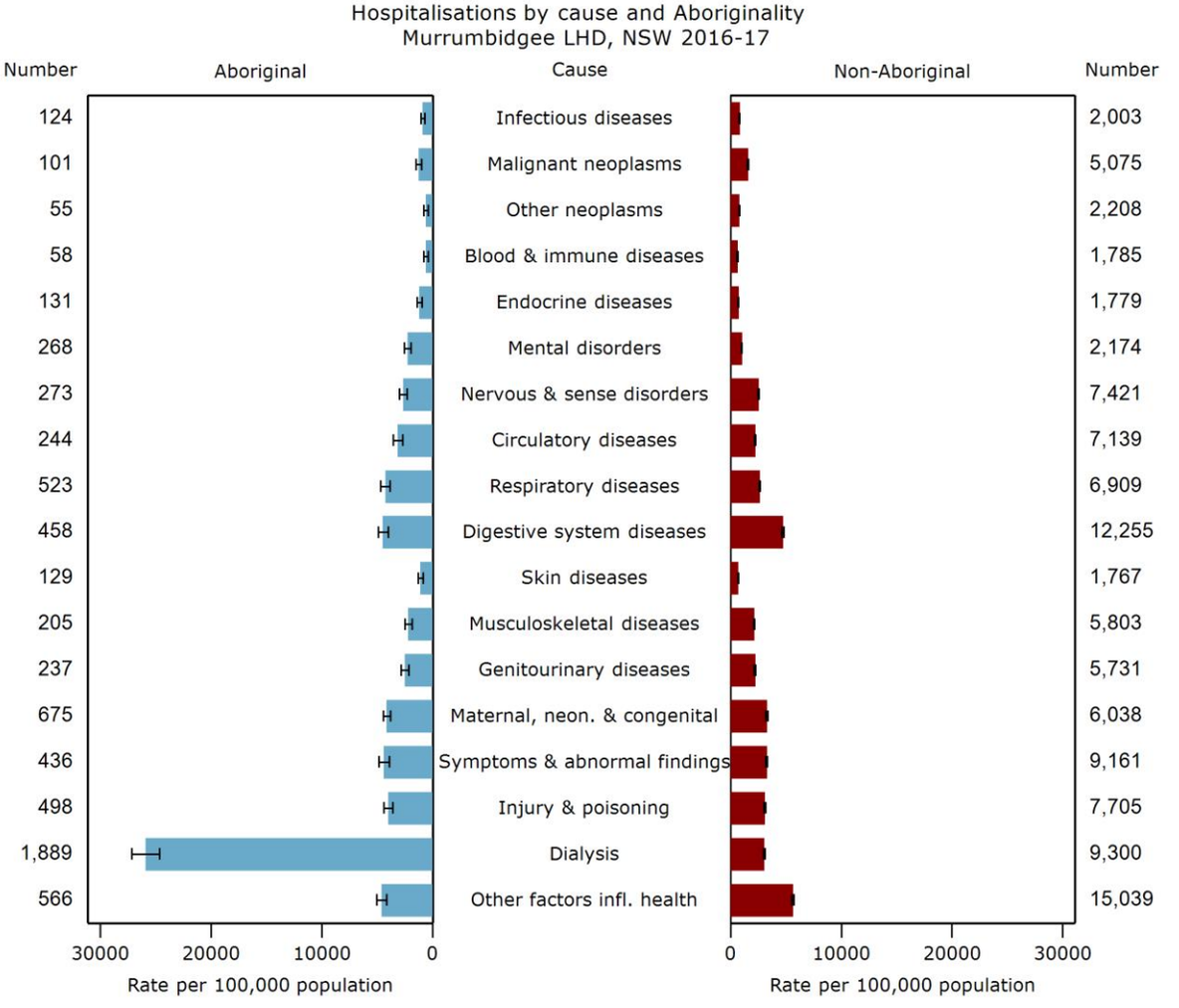


Figure 39 - Hospitalisations by Aboriginality and category of cause, MLHD 2016 (accessed Nov 2020)

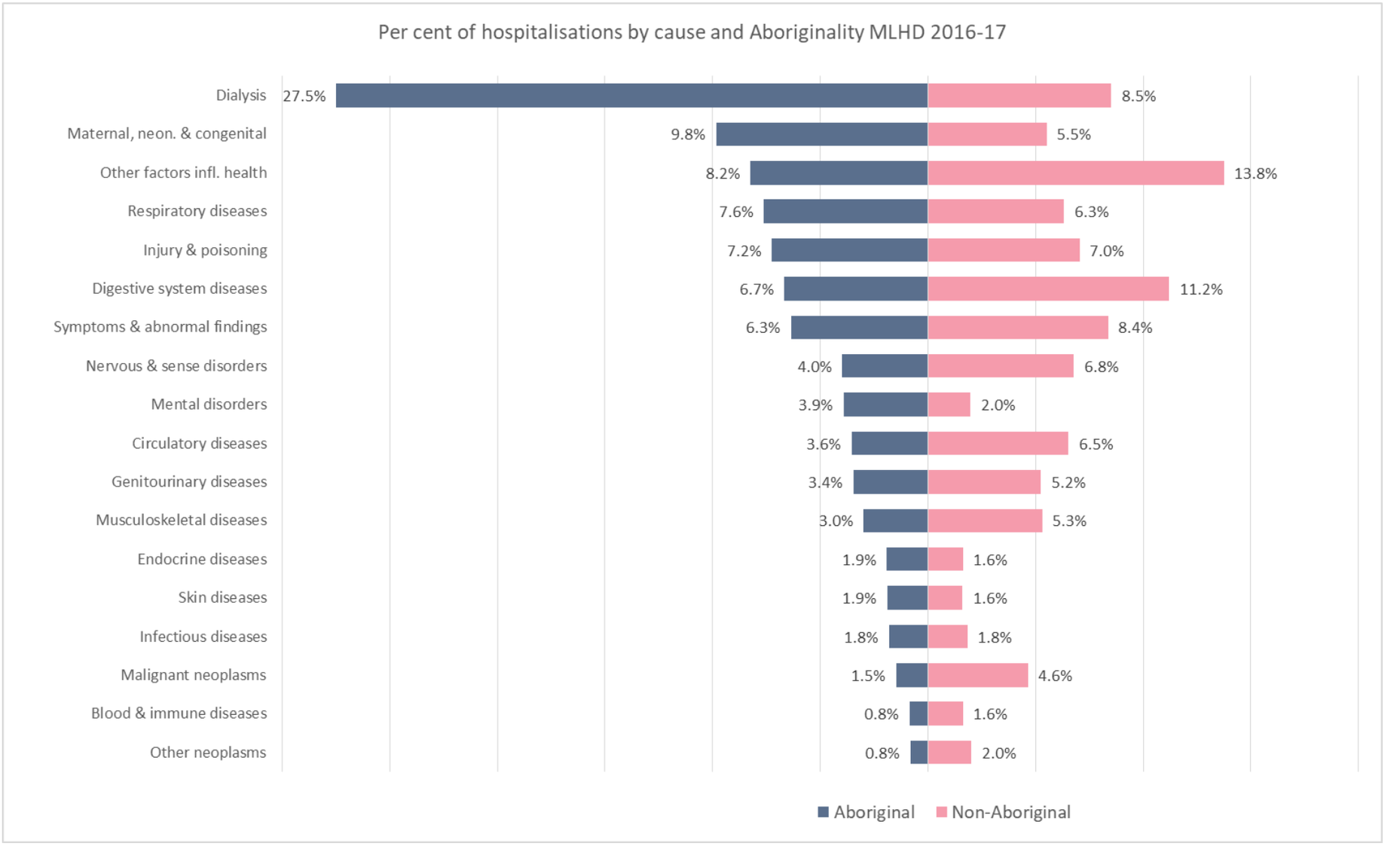


Figure 40 - Per cent of separations by cause and Aboriginality MLHD, 2016-17

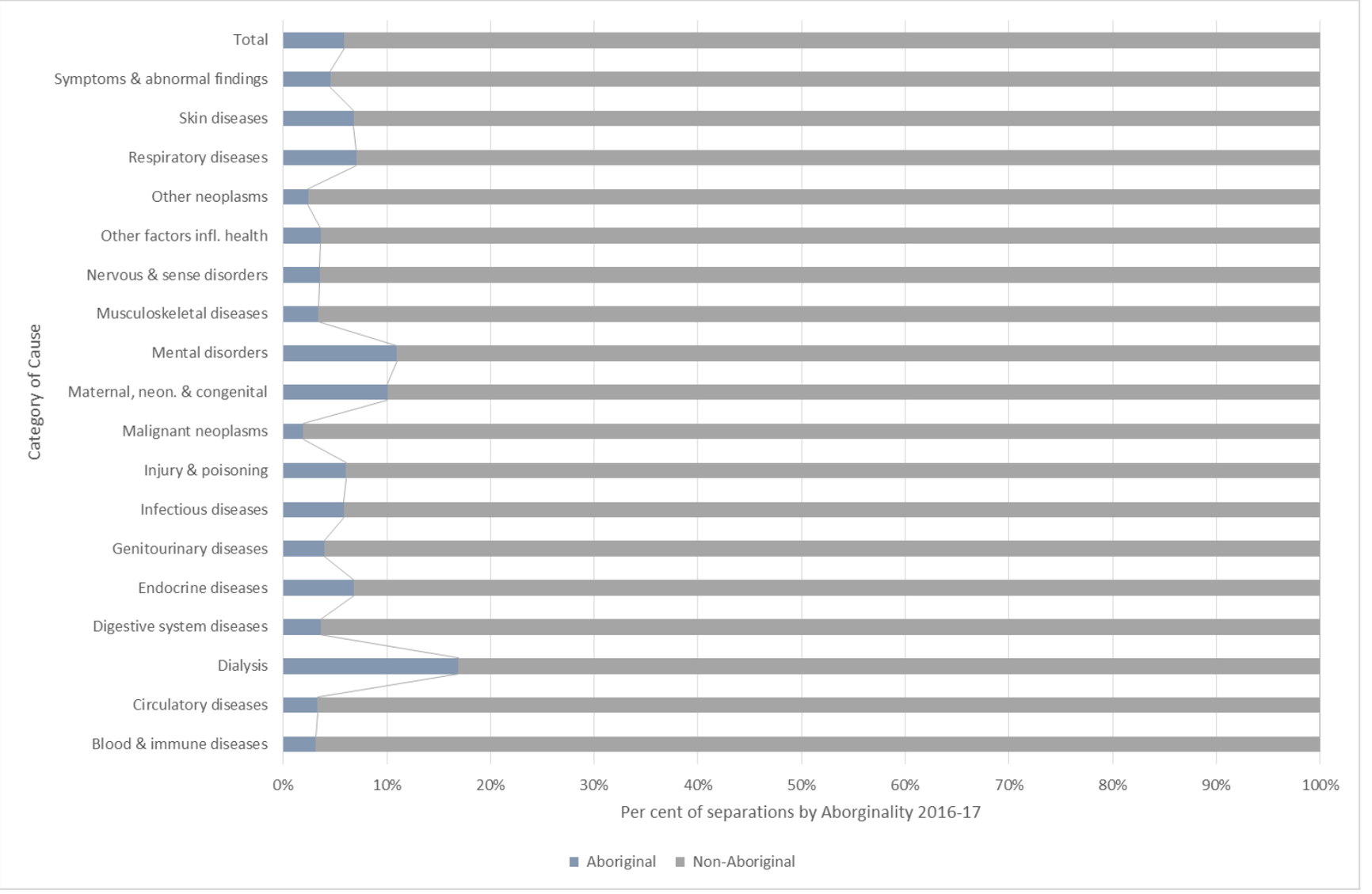


Figure 41 - hospitalisations by cause and percentage by Aboriginality 2016-17, MLHD

Table 10 details the hospitalisations by category of cause and Aboriginality for all NSW and MLHD showing the number, the age standardised rates, the percentage Aboriginal people make up of the separations by cause as well as comparisons of rates for MLHD to NSW and by Aboriginality within MLHD and NSW.

Aboriginal people in MLHD have significantly higher rates of hospitalisation compared to non-Aboriginal people in MLHD for (Table 10):

- Circulatory disease
- Dialysis
- Endocrine disease
- Injury and poisoning
- Maternal and neonatal
- Mental disorders
- Nervous system and sense organs
- Respiratory diseases
- Symptoms and signs[3]
- All causes

Aboriginal people in MLHD have significantly higher rates of hospitalisation compared to Aboriginal people in all NSW for (Table 10):

- Circulatory disease
- Dialysis
- Digestive system diseases
- Genitourinary diseases
- Injury and poisoning
- Maternal and neonatal
- Nervous system and sense organs
- Other factors influencing health[2]
- Respiratory diseases
- Symptoms and signs[3]
- All causes

Table 10 - Hospitalisations by category of cause and Aboriginality, MLHD and NSW 2016-17

	MURRUMBIDGEE LHD											NSW					
	ABORIGINAL					NON ABORIGINAL					ATSI VS NON-ATSI *	ABORIGINAL					MLHD ATSI VS NSW ATSI #
	Number	% of hosps	Rate	Lower 95%CI	Upper 95%CI	Number	% of hosps	Rate	Lower 95%CI	Upper 95%CI		Number	% of hosps	Rate	Lower 95%CI	Upper 95%CI	
Blood & immune diseases	58	0.8%	615.8	450.9	816.4	1785	1.6%	601.3	572.3	631.4		957	0.9%	552.7	512.6	594.6	
Circulatory diseases	244	3.6%	3136.9	2733.4	3580.6	7139	6.5%	2184.5	2132.3	2237.5	HIGH	3502	3.3%	2419.1	2327.5	2513	HIGH
Dialysis	1889	27.5%	25908.9	24686.8	27173.2	9300	8.5%	3028.1	2964	3093.2	HIGH	28662	27.2%	18102.6	17876.7	18330.4	HIGH
Digestive system diseases	458	6.7%	4474.8	4039.1	4941.8	12255	11.2%	4712.6	4625.3	4801		7468	7.1%	3585.7	3494.9	3678	HIGH
Endocrine diseases	131	1.9%	1183.8	964.4	1433.7	1779	1.6%	677.6	644.7	711.6	HIGH	1740	1.7%	919.8	869.4	972.0	
Genitourinary diseases	237	3.4%	2501.7	2163.5	2874.1	5731	5.2%	2186.7	2127.4	2247.1		3851	3.7%	1987.6	1916.4	2060.4	HIGH
Infectious diseases	124	1.8%	897.3	722.9	1096.7	2003	1.8%	777.4	742	814		1931	1.8%	866.1	818.3	915.6	
Injury & poisoning	498	7.2%	3999	3609.9	4414.9	7705	7.0%	3072.6	3001	3145.4	HIGH	7806	7.4%	3421.4	3331.9	3512.5	HIGH
Malignant neoplasms	101	1.5%	1263.2	1014.7	1551.3	5075	4.6%	1569.3	1525	1614.6		1641	1.6%	1073.2	1014.0	1134.7	
Maternal, neon. & congenital	675	9.8%	4136.5	3810.4	4481.8	6038	5.5%	3259.2	3177.2	3342.7	HIGH	10376	9.9%	3245.7	3179.7	3312.6	HIGH
Mental disorders	268	3.9%	2267.3	1987	2574.2	2174	2.0%	978.5	936.2	1022.1	HIGH	5738	5.4%	2590.4	2518.1	2664.2	
Musculoskeletal diseases	205	3.0%	2175.5	1864.3	2520.6	5803	5.3%	2102.4	2045.9	2160.1		3141	3.0%	1682.6	1617.4	1749.5	HIGH
Nervous & sense disorders	273	4.0%	2657	2313.4	3032.8	7421	6.8%	2517.4	2457.6	2578.3		4249	4.0%	2214	2134.4	2295.4	HIGH
Other factors infl. Health^	566	8.2%	4604.1	4173.3	5062.5	15039	13.8%	5621.0	5527.1	5716.1	LOW	6982	6.6%	2600.1	2522.7	2678.9	HIGH
Other neoplasms	55	0.8%	619.7	453.2	823.2	2208	2.0%	765.5	732.3	799.7		891	0.8%	511.8	473.9	551.6	
Respiratory diseases	523	7.6%	4270.6	3853	4716.1	6909	6.3%	2594.7	2531	2659.6	HIGH	6906	6.6%	3223.6	3127.7	3321.1	HIGH
Skin diseases	129	1.9%	1095.5	893.6	1325.7	1767	1.6%	666.4	634.1	699.9	HIGH	2240	2.1%	1004.5	956.9	1053.6	
Symptoms & abnormal findings^	436	6.3%	4391.3	3949.8	4865.2	9161	8.4%	3241.7	3172.2	3312.3	HIGH	7240	6.9%	3649.3	3552.3	3748.0	HIGH
Total	**6870**	**100.0%**	**70198.9**	**68353.9**	**72077.1**	**109292**	**100.0%**	**40558.0**	**40305.1**	**40811.9**	**HIGH**	**105321**	**100.0%**	**53898.8**	**53523.7**	**54275.7**	**HIGH**

* Statistical comparison age standardised rate in Aboriginal population compared to non-Aboriginal population in MLHD – significantly higher = HIGH, significantly lower = LOW

Statistical comparison age standardised rate in MLHD Aboriginal population compared to NSW Aboriginal population – significantly higher = HIGH, significantly lower = LOW

^ "Other factors influencing health status" when a person who may or may not be sick encounters the health services for some specific purpose, such as receive limited care, can refer to examinations and live-born infants.

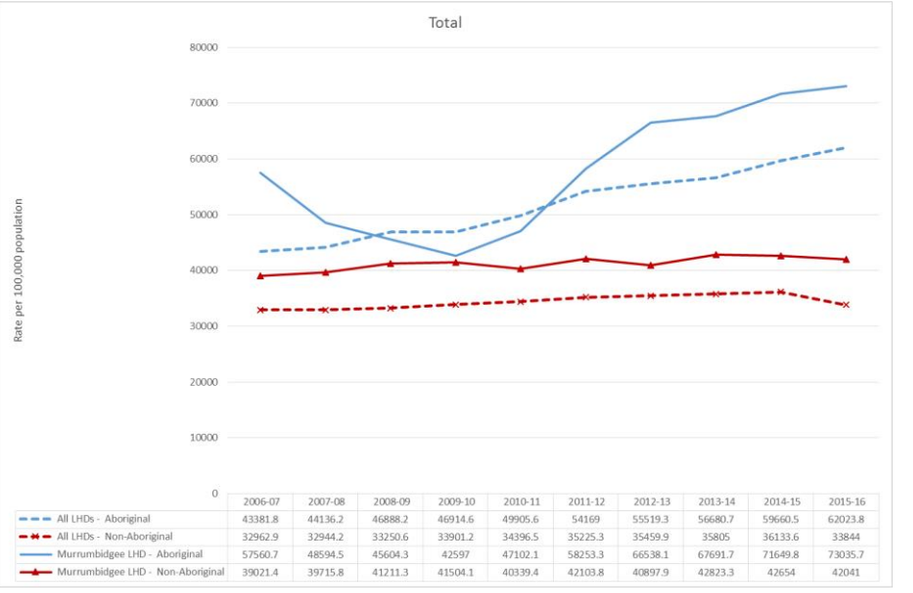
"Symptoms and signs" are generally cases for which no more specific diagnosis can be made at the time, or patients are transferred elsewhere for further diagnosis, or symptoms were transient and of unknown cause.

Trends in major causes of hospitalisation

Hospitalisations for the non-Aboriginal populations have been gradually increasing since 2006-07 to 2015-16 in NSW and MLHD. In the Aboriginal population in NSW the rate of increase is higher and in MLHD there has been a very steep increase in rates of hospitalisation since 2009-10 where there was a reclassification of diabetes complications (Figure 42). Increased hospitalisation rates for Aboriginal people may not necessarily indicate increased illness in the population it can be affected by increased access to services and treatments, increased identification in databases and increases in availability of treatments locally (especially dialysis in local area). Murrumbidgee LHD in general has higher rates of hospitalisation for major causes than average NSW rates. *Figures for trend beyond 2015-16 are not available as the base Aboriginal population data estimates have not been updated (November 2020).*

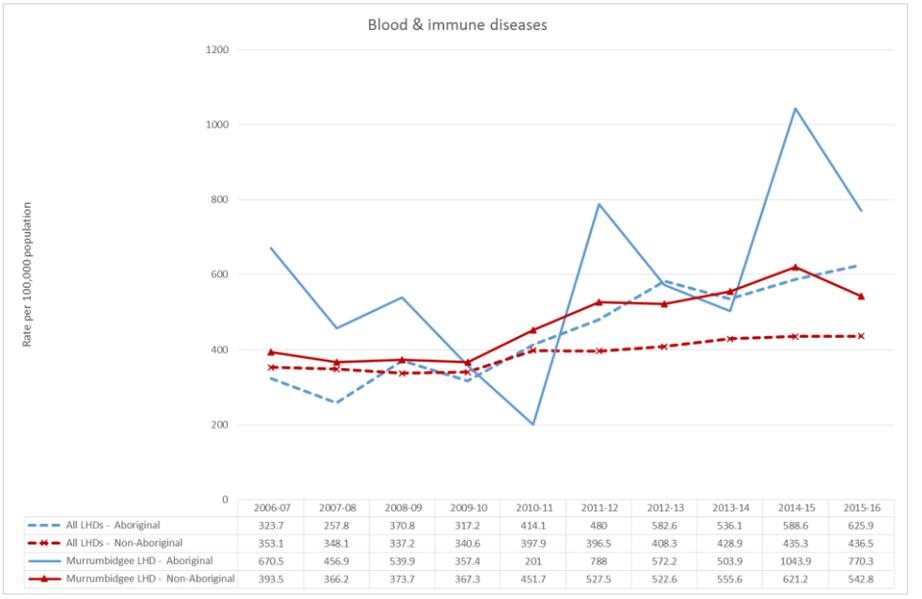
Figures 42 to 59 show the trend in age-standardised hospitalisation rates for Aboriginal and non-Aboriginal people in MLHD and all LHDs combined (NSW total). Trends of particular note for the Aboriginal population of MLHD are:

- Circulatory diseases: High and decreasing in recent years (Figure 44)
- Dialysis: High and increasing (Figure 45)
- Endocrine diseases (includes diabetes): High but decreasing (Figure 47)
- Infectious diseases: High and increasing (Figure 49)
- Injury and poisoning: High and increasing (Figure 50)
- Mental disorders: Very high compared to non-Aboriginal population and increasing (Figure 54)
- Respiratory diseases: Very high and increasing (Figure 56)
- Symptoms and abnormal findings: Very high and increasing (Figure 59)



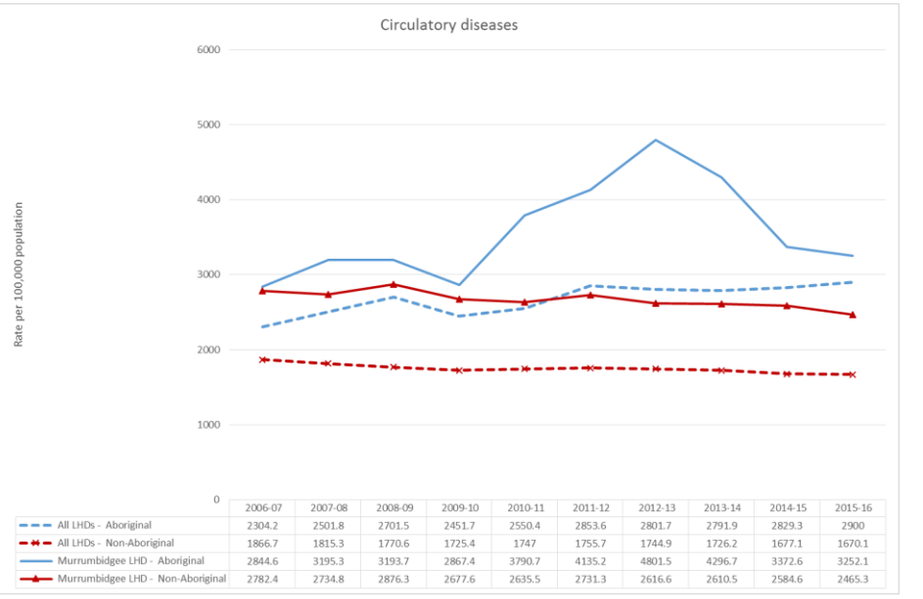
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	43381.8	44136.2	46888.2	46914.6	49905.6	54169	55519.3	56680.7	59660.5	62023.8
All LHDs - Non-Aboriginal	32962.9	32944.2	33250.6	33901.2	34396.5	35225.3	35459.9	35805	36133.6	33844
Murrumbidgee LHD - Aboriginal	57560.7	48594.5	45604.3	42597	47102.1	58253.3	66538.1	67691.7	71649.8	73035.7
Murrumbidgee LHD - Non-Aboriginal	39021.4	39715.8	41211.3	41504.1	40339.4	42103.8	40897.9	42823.3	42654	42041

Figure 42 - Hospitalisation for all causes 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



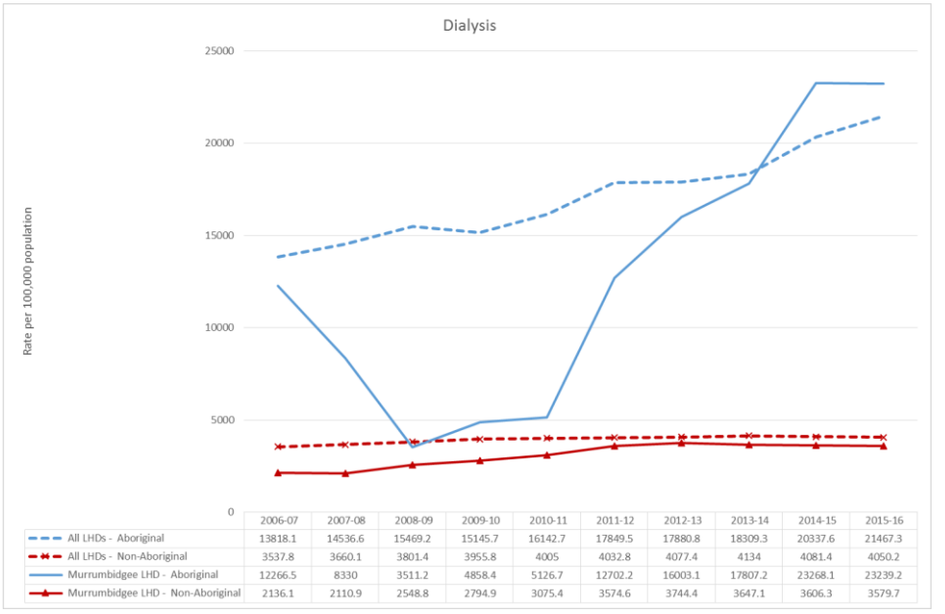
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	323.7	257.8	370.8	317.2	414.1	480	582.6	536.1	588.6	625.9
All LHDs - Non-Aboriginal	353.1	348.1	337.2	340.6	397.9	396.5	408.3	428.9	435.3	436.5
Murrumbidgee LHD - Aboriginal	670.5	456.9	539.9	357.4	201	788	572.2	503.9	1043.9	770.3
Murrumbidgee LHD - Non-Aboriginal	393.5	366.2	373.7	367.3	451.7	527.5	522.6	555.6	621.2	542.8

Figure 43 - Blood and Immune diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



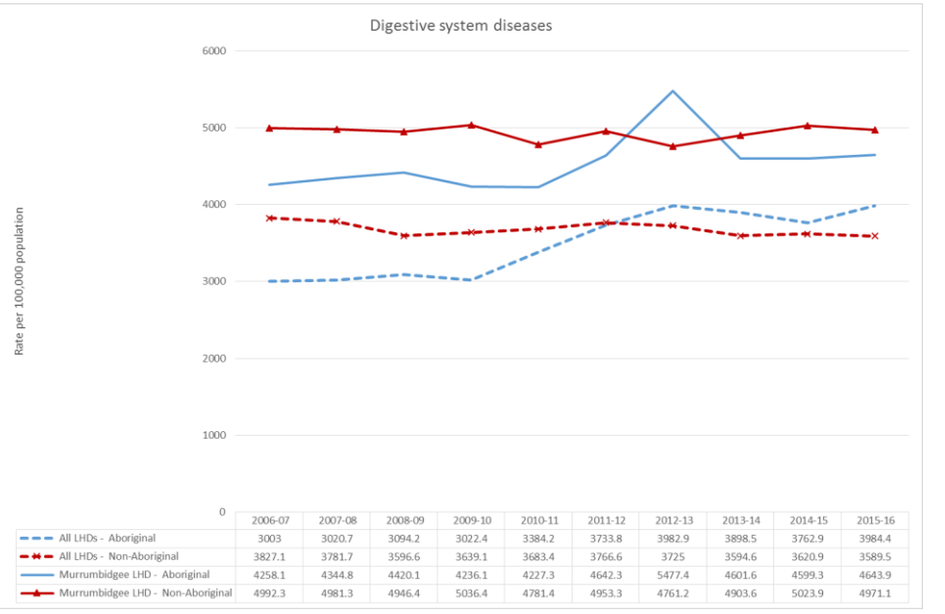
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	2304.2	2501.8	2701.5	2451.7	2550.4	2853.6	2801.7	2791.9	2829.3	2900
All LHDs - Non-Aboriginal	1866.7	1815.3	1770.6	1725.4	1747	1755.7	1744.9	1726.2	1677.1	1670.1
Murrumbidgee LHD - Aboriginal	2844.6	3195.3	3193.7	2867.4	3790.7	4135.2	4801.5	4296.7	3372.6	3252.1
Murrumbidgee LHD - Non-Aboriginal	2782.4	2734.8	2876.3	2677.6	2635.5	2731.3	2616.6	2610.5	2584.6	2465.3

Figure 44 - Circulatory diseases 2006-07 to 2014-15 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



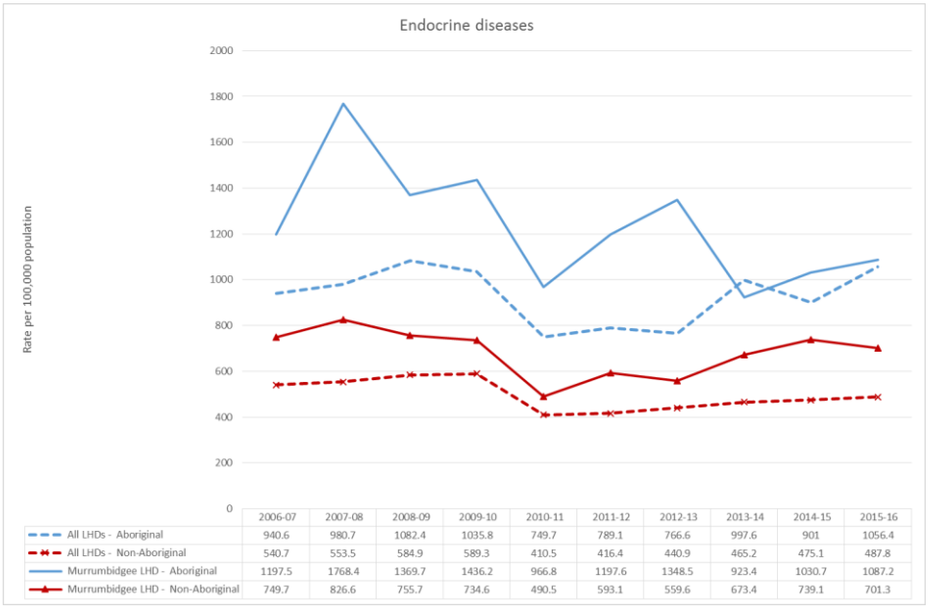
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	13818.1	14536.6	15469.2	15145.7	16142.7	17849.5	17880.8	18309.3	20337.6	21467.3
All LHDs - Non-Aboriginal	3537.8	3660.1	3801.4	3955.8	4005	4032.8	4077.4	4134	4081.4	4050.2
Murrumbidgee LHD - Aboriginal	12266.5	8330	3511.2	4858.4	5126.7	12702.2	16003.1	17807.2	23268.1	23239.2
Murrumbidgee LHD - Non-Aboriginal	2136.1	2110.9	2548.8	2794.9	3075.4	3574.6	3744.4	3647.1	3606.3	3579.7

Figure 45 - Dialysis 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



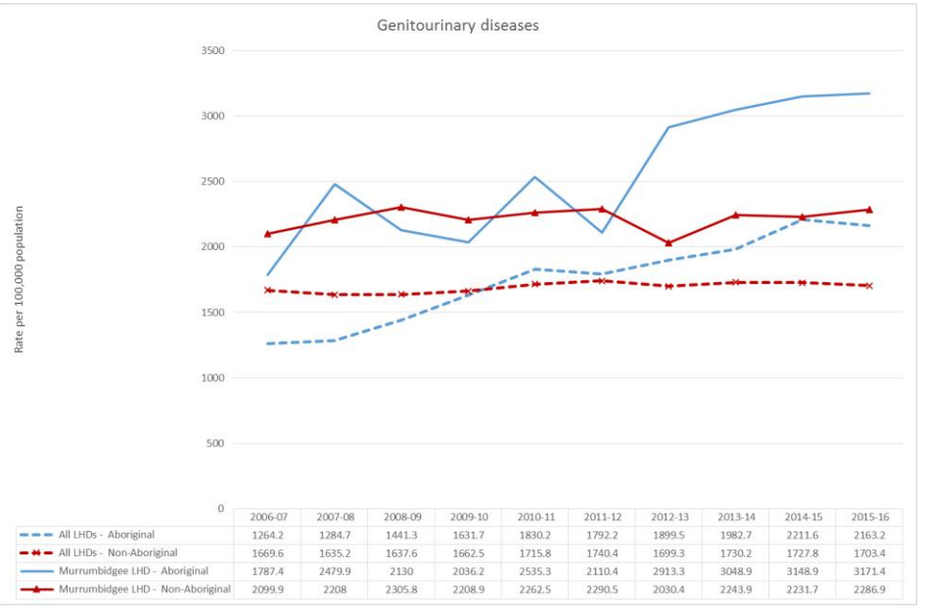
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	3003	3020.7	3094.2	3022.4	3384.2	3733.8	3982.9	3898.5	3762.9	3984.4
All LHDs - Non-Aboriginal	3827.1	3781.7	3596.6	3639.1	3683.4	3766.6	3725	3594.6	3620.9	3589.5
Murrumbidgee LHD - Aboriginal	4258.1	4344.8	4420.1	4236.1	4227.3	4642.3	5477.4	4601.6	4599.3	4643.9
Murrumbidgee LHD - Non-Aboriginal	4992.3	4981.3	4946.4	5036.4	4781.4	4953.3	4761.2	4903.6	5023.9	4971.1

Figure 46 - Digestive system diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



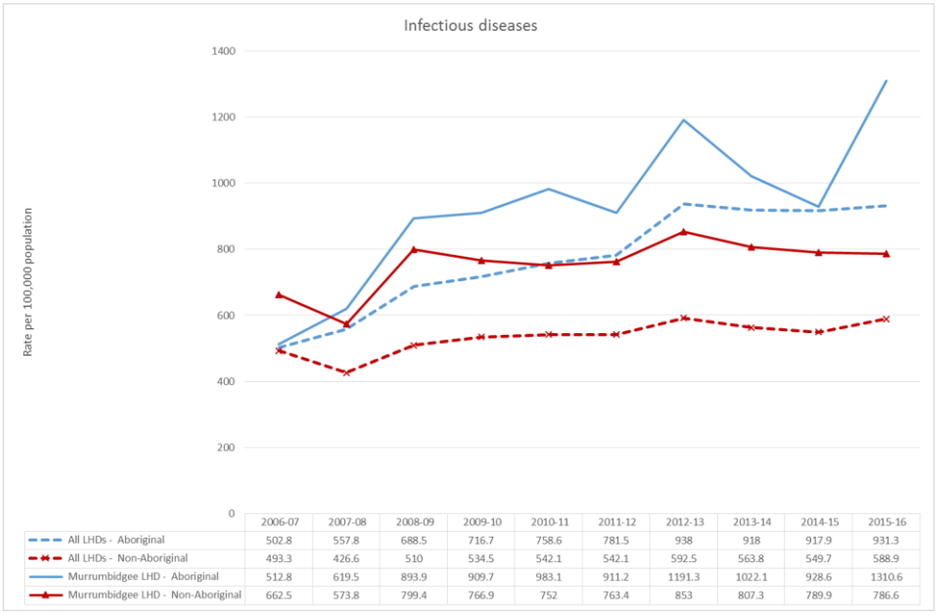
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	940.6	980.7	1082.4	1035.8	749.7	789.1	766.6	997.6	901	1056.4
All LHDs - Non-Aboriginal	540.7	553.5	584.9	589.3	410.5	416.4	440.9	465.2	475.1	487.8
Murrumbidgee LHD - Aboriginal	1197.5	1768.4	1369.7	1436.2	966.8	1197.6	1348.5	923.4	1030.7	1087.2
Murrumbidgee LHD - Non-Aboriginal	749.7	826.6	755.7	734.6	490.5	593.1	559.6	673.4	739.1	701.3

Figure 47 - Endocrine diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



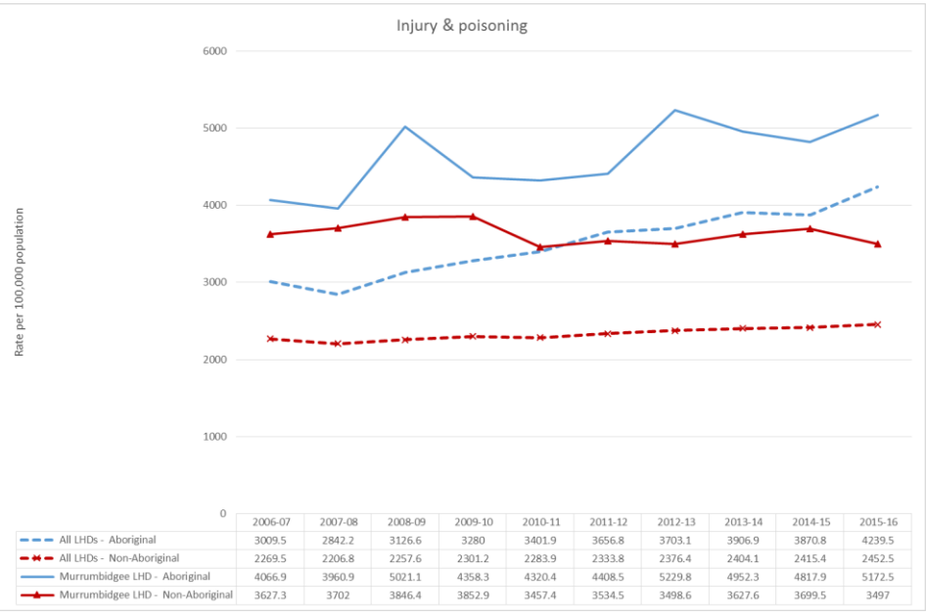
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	1264.2	1284.7	1441.3	1631.7	1830.2	1792.2	1899.5	1982.7	2211.6	2163.2
All LHDs - Non-Aboriginal	1669.6	1635.2	1637.6	1662.5	1715.8	1740.4	1699.3	1730.2	1727.8	1703.4
Murrumbidgee LHD - Aboriginal	1787.4	2479.9	2130	2036.2	2535.3	2110.4	2913.3	3048.9	3148.9	3171.4
Murrumbidgee LHD - Non-Aboriginal	2099.9	2208	2305.8	2208.9	2262.5	2290.5	2030.4	2243.9	2231.7	2286.9

Figure 48 - Genitourinary diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



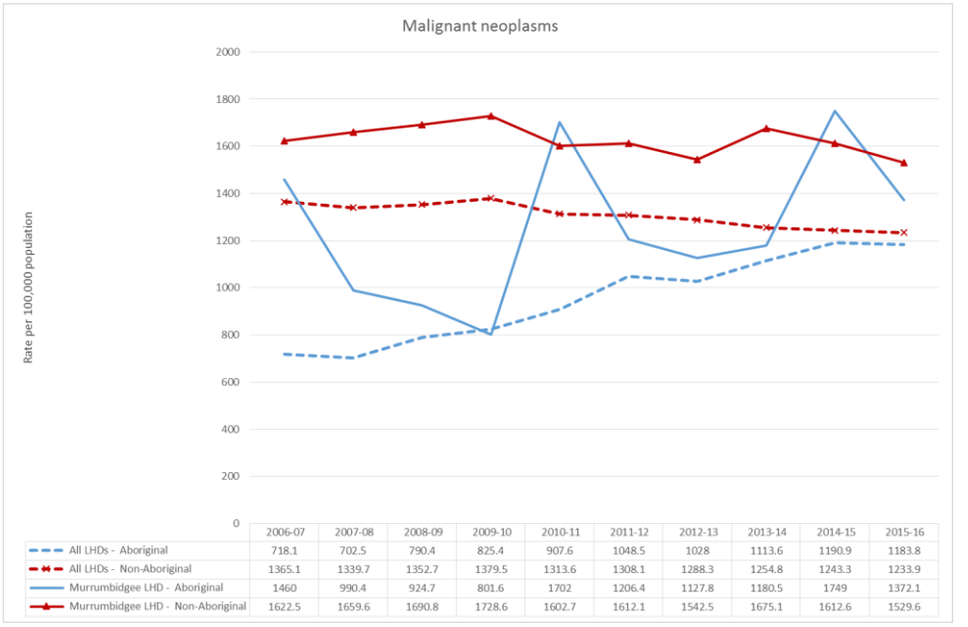
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	502.8	557.8	688.5	716.7	758.6	781.5	938	918	917.9	931.3
All LHDs - Non-Aboriginal	493.3	426.6	510	534.5	542.1	542.1	592.5	563.8	549.7	588.9
Murrumbidgee LHD - Aboriginal	512.8	619.5	893.9	909.7	983.1	911.2	1191.3	1022.1	928.6	1310.6
Murrumbidgee LHD - Non-Aboriginal	662.5	573.8	799.4	766.9	752	763.4	853	807.3	789.9	786.6

Figure 49 -Infectious diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



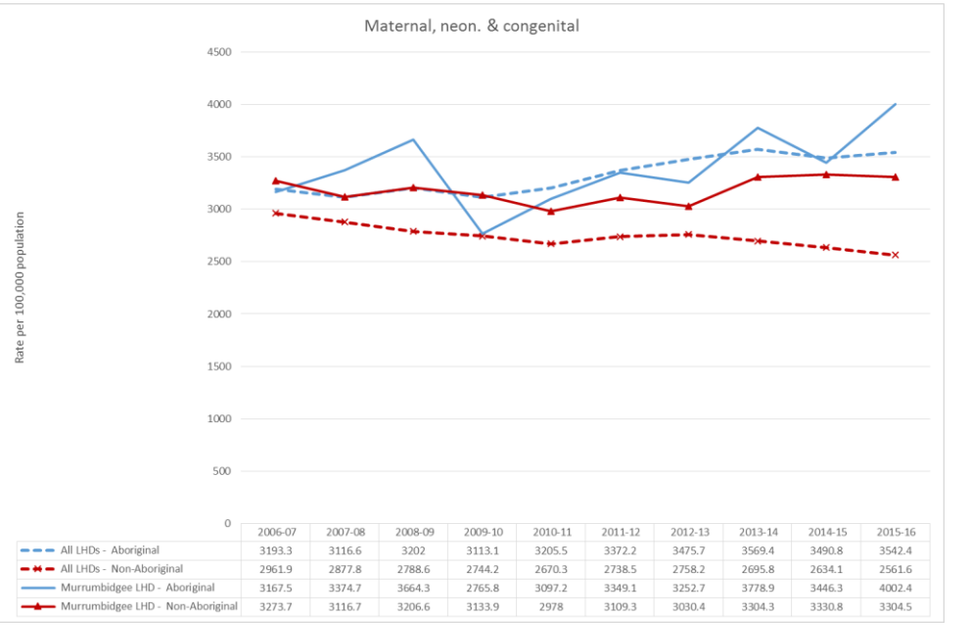
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	3009.5	2842.2	3126.6	3280	3401.9	3656.8	3703.1	3906.9	3870.8	4239.5
All LHDs - Non-Aboriginal	2269.5	2206.8	2257.6	2301.2	2283.9	2333.8	2376.4	2404.1	2415.4	2452.5
Murrumbidgee LHD - Aboriginal	4066.9	3960.9	5021.1	4358.3	4320.4	4408.5	5229.8	4952.3	4817.9	5172.5
Murrumbidgee LHD - Non-Aboriginal	3627.3	3702	3846.4	3852.9	3457.4	3534.5	3498.6	3627.6	3699.5	3497

Figure 50 - Injury and poisoning 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



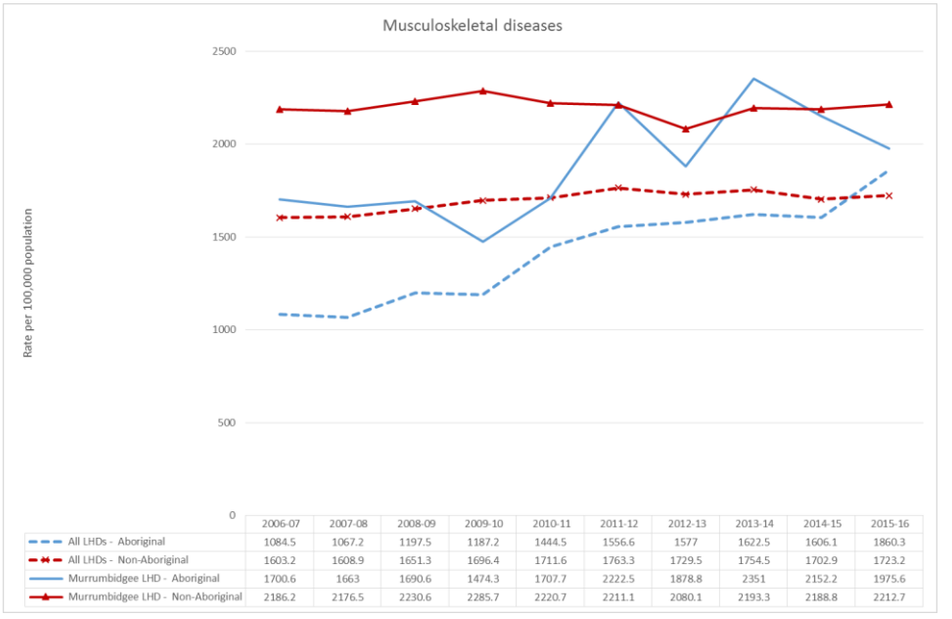
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	718.1	702.5	790.4	825.4	907.6	1048.5	1028	1113.6	1190.9	1183.8
All LHDs - Non-Aboriginal	1365.1	1339.7	1352.7	1379.5	1313.6	1308.1	1288.3	1254.8	1243.3	1233.9
Murrumbidgee LHD - Aboriginal	1460	990.4	924.7	801.6	1702	1206.4	1127.8	1180.5	1749	1372.1
Murrumbidgee LHD - Non-Aboriginal	1622.5	1659.6	1690.8	1728.6	1602.7	1612.1	1542.5	1675.1	1612.6	1529.6

Figure 51 - Malignant neoplasms 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



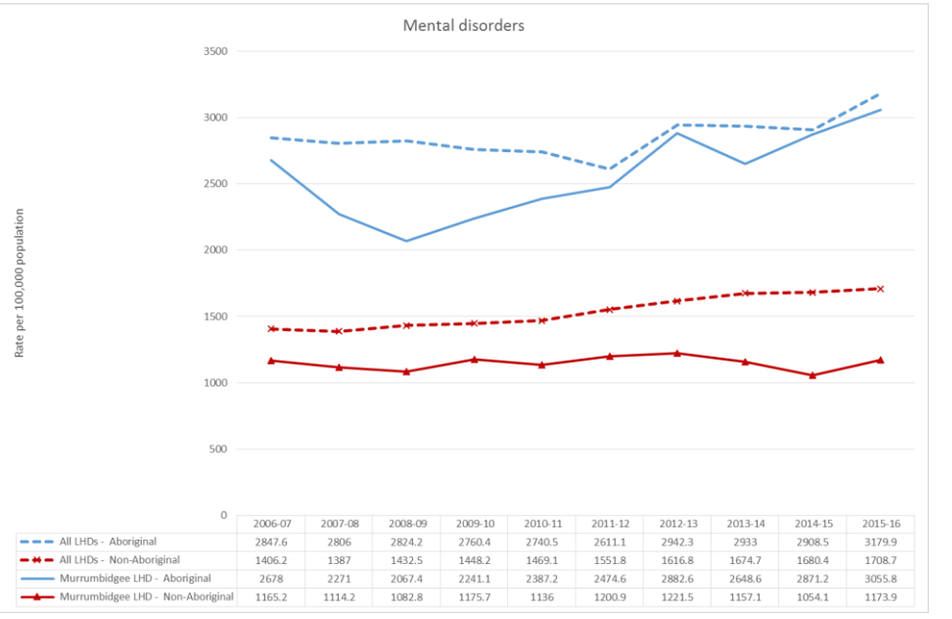
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	3193.3	3116.6	3202	3113.1	3205.5	3372.2	3475.7	3569.4	3490.8	3542.4
All LHDs - Non-Aboriginal	2961.9	2877.8	2788.6	2744.2	2670.3	2738.5	2758.2	2695.8	2634.1	2561.6
Murrumbidgee LHD - Aboriginal	3167.5	3374.7	3664.3	2765.8	3097.2	3349.1	3252.7	3778.9	3446.3	4002.4
Murrumbidgee LHD - Non-Aboriginal	3273.7	3116.7	3206.6	3133.9	2978	3109.3	3030.4	3304.3	3330.8	3304.5

Figure 52 - Maternal, neonatal and congenital 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



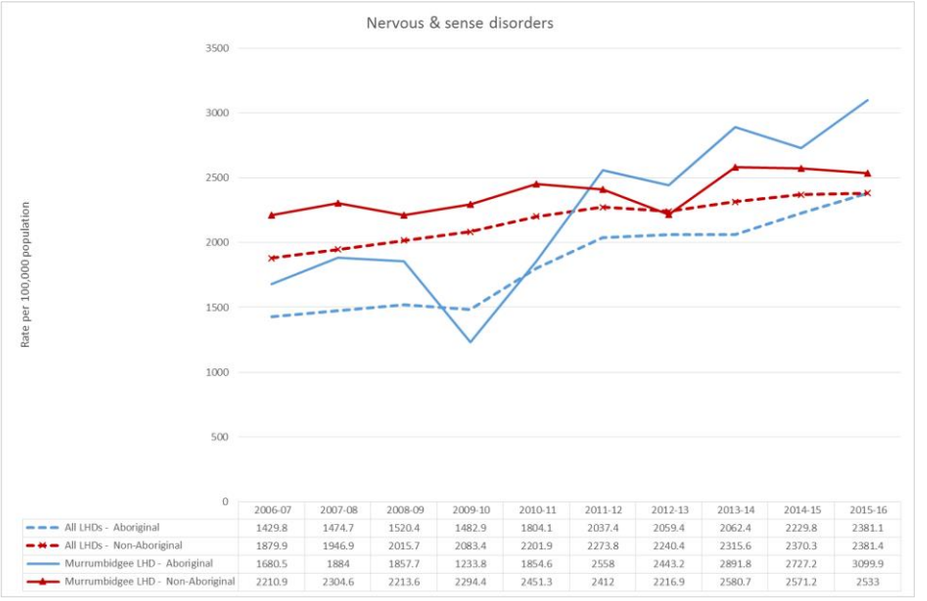
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	1084.5	1067.2	1197.5	1187.2	1444.5	1556.6	1577	1622.5	1606.1	1860.3
All LHDs - Non-Aboriginal	1603.2	1608.9	1651.3	1696.4	1711.6	1763.3	1729.5	1754.5	1702.9	1723.2
Murrumbidgee LHD - Aboriginal	1700.6	1663	1690.6	1474.3	1707.7	2222.5	1878.8	2351	2152.2	1975.6
Murrumbidgee LHD - Non-Aboriginal	2186.2	2176.5	2230.6	2285.7	2220.7	2211.1	2080.1	2193.3	2188.8	2212.7

Figure 53 - Musculoskeletal diseases 2006-07 to 2014-15 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



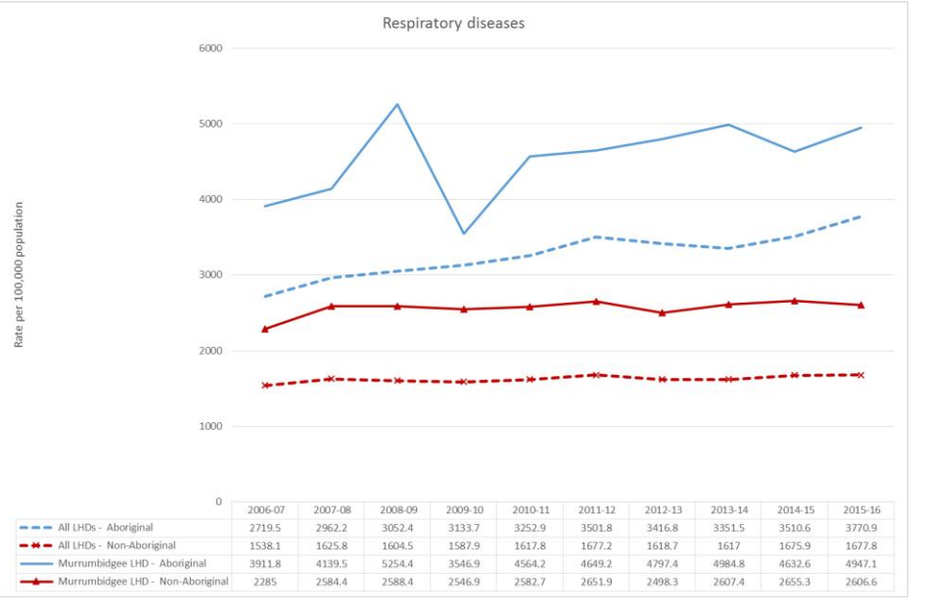
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	2847.6	2806	2824.2	2760.4	2740.5	2611.1	2942.3	2933	2908.5	3179.9
All LHDs - Non-Aboriginal	1406.2	1387	1432.5	1448.2	1469.1	1551.8	1616.8	1674.7	1680.4	1708.7
Murrumbidgee LHD - Aboriginal	2678	2271	2067.4	2241.1	2387.2	2474.6	2882.6	2648.6	2871.2	3055.8
Murrumbidgee LHD - Non-Aboriginal	1165.2	1114.2	1082.8	1175.7	1136	1200.9	1221.5	1157.1	1054.1	1173.9

Figure 54 - Mental disorders 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	1429.8	1474.7	1520.4	1482.9	1804.1	2037.4	2059.4	2062.4	2229.8	2381.1
All LHDs - Non-Aboriginal	1879.9	1946.9	2015.7	2083.4	2201.9	2273.8	2240.4	2315.6	2370.3	2381.4
Murrumbidgee LHD - Aboriginal	1680.5	1884	1857.7	1233.8	1854.6	2558	2443.2	2891.8	2727.2	3099.9
Murrumbidgee LHD - Non-Aboriginal	2210.9	2304.6	2213.6	2294.4	2451.3	2412	2216.9	2580.7	2571.2	2533

Figure 55 - Nervous system and sense organ disorders 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)

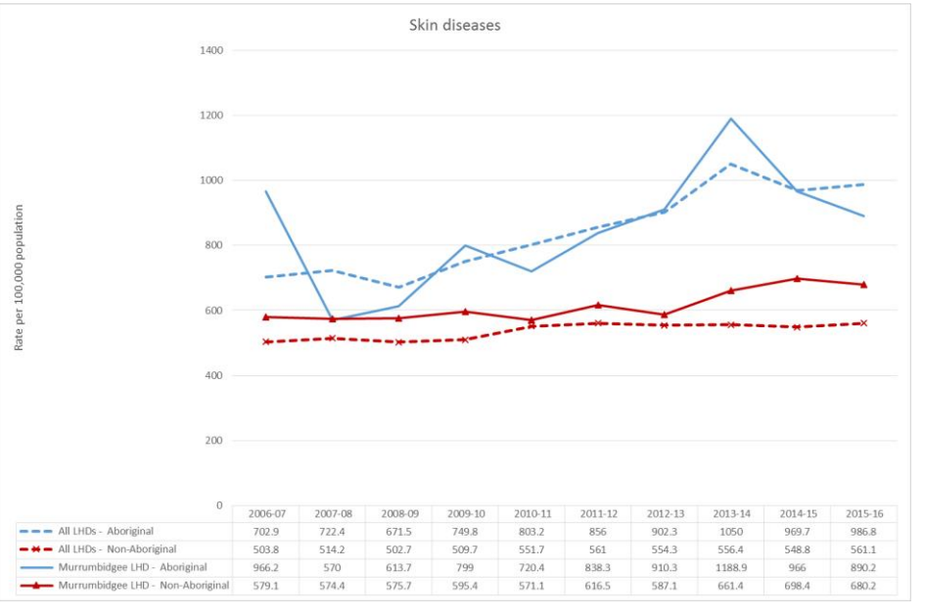


	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	2719.5	2962.2	3052.4	3133.7	3252.9	3501.8	3416.8	3351.5	3510.6	3770.9
All LHDs - Non-Aboriginal	1538.1	1625.8	1604.5	1587.9	1617.8	1677.2	1618.7	1617	1675.9	1677.8
Murrumbidgee LHD - Aboriginal	3911.8	4139.5	5254.4	3546.9	4564.2	4649.2	4797.4	4984.8	4632.6	4947.1
Murrumbidgee LHD - Non-Aboriginal	2285	2584.4	2588.4	2546.9	2582.7	2651.9	2498.3	2607.4	2655.3	2606.6

Figure 56 - Respiratory diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)

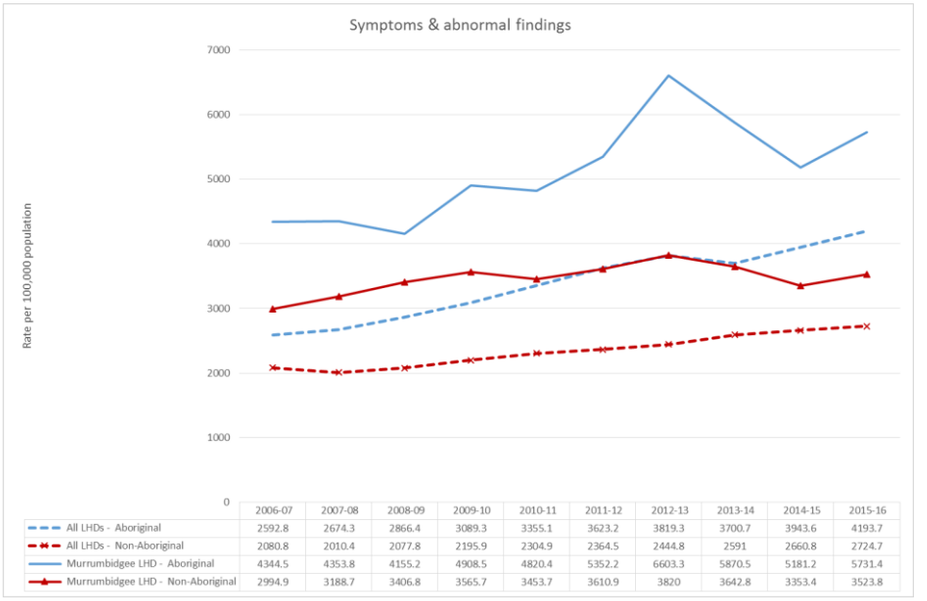
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	2587.3	2262.9	2432.3	2608.2	2763.4	2891.9	3018.2	3107.2	3604.6	2765.5
All LHDs - Non-Aboriginal	4290	4459.8	4628	4804.6	5044.7	5257.4	5394.5	5516.4	5850.7	3529.4
Murrumbidgee LHD - Aboriginal	9448.3	3525.5	3748.8	3418.3	3736.4	4157.1	4457.1	4975.1	4777.5	4786.4
Murrumbidgee LHD - Non-Aboriginal	4517.5	4804.9	5048	5027.9	4696.6	5039.2	4655.2	5154.3	5123.9	4853.5

Figure 57- Other factors influencing health 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	702.9	722.4	671.5	749.8	803.2	856	902.3	1050	969.7	986.8
All LHDs - Non-Aboriginal	503.8	514.2	502.7	509.7	551.7	561	554.3	556.4	548.8	561.1
Murrumbidgee LHD - Aboriginal	966.2	570	613.7	799	720.4	838.3	910.3	1188.9	966	890.2
Murrumbidgee LHD - Non-Aboriginal	579.1	574.4	575.7	595.4	571.1	616.5	587.1	661.4	698.4	680.2

Figure 58- Skin diseases 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)



	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
All LHDs - Aboriginal	2592.8	2674.3	2866.4	3089.3	3355.1	3623.2	3819.3	3700.7	3943.6	4193.7
All LHDs - Non-Aboriginal	2080.8	2010.4	2077.8	2195.9	2304.9	2364.5	2444.8	2591	2660.8	2724.7
Murrumbidgee LHD - Aboriginal	4344.5	4353.8	4155.2	4908.5	4820.4	5352.2	6603.3	5870.5	5181.2	5731.4
Murrumbidgee LHD - Non-Aboriginal	2994.9	3188.7	3406.8	3565.7	3453.7	3610.9	3820	3642.8	3353.4	3523.8

Figure 59 - Symptoms and abnormal findings 2006-07 to 2015-16 by Aboriginality, MLHD and all LHDs (HealthStats NSW)

Potentially Preventable Hospitalisations

Potentially Preventable Hospitalisations (PPH) are those conditions for which hospitalisation is considered potentially avoidable through preventive care and early disease management, usually delivered in an ambulatory setting, such as primary health care (for example by general practitioners or community health centres). PPH include diabetes complications, dental conditions, skin and other infections, pneumonia, iron deficiency, asthma and chronic obstructive pulmonary disorder (COPD).

The age-adjusted rate of admission for potentially avoidable hospitalisations for Aboriginal people in 2016-17 in MLHD at 5,220.7 per 100,000 population (NSW: 4,553.4 per 100,000) was significantly higher compared with 2717.8 per 100,000 population (NSW: 2008.4 per 100,000) for non-Aboriginal people in NSW (Table 11). Hospitalisation rates for Vaccine preventable, Acute and Chronic condition categories of PPH were all significantly higher for Aboriginal people in MLHD compared to non-Aboriginal people in addition the rates for Aboriginal people in MLHD were higher than the total NSW Aboriginal population except for Vaccine-preventable conditions (Table 11). The rates for non-Aboriginal people in MLHD are significantly higher than the NSW non-Aboriginal persons rates in all categories except for Vaccine preventable conditions where the rate for Aboriginal and non-Aboriginal people in MLHD is actually significantly lower than NSW.

Table 11 - Potentially preventable hospitalisations by category and Aboriginality, Murrumbidgee and All LHD, 2016-17

		Acute conditions		Chronic conditions		Vaccine-preventable conditions		Total	
LHD	**Aboriginality**	**Number**	**Rate per 100,000**	**Number**	**Rate per 100,000**	**Number**	**Rate per 100,000**	**Number**	**Rate per 100,000**
MLHD	Aboriginal	286	**2061.7**	264	**2960.3**	25	227.3	573	**5220.7**
	Non-Aboriginal	3270	**1319.1**	4062	**1301.6**	305	**111.9**	7590	**2717.8**
	Not stated	6	0.0	7	0.0	4	0.0	17	0.0
	Total	3562	1361.4	4333	1353.4	334	119.1	8180	2818.8
All LHDs	Aboriginal	4808	1913.8	3651	2338.9	709	361.2	9066	4553.4
	Non-Aboriginal	79212	1001.3	76822	861.0	14155	166.6	168373	2008.4
	Not stated	555	0.0	519	0.0	87	0.0	1154	0.0
	Total	84575	1035.1	80992	894.1	14951	172.9	178593	2080.6

Shaded red: Aboriginal rate within LHD significantly higher than non-Aboriginal rate

Coloured text: Rate in MLHD significantly higher or lower than NSW rate

Source: NSW Combined Admitted Patient Epidemiology Data and ABS population estimates (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health (HealthStats NSW).
*Note: **Number** is number of hospitalisations in stated year. **Rate** is Age-standardised per 100,000 population*

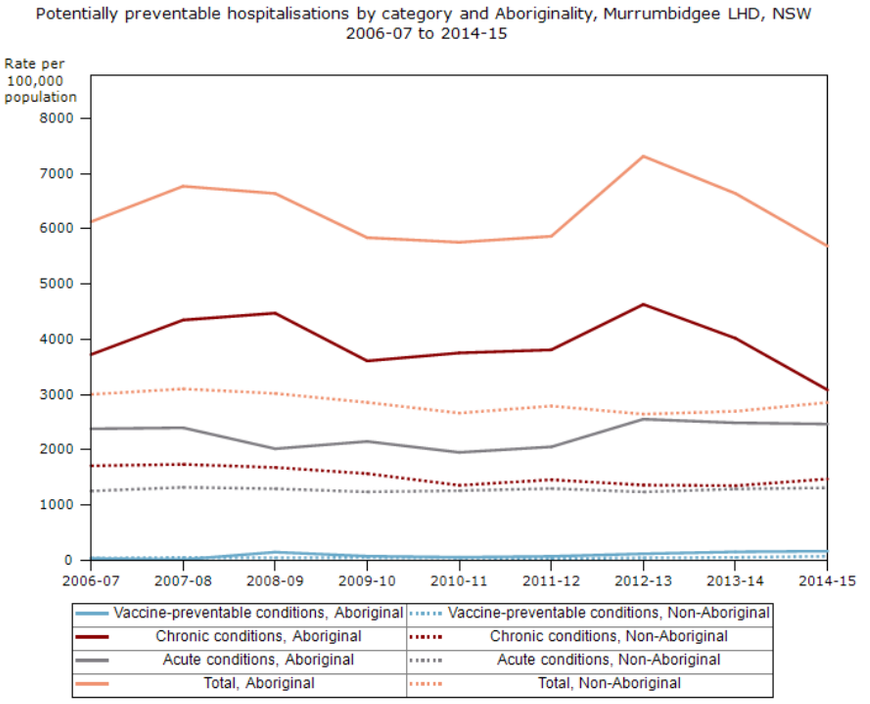


Figure 60 - Potentially Preventable hospitalisations by category and Aboriginality, trend, MLHD (HealthStats NSW).

Rates of PPH have remained fairly steady in the non-Aboriginal population from 2006 to 2014-15 but have increased slightly in recent years. In NSW the PPH rates for Aboriginal people have increased recently however MLHD has seen a decrease, although this fluctuation may be due to small numbers. There are a number of reasons why the rate for Aboriginal people has increased in NSW which include a 10 per cent improvement in the reporting of Aboriginal people in hospital data in NSW since 2009-10 and programs have been implemented to improve access to health services by Aboriginal people in response to a higher health need across the state (Figure 60) *Figures for trend beyond 2015-16 are not available as the base Aboriginal population data estimates have not been updated (November 2020).*

Life expectancy and mortality

Key facts

10 years	Difference in Aboriginal life expectancy to non-Aboriginal people in NSW. (Males 70.9yrs, females 75.9yrs)
2 x	Death rate for Aboriginal people compared to non-Aboriginal people up to 35 years and 40-65 years.
3 x	Death rate for Aboriginal people compared to non-Aboriginal people from 35–39 years
56%	Of Aboriginal deaths were for people aged less than 65 years in NSW (16% non-Aboriginal)
25%	Deaths for Aboriginal people were due to cancer in NSW
14%	Deaths for Aboriginal people from injury in NSW (6% non-Aboriginal)

Aboriginal people have a much shorter life expectancy than non-Aboriginal people. In 2015-2017, life expectancy in NSW was estimated to be 70.9 years in Aboriginal males and 75.9 years in Aboriginal females, almost 10 years lower than in males and females in the non-Aboriginal population (80.2 males, 83.5 females). The life expectancy had increased slightly for females from 74.6 years in 2010-2012 but little in males (70.5 years). The death rates for the Aboriginal population in NSW (2014-2018) compared to non-Aboriginal people was significantly higher for 0 to 4 year olds and all age groups 20 years or older (by 5 year age group). The difference in rates were most significant for 20-24 years olds to 45-49 year olds with Aboriginal death rates around triple non-Aboriginal people of the same age. From 50-69 years the rates are double and around 1.5 times those of the non-Aboriginal population older than 70 years. The death rate for Aboriginal people overall ages in NSW is 1.4 times that of the non-Aboriginal population. For Aboriginal people in NSW 56 per cent of all deaths in 2014-2018 period occurred in people aged less than 65 years compared to only 16 per cent of deaths for non-Aboriginal people.

Causes of death

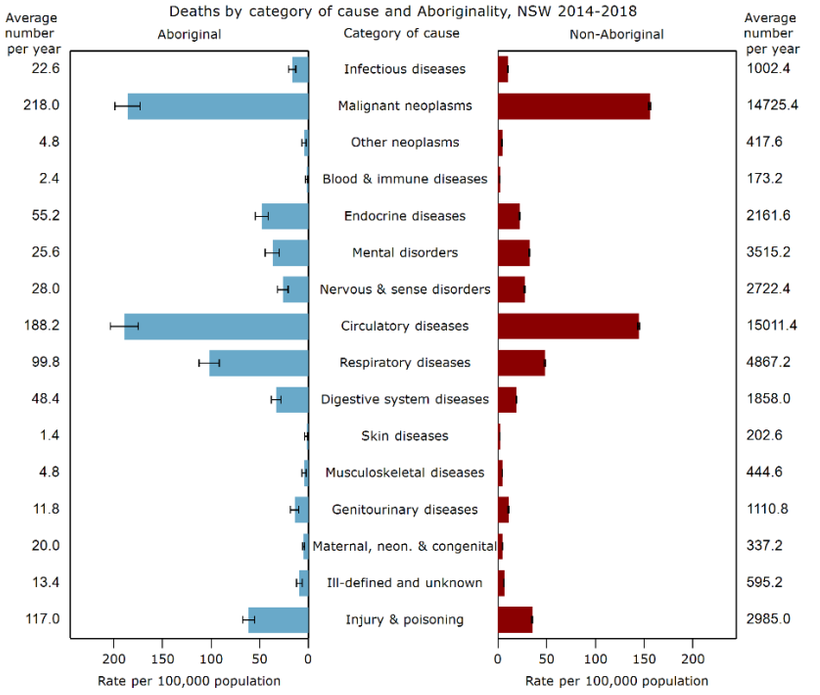


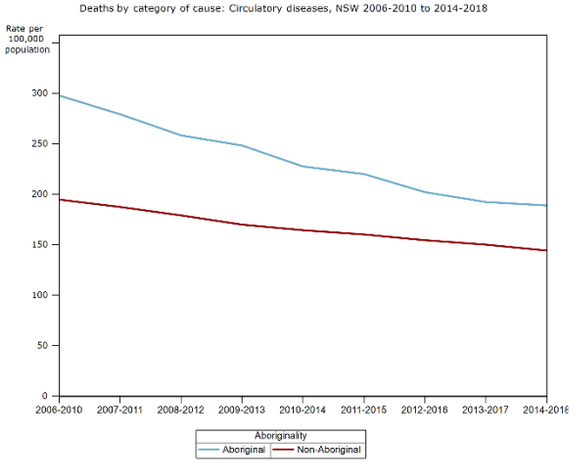
Figure 61 - Deaths by cause and Aboriginality 2014-2018 (HealthStats NSW)

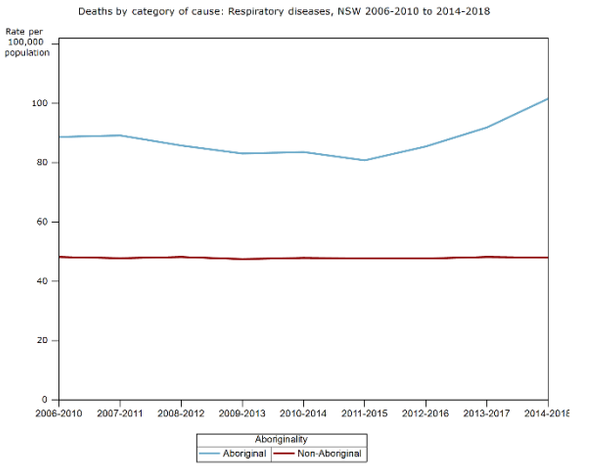
Table 12 - Deaths by cause and Aboriginality 2014-2018 (HealthStats NSW)

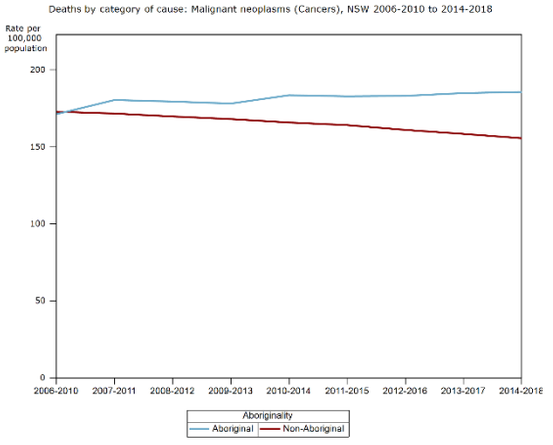
Cause of death	Aboriginality	Number per year	Rate per 100,000 population	LL 95% CI	UL 95% CI	% of deaths
Certain infectious and parasitic diseases	Aboriginal	22.6	16.4	13.1	20.3	2.6
	Non-Aboriginal	1002.4	10.1	9.8	10.4	1.9
	Total	1032.4	10.3	10	10.6	1.9
Malignant neoplasms (Cancers)	Aboriginal	218	185.7	173.1	198.9	25.3
	Non-Aboriginal	14725.4	155.7	154.5	156.8	28.2
	Total	15046.6	157.8	156.6	158.9	28.2
Other neoplasms	Aboriginal	4.8	4.1	2.3	6.5	0.6
	Non-Aboriginal	417.6	4.2	4	4.4	0.8
	Total	425.2	4.3	4.1	4.4	0.8
Blood & immune system diseases	Aboriginal	2.4	1.6	0.6	3.2	0.3
	Non-Aboriginal	173.2	1.8	1.7	1.9	0.3
	Total	177.2	1.8	1.7	1.9	0.3
Endocrine diseases	Aboriginal	55.2	47.6	41.2	54.6	6.4
	Non-Aboriginal	2161.6	22	21.6	22.4	4.1
	Total	2236.4	22.5	22.1	22.9	4.2
Mental and behavioural disorders	Aboriginal	25.6	36.5	29.7	44.3	3
	Non-Aboriginal	3515.2	32.1	31.7	32.6	6.7
	Total	3566	31.8	31.3	32.3	6.7
Nervous system & sense organ disorders	Aboriginal	28	26.1	21	31.9	3.3
	Non-Aboriginal	2722.4	27.2	26.7	27.7	5.2
	Total	2767.8	27.3	26.8	27.7	5.2
Circulatory diseases	Aboriginal	188.2	189	174.9	203.8	21.8
	Non-Aboriginal	15011.4	144.3	143.3	145.4	28.8
	Total	15310	144.6	143.6	145.7	28.7
Respiratory diseases	Aboriginal	99.8	101.6	91.5	112.4	11.6
	Non-Aboriginal	4867.2	48	47.3	48.6	9.3
	Total	5007	48.7	48.1	49.3	9.4
Digestive system diseases	Aboriginal	48.4	33.1	28.5	38.1	5.6
	Non-Aboriginal	1858	18.9	18.5	19.3	3.6
	Total	1922.4	19.3	18.9	19.7	3.6
Skin & subcutaneous tissue diseases	Aboriginal	1.4	1.7	0.6	3.8	0.2
	Non-Aboriginal	202.6	1.9	1.8	2.1	0.4
	Total	205.4	1.9	1.8	2	0.4
Musculoskeletal & connective tissue diseases	Aboriginal	4.8	4.2	2.4	6.8	0.6
	Non-Aboriginal	444.6	4.3	4.2	4.5	0.9
	Total	453.8	4.4	4.2	4.5	0.8
Genitourinary diseases	Aboriginal	11.8	13.8	9.9	18.5	1.4
	Non-Aboriginal	1110.8	10.5	10.2	10.8	2.1
	Total	1130.2	10.5	10.2	10.8	2.1
Maternal, neonatal & congenital causes	Aboriginal	20	4.8	3.8	5.9	2.3
	Non-Aboriginal	337.2	4.5	4.3	4.7	0.6
	Total	360.4	4.6	4.4	4.8	0.7
Ill-defined and unknown causes	Aboriginal	13.4	9	6.2	12.3	1.6
	Non-Aboriginal	595.2	6.1	5.9	6.3	1.1
	Total	615.6	6.2	6	6.4	1.2
Injury & poisoning	Aboriginal	117	61.3	55.5	67.5	13.6
	Non-Aboriginal	2985	34.9	34.4	35.5	5.7
	Total	3137.6	36	35.4	36.6	5.9
Total	Aboriginal	861.4	736.6	710.2	763.7	100
	Non-Aboriginal	52129.8	526.7	524.6	528.7	100
	Total	53394	532	529.9	534	100

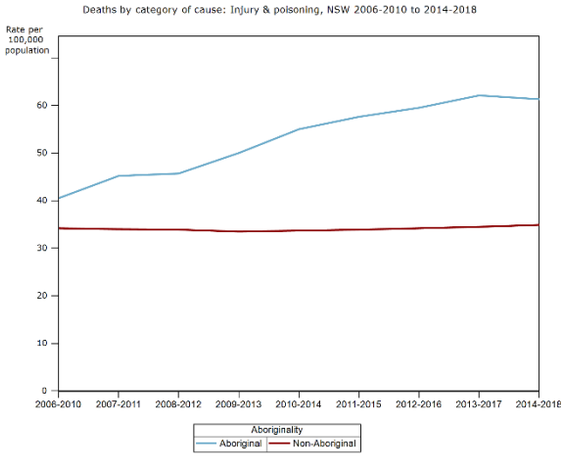
The major cause of death for Aboriginal people in NSW (2014-18) was cancer (25.3%) followed by Circulatory disease (21.8%) at slightly lower proportion of total cause to the non-Aboriginal population (Table 12). However the age-standardised rates of death by cause are much higher in the Aboriginal population as the deaths by these causes occur at much younger ages. Injury deaths make up 13.6 per cent of deaths by cause for Aboriginal people compared to only 5.7 per cent in the non-Aboriginal population (Figure 61).

Trends in major causes of death for Aboriginal people show a decrease in circulatory disease deaths and slight decrease in endocrine disease deaths but increases in most other causes (in part due to better identification of Aboriginality in death data) (Figure 62).









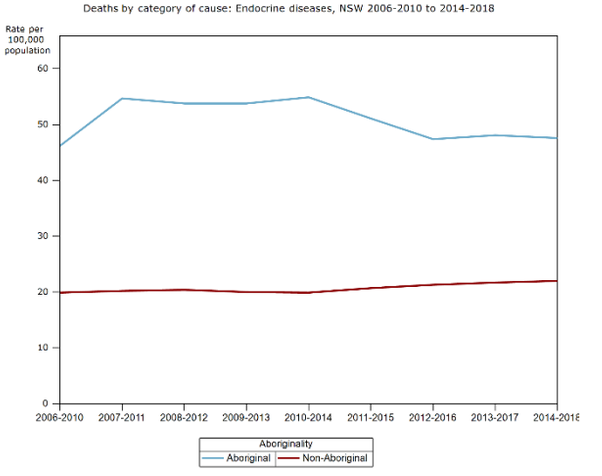


Figure 62 - Deaths by major cause and Aboriginality trend 2006-10 to 2014-18

The Australian Institute of Health and Welfare (AIHW) conducted an analysis of cause of death by age for Aboriginal and non-Aboriginal people to determine the main contributors to the "Indigenous" life expectancy gap (Australia's Health 2016) and concluded that chronic diseases, such as cardiovascular diseases and cancer, as well as injuries, which usually occur in the 35 to 74 year age groups in the Indigenous population, are responsible for the majority of the life expectancy gap. In comparison, the relative contribution of infant and child deaths to the gap is small. Strategies and programs to close the gap, however, should consider addressing disparities in childhood as well as the older age groups, because health conditions that become more apparent at older ages can begin in childhood or young adulthood. For example, factors such as poor diet, smoking, and unresolved mental trauma early in life can lead to heart disease or depression later in life.

Excerpt from Australia's Health 2016 – Health of Population Groups chapter "What is missing from the picture?"

Behavioural risk factors (such as smoking, diet and physical activity) as well as social determinants (such as income, education and employment) are also important factors which contribute to disparities in health outcomes between Indigenous and non-Indigenous Australians and, consequently, to the life expectancy gap. While previous studies have shown the importance of social determinants in addressing the health gap between Indigenous and non-Indigenous people (AIHW 2014; Booth & Carroll 2005; DSI Consulting 2009; Marmot 2011; Zhao et al. 2013), these were based on survey data now over a decade old. These studies did not look at the contribution of lack of access to affordable and culturally acceptable health services to the life expectancy gap, which is another important determinant of health that is difficult to measure. The evidence suggests that a complex relationship exists between health service access, social disadvantage, health behaviours, and health outcomes. Additional research, using the latest available data, on the overlap and causal links between these factors for the Indigenous population will provide a broader and more comprehensive understanding of the main drivers of the life expectancy gap, and where interventions are best targeted to reduce this gap. (For more information see 'Chapter 4.2 Social determinants of Indigenous health' and 'Chapter 6.6 Indigenous Australians' access to health services') (AIHW 2016)

In NSW and nationally the target of Closing the Gap in child mortality 2018 has not been realised. Child mortality rates have improved overall, but more so in the non-Aboriginal population, such that the gap has widened (Figure 63).

Figure 63 - Child mortality by Aboriginality NSW 2006 to 2018

Key facts

274	Aboriginal babies born in MLHD (2019)
50%	Drop in Aboriginal infant mortality rate 2003 to 2018 in NSW.
14%	Aboriginal mothers were teenagers in MLHD in 2018 (3.2% of non-Aboriginal)
52%	Aboriginal mothers commenced antenatal care before 14 weeks gestation (55.5 % non-Aboriginal)
68%	Aboriginal mothers commenced antenatal care before 20 weeks gestation (76 % non-Aboriginal)
49%	Aboriginal mothers smoked during pregnancy in MLHD (15% non-Aboriginal)

Aboriginal babies made up 11.5 per cent of the babies born to mother's resident in MLHD in 2019. These figures do not include the Albury LGA or births which occurred outside of NSW to MLHD resident mothers (Table 13).

Table 13 - Births of Aboriginal and non-Aboriginal babies, MLHD 2015 to 2019 (HealthStats NSW)

Aboriginality	2015	2016	2017	2018	2019
Aboriginal	284 (11.8%)	259 (10.7%)	260 (11.0%)	296 (12.2%)	274 (11.5%)
Non-Aboriginal	2128	2,126	2,080	2,094	2,077
Not stated	0	26	30	36	36
Total	2412	2,411	2,370	2,426	2,387

The Aboriginality of the baby is based on both that recorded for the baby and the mother. As Aboriginal mothers and babies are under-reported on the Perinatal Data Collection, it is likely that the true numbers of Aboriginal mothers and babies are higher than shown (HealthStats NSW 2020)

Infant mortality

In the period 2012 to 2014, the mortality rate in Aboriginal infants in NSW was 4.4 deaths per 1,000 live births, compared with 3.4 deaths per 1,000 live births in non-Aboriginal infants. In 2016 to 2018 the mortality rate in Aboriginal infants in NSW was 4.2 deaths per 1,000 live births, compared with 2.7 deaths per 1,000 live births in non-Aboriginal infants. The non-Aboriginal population has experienced a gradual decline in infant deaths since 2003 however the Aboriginal infant mortality rate has halved.

Over the decade 2009-2011 to 2016-2018, the mortality rate in Aboriginal infants decreased by 22% (from 5.4 deaths/1000 in 2009-2011). The gap between rates in Aboriginal infants and non-Aboriginal infants has been decreasing since 2003 (*HealthStats NSW*).

Maternal age

In NSW the percentage of Aboriginal mothers who were teenagers decreased from 18.6 per cent in 2010 to 10.5 per cent in 2019. The percentage of Non-Aboriginal mothers in NSW who were teenagers dropped from 2.9 per cent in 2010 to 1.3 per cent in 2018. As the number of overall births to teen mothers has dropped in the past 18 years it is interesting to note that the proportion

of those that are Aboriginal has increased from 11 per cent in 2001 to 29 per cent in 2018. In MLHD in 2018 14 per cent of Aboriginal mothers were aged under 20 years compared to 11.5% in NSW and 3.2 per cent of non-Aboriginal mothers in MLHD (Table 14).

Table 14 - Maternal age by Aboriginality of mother MLHD (NSW Mothers and Babies 2018)

Aboriginality	Maternal age				
	Under 20		20-plus		All ages
	Number	*%*	*Number*	*%*	*Number*
Aboriginal	34	14.0	199	86.0	233
Non-Aboriginal	70	3.2	2087	96.8	2156
Total	104	4.4	2286	95.6	2390

Commencing antenatal care

Note: In 2011, a change to the data collection resulted in a more specific question concerning commencement of antenatal care. This change has caused an apparent decrease in the proportion of mothers who commenced antenatal care at less than 14 weeks gestation.

In MLHD for 2019, 73 per cent (75% in NSW) of Aboriginal mothers and 80 per cent (80% in NSW) of non-Aboriginal mothers commenced antenatal care before 14 weeks gestation in NSW (Figure 64). The percentage of mothers receiving antenatal care by 20 weeks in MLHD increased to 84 per cent for Aboriginal mothers and 92 per cent for non-Aboriginal mothers however rates were lower than the NSW rates of 88 per cent and 93 per cent respectively.

The trend in commencement of antenatal care for Aboriginal mothers in MLHD has shown the decrease as noted above due to question change in 2010 and continued a downward trend until 2015 for 14 weeks and a similar trend for care before 20 weeks in both Aboriginal and non-Aboriginal mothers but has been increasing steadily since then. The gap in rates between Aboriginal and non-Aboriginal mothers is also decreasing (Figure 65 and Figure 66).

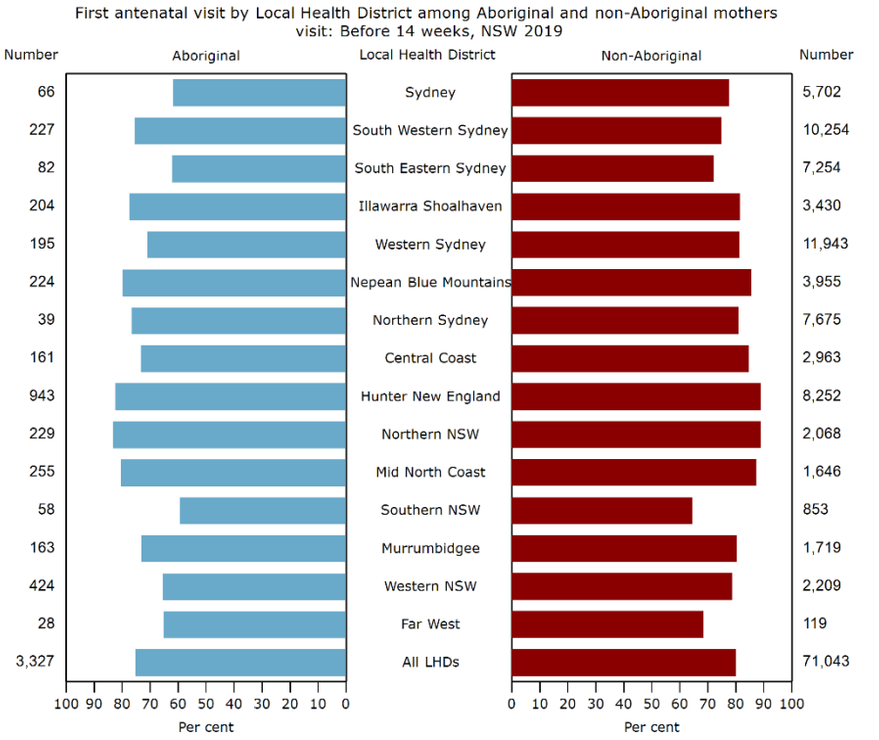


Figure 64 - First antenatal visit before 14 weeks gestation by Aboriginality NSW LHDs 2019 (HealthStats NSW)

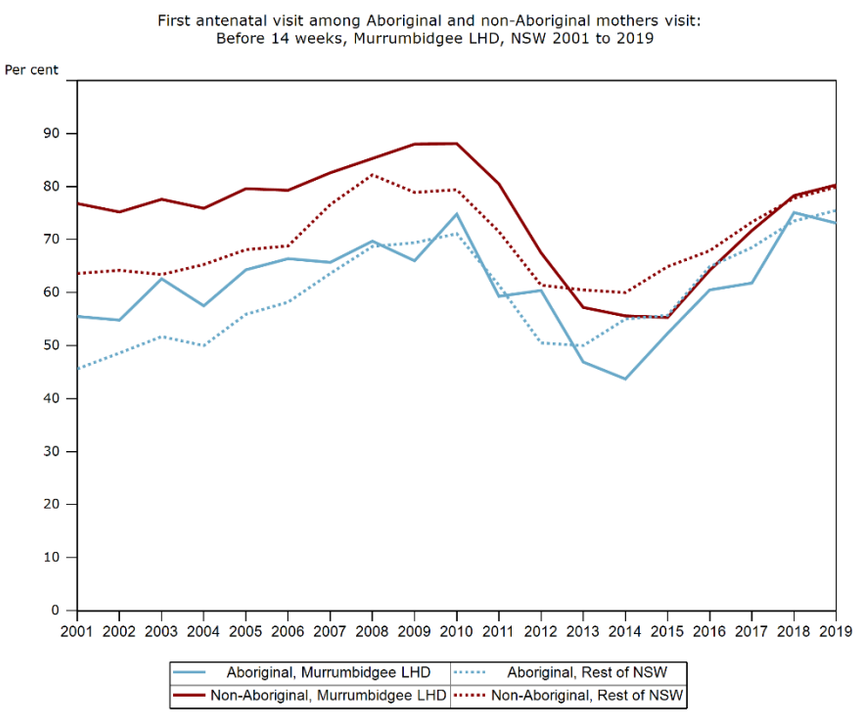


Figure 66 - First antenatal visit before 14 weeks gestation by Aboriginality MLHD and NSW, trend (HealthStats NSW)

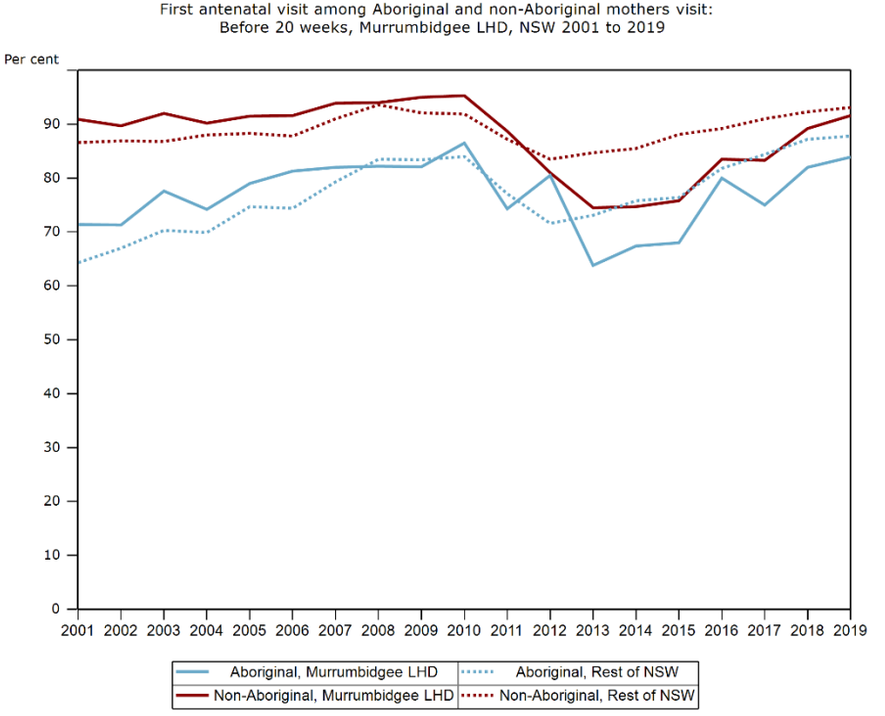


Figure 65 - First antenatal visit before 20 weeks gestation by Aboriginality MLHD and NSW, trend (HealthStats NSW)

Smoking during pregnancy

The proportion of mothers smoking in pregnancy among Aboriginal or Torres Strait Islander mothers was 43 per cent in NSW in 2019 compared to 7 per cent of non-Aboriginal mothers. From 2011, two questions about smoking in pregnancy are asked at data collection. These revised questions provide more opportunity for women to report their smoking history and are likely to produce a more reliable measure of smoking rates in pregnancy than the original question asked in the previous years. In MLHD 53 per cent of Aboriginal mother's giving birth in 2019 reported smoking during pregnancy compared to 15 per cent in the non-Aboriginal mothers. There is a decreasing trend in both Aboriginal and non-Aboriginal mothers to smoke during pregnancy in MLHD although rates locally continue to be higher than the rest of NSW and the gap between Aboriginal and non-Aboriginal rates seem to have remained fairly constant (Figure 67).

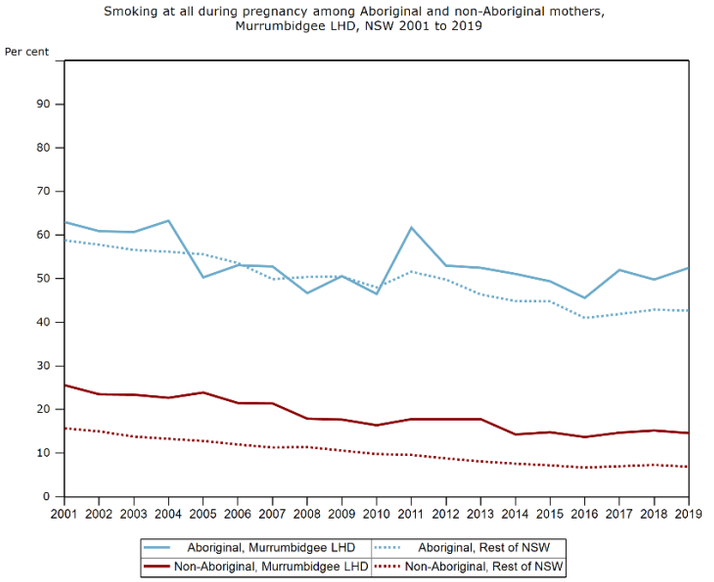


Figure 67 - Smoking during pregnancy by Aboriginality MLHD and NSW trend (HealthStats NSW)

Breastfeeding

In NSW 71 percent of infants were fully breastfed on discharge from hospital (2019) and a further 18% were receiving some breastfeeding, leaving 8 percent solely on infant formula. In MLHD 52 percent of infants with Aboriginal mothers were fully breastfed compared to 59 percent in NSW, 9 per cent getting some breastfeeding (13% NSW) and 38 percent formula only (26% in NSW) (Figure 68). Where the percentage of infants being fully breastfed has remained fairly constant since 2012, the percent of those getting "some" breastfeeding has increased in both Aboriginal and non-Aboriginal populations.

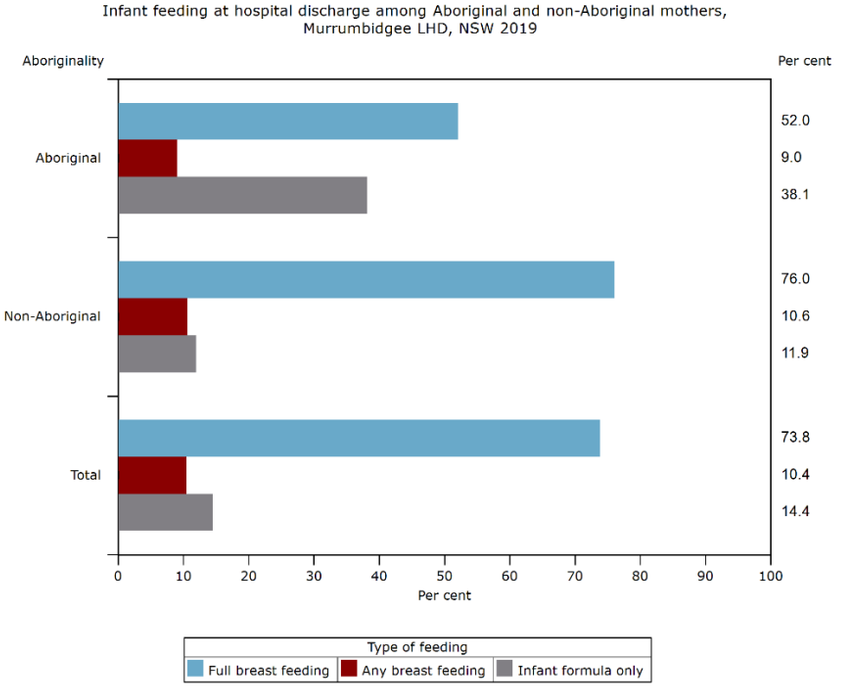


Figure 68 - Infant feeding at discharge from hospital

Birthweight

The rate of low birth weight (less than 2,500 grams) in Aboriginal or Torres Strait Islander babies was 9.9 per cent in 2018 in NSW and 6.7 per cent in MLHD. This is higher than the rate for babies born to non-Aboriginal or Torres Strait Islander mothers, which was 6.7 per cent in NSW and 4.8 per cent in MLHD.

Aboriginal Health Services

Health Checks

All Aboriginal and Torres Strait Islander people are eligible for an annual Indigenous-specific health check: item 715 on the Medicare Benefits Schedule (MBS). This health check, listed as item 715 on the Medicare Benefits Schedule (MBS), was designed especially for Indigenous people. It was established because Indigenous people have considerably higher morbidity and mortality levels than non-Indigenous people, with earlier onset and more severe disease progression for many chronic diseases. The aim of the health checks is to provide Indigenous people primary health care matched to their needs by supporting early detection, diagnosis and intervention for common and treatable conditions.

Ensuring access to the health check is an important part of the Australian Government's commitments to *Closing the Gap* in both life expectancy and mortality.

In 2017–18, 230,000 Indigenous Australians had one of these health checks (29%). The proportion of Indigenous health check patients who had an Indigenous-specific follow-up service within 12 months of their check increased from 12% to 40% between 2010–11 and 2016–17. The AIHW Indigenous health check data tool aims to increase awareness, understanding and uptake of the health check among health care providers and Indigenous people (AIHW).

Number of health checks

In 2013-14, the estimated number of Indigenous health checks (MBS 715) varied across Primary Health Networks ranging from less than 50 (in the Northern Sydney Primary Health Network) to nearly 24,800 (in the Northern Queensland Primary Health Network). Between 2011-12 and 2013-14, the number of health checks increased in most (29 out of 31) Primary Health Networks, with the number more than doubling in 3 Primary Health Networks: Perth North, Gold Coast and Country South Australia.

Murrumbidgee PHN (which has the same boundary as Murrumbidgee LHD) had 2,770 health checks registered in 2013-14 for a base population of 11,839 up from 1,874 checks in 2011-12 and 3,677 checks in 2017-18 for a base population of 14,095.

Usage rates

In 2017-18 usage rates ranged from under 4% (in the Northern Sydney Primary Health Network) to over 40 per cent (in the Western Queensland Primary Health Network). In Murrumbidgee PHN (MLHD equivalent) the usage rate in 2017-18 was 26.1 per cent an increase from 23.4 per cent in 2013-14 and 16.3 per cent in 2011-12. In 2016-17 close to 40 percent of those who had a health check had an Indigenous-specific follow-up service within 12 months.

Source: AIHW *Indigenous health checks and follow ups (June 2019)*

www.aihw.gov.au/reports/indigenous-australians/indigenous-health-checks-follow-ups/contents/number-of-follow-ups

Federal Department of Health funded services

The Primary Health Care Activity (PHC Activity) is a component of the Indigenous Australians' Health Programme (IAHP), which aims to ensure Aboriginal and Torres Strait Islander people have access to effective health care services across the nation. The PHC Activity provides grant funding to a range of organisations including Aboriginal community controlled health organisations (ACCHOs), to support and deliver comprehensive, culturally appropriate primary health care services to Aboriginal and Torres Strait Islander people and provide system-level support to the Indigenous primary health care sector.

The Department also supports primary health care for Aboriginal and Torres Strait Islander people by facilitating ACCHOs' access to Medicare billing

through a Direction under subsection 19(2) of the *Health Insurance Act (1973)*. For further information, see Access to Medicare for Aboriginal Community Controlled Health Services (ACCHS) under 19(2) and 19(5) Directions.

In the MLHD geographic boundary the following services are available to the Aboriginal population of the MLHD:

- Riverina Medical and Dental Corporation, Wagga Wagga
- Murrin Bridge Aboriginal Health Service Incorporated – Lake Cargelligo
- Brungle Aboriginal Health Service – Tumut
- Griffith Aboriginal Medical Service Incorporated- Griffith
- Viney Morgan Aboriginal Medical Service – Cummeragunja/Barmah
- Albury Wodonga Aboriginal Health Service Incorporated - Albury

Murrumbidgee LHD Aboriginal Health Services

Key facts

6900	Admissions to hospital for Aboriginal people in MLHD annually
almost 300	Aboriginal babies born annually (34 teenage mothers)
50%	Aboriginal mothers smoked during pregnancy
100-200km	Distance to specialist Aboriginal Health services for some Aboriginal people in MLHD or staff travel to outreach services
increasing	Numbers of Aboriginal people with mental illness and chronic conditions
31	Aboriginal health staff across 250,000 sq. km covering 10,000 Aboriginal people.
2.8%	Aboriginal people in the MLHD workforce (Oct 2020)

The MLHD Aboriginal Health Unit is staffed by 31 Aboriginal and non-Aboriginal people. The team provides a comprehensive, culturally appropriate service to Aboriginal communities within MLHD.

The staff provide services to inpatients and community members. When an Aboriginal patient is admitted into hospital, staff will visit the patient and provide support to both the patient and family during their stay. They also act as a link between hospital staff and patients.

Some Aboriginal people in MLHD live 100 to 200 km from specialist staff requiring long distance travel by either MLHD staff or Aboriginal clients, this is of particular note in West Wyalong, Young, Boorowa and Hay regions Figure 69).

Key factors of significance to the delivery of services include:

- Increased incidence of chronic disease amongst local people
- Increases in the number of people experiencing mental illness
- Global focus on aged care and chronic care but a high percentage of the Aboriginal population is made up of children under 15 years of age
- Increase in psychological and psychosis issues (related to drug use) being experienced by adolescents
- People refusing to use some MLHD services which are considered culturally inappropriate

Within the MLHD Aboriginal Health staff provide services in partnership with other providers (including general practitioners, Murrumbidgee Primary Health Network and Aboriginal Medical Services) to inpatients and persons in the community. Key initiatives and programs include are listed below.

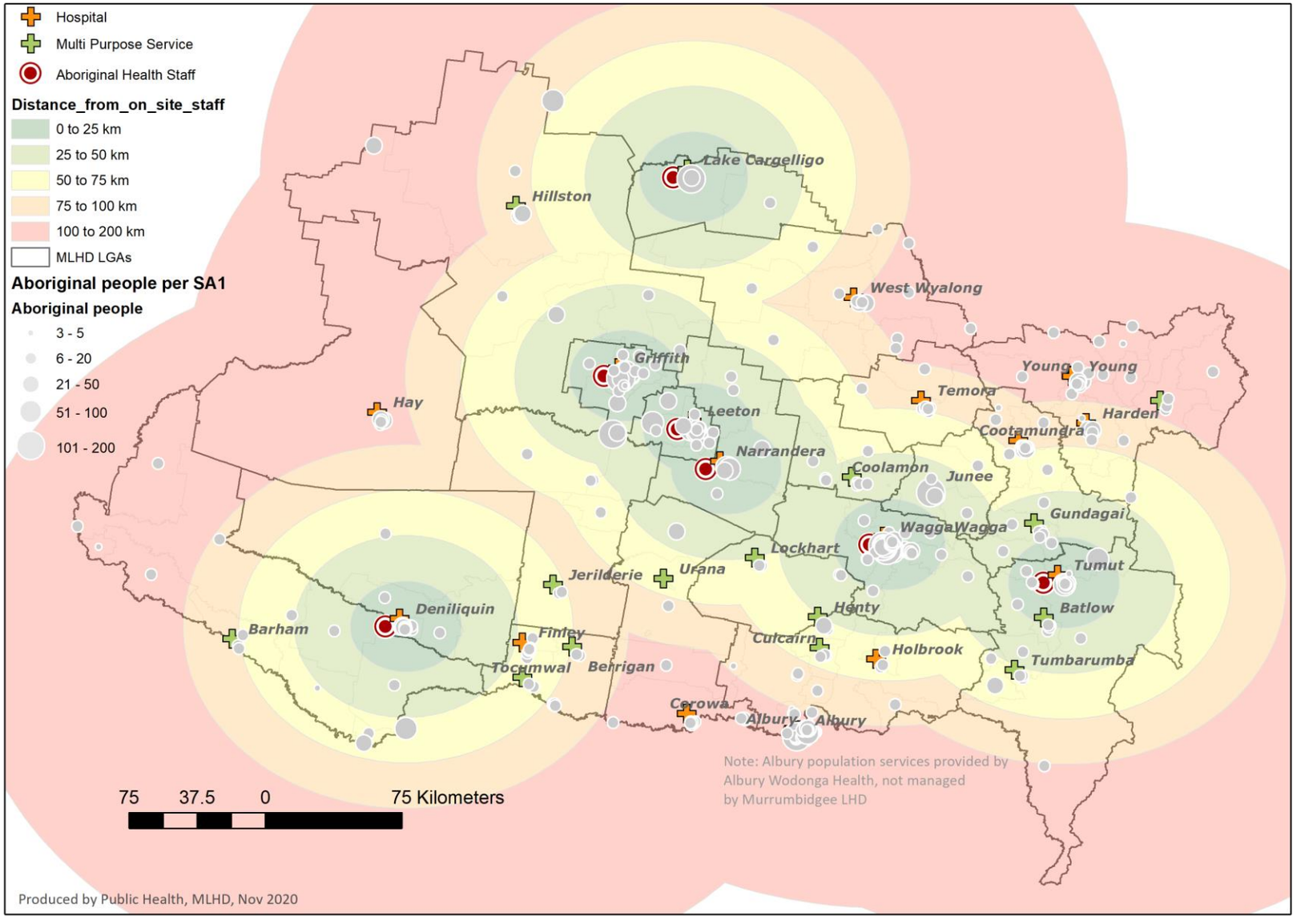


Figure 69- Map of MLHD Aboriginal Worker or Practitioner locations and Aboriginal Population density.

Aboriginal Health Worker/Aboriginal Health Practitioner

Responsible for emotional, practical, social and welfare support; health education opportunities for Aboriginal and Torres Strait Islander inpatients and communities; work with Aboriginal and non-Aboriginal health staff to develop and implement programs and strategies for improving health outcomes for the Aboriginal and Torres Strait Islander individuals and communities. Aboriginal Health Practitioners (AHPs) are registered with the Aboriginal and Torres Strait Islander Health Practitioner Board of Australia. AHPs work within a primary health care context delivering basic clinical activities, health promotion, education and disease prevention programs.

48 Hour Follow Up

This is a comprehensive program that provides support to Aboriginal patients who are being discharged from hospital. This service consists of a phone call or a home visit to the patient within 48 hours of being discharged to check on their social and emotional wellbeing. During this phone call or home visit, any issues or barriers the patient may be encountering are identified by the staff member conducting the follow up. Once identified, services and or referrals are put in place to help the patient. The aim of the 48 hour follow up program is to stop the unnecessary readmission of Aboriginal people into hospital.

Otitis Media

Aboriginal Health staff will attend schools and pre-schools to perform OM screening and/or provide OM education. The screening includes otoscopy, tympanometry and audiogram. The aim of the program is to reduce the number of children with hearing problems by screening them regularly and referring them to their GPs if necessary.

Sustained Home Visiting program

The Aboriginal Sustained Home Visiting Service is staffed by a Child and Family Health Nurse and an Aboriginal Health Worker.

The program offers intensive support to Aboriginal families with children from newborn to age 2 years who have identified Level 2 vulnerabilities as per the Supporting Families Early package.

The support is achieved by staff conducting home visits and outreaching programs to improve the health of Aboriginal women and their families during the postnatal period and beyond.

Building Strong Foundations

The Building Strong Foundations program is delivered by an Aboriginal Health Worker or Aboriginal Health Practitioner and a Child and Family Health Nurse working in partnership.

The team work with parents, carers and internal and external child health service providers to support health, growth and development of Aboriginal children from 0-5 years. Reducing risks of child injury, illness and mortality and school readiness are focus outcomes of the program.

The program provides a culturally appropriate early childhood service which includes health checks, education and community development in Griffith, Narrandera and Lake Cargelligo.

The Aunty Jeans Program

A community orientated program, these activities aim to support Aboriginal people with/or at risk of chronic illness, incorporating health promotion, education and self-management.

The program combines health assessments, information and education, exercise sessions and healthy eating intertwined with fun activities. The program caters for most ages and levels of ability.

A diverse range of health service providers from Murrumbidgee Local Health District provide support including Aboriginal Health Workers/Practitioners, diabetes educators, physiotherapists, dieticians, occupational therapists and respiratory services staff, and other health professionals. Guest speakers from

external government and non-government agencies also attend and support the program.

Foot care

This program is implemented through the Aunty Jeans Program and aims to educate the participants on how to care for their feet if they have diabetes. It also allows the Aboriginal Health Workers/Practitioners to screen the feet of their participants and refer to a GP and or a podiatrist if necessary.

The Aboriginal Maternal and Infant Health Service

The AMIHS offers a culturally appropriate, flexible, community based service during pregnancy and birth for Aboriginal women and women with Aboriginal children, with the aim of improving health outcomes and decreasing perinatal morbidity and mortality.

The AMIHS service is delivered by an Aboriginal Worker/Practitioner and a Midwife working in partnership.

Increasing education and building skills and knowledge on how to have a healthy pregnancy for a strong baby is a component of AMIHS.

Services provided will vary between communities but include: hospital bookings, home visits, information about what to expect in pregnancy and labour, support through labour and birth, help in organising GP and specialist care and links to other support services.

Aboriginal workforce in MLHD

The employment of Aboriginal and Torres Strait Islander people can bring to the workplace diverse skills, knowledge, and cultural and social experience that enriches the context of services to Aboriginal and Torres Strait Islander people. It can improve the cultural security of services and sensitivity of staff, improve access and trust and promote improved quality of services.

Improving both Aboriginal representation in the health workforce and ensuring that they have access to career and development opportunities is an essential component of building a better working environment. Murrumbidgee Local Health District is creating a workforce that is affirming of Aboriginal culture and values which seeks to create targeted and general employment and career opportunities for Aboriginal people.

The NSW Health *Good Health - Great Jobs: Aboriginal Workforce Strategic Framework 2016 - 2020* (the Framework) is intended to support local health districts, specialty health networks and other NSW health organisations to grow and develop their Aboriginal workforce. Building on the 2011 - 2015 Framework, it sets out the Aboriginal workforce development priorities and desired outcomes for NSW health for the period 2016 - 2020 and the key actions that need to be taken to achieve these priorities and outcomes.

The Framework is structured around six key priority areas:

- lead and plan Aboriginal workforce development
- build cultural understanding and respect
- attract, recruit and retain Aboriginal staff
- develop the capabilities of Aboriginal staff
- work with others to achieve workforce priorities
- track our achievements and improve results

Stepping Up is an online recruitment resource specifically developed to support Aboriginal people who are interested in a career or finding employment in health to navigate NSW Health's recruitment process. It also aims to address some of the challenges currently experienced by managers recruiting to jobs (apply.steppingup.health.nsw.gov.au/).

In the past 4 years in NSW the representation of Aboriginal people grew from 1.8% in June 2011 to 2.4% in June 2015. NSW Health continued to maintain this rate of growth (0.15% per year) and has reached 2.5% in June 2016.

The MLHD Chief Executive has a goal for the Aboriginal workforce to make up 3 per cent of the total. As of December 2016 there were 72 Aboriginal people employed in the MLHD workforce of approximately 4,000 employees making up 1.8 per cent of the total and 21 of the 31 staff working in Aboriginal health (June 2107) are Aboriginal people (67%).

Respecting the Difference: Aboriginal Cultural Training for NSW Health

Since the introduction of the Respecting the Difference: Aboriginal Cultural Training Framework in 2011 and the eLearning module in 2012, over 104,000 staff in NSW have completed the eLearning module and 41,949 staff completed the face-to-face training component across all NSW Health organisations. The purpose of this training is to motivate staff to recognise the positive influence that greater appreciation for cultural values, beliefs and practices can have upon healthcare provision and health outcomes for Aboriginal people. To continue our efforts in motivating staff to question attitudes, behaviours and action in delivering health services to Aboriginal people and addressing issues like racism in our workplace, NSW Health is committed to an implementation target that reflects this ongoing requirement which can be achieved without risking the quality and organisational impact of the training. To achieve this, NSW Health is committed to reach a desired realistic face to face completion target of 80% by 2018 and 90% by 2020.

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Australian Institute of Health and Welfare 2016. **Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011.** Australian Burden of Disease Study series no. 3. BOD 4. Canberra: AIHW. Available at:

http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129555176

Population estimates

The Australian Bureau of Statistics use a combination of the Usual Resident Populations (URP) of the 2016 Census and the 2016 Australian Bureau of Statistics Estimated Resident Population (ERP) data for LGAs to estimate the likely Aboriginal and Torres Strait Islander populations. Public Health Information Development Unit (PHIDU) have estimated the Lake Cargelligo (Lachlan – part b) area. These Estimated Resident Populations are higher than the Census URP.

http://www.phidu.torrens.edu.au/

NSW Mothers and Babies Report: http://www.healthstats.nsw.gov.au/IndicatorGroup/publications

Australian institute of Health and Welfare (AIHW) - Indigenous health checks and follow ups (MBS 715) data by PHN

https://www.aihw.gov.au/reports/indigenous-australians/indigenous-health-checks-follow-ups/contents/overview

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Australia's National Oral Health Plan 2004–2013. Adelaide: Government of South Australia.

[AIHW] Australian Institute of Health and Welfare. 2011f. Oral health and dental care in Australia: key facts and figures 2011. Cat. no. DEN 214. Canberra: Australian Institute of Health and Welfare. Available at: http://www.aihw.gov.au/publication-detail/?id=10737420710 (Cited 16 June 2012 in Chief Health Officers Report on Aboriginal health below.

Links

Health Statistics NSW

www.healthstats.nsw.gov.au

Chief Health Officers Report on Aboriginal Health 2012, NSW MoH

www.health.nsw.gov.au/epidemiology/Publications/aboriginal-health-CHO-report.pdf

The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples

www.aihw.gov.au/

Bloodborne viral and sexually transmissible infections in Aboriginal and Torres Strait Islander people: Annual Surveillance Report 2015

https://kirby.unsw.edu.au/

Workforce

NSW Health Good Health - Great Jobs: Aboriginal Workforce

Strategic Framework 2016 – 2020

http://www1.health.nsw.gov.au/

Stepping up

(apply.steppingup.health.nsw.gov.au/)

APPENDIX 1

The Indigenous Relative Socioeconomic Outcomes index (IRSEO) is an Indigenous specific index derived by the Centre for Aboriginal Economic Policy Research (CAEPR) from the 2011 Census of Population and Housing.

The IRSEO is composed of 9 socioeconomic outcomes of the usual resident population. These are:

- Population 15 years and over employed;
- Population 15 years and over employed as a manager or professional;
- Population 15 years and over employed full-time in the private sector;
- Population 15 years and over who have completed Year 12;
- Population 15 years and over who have completed a qualification;
- Population 15 to 24 years old attending an educational institution;
- Population 15 years and over with an individual income above half the Australian median;
- Population who live in a house that is owned or being purchased; and
- Population who live in a house with at least one bedroom per usual resident [1].

The IRSEO reflects relative advantage or disadvantage at the Indigenous Area level, where a score of 1 represents the most advantaged area and a score of 100 represents the most disadvantaged area.

Reference

1. Biddle N. Population projections - CAEPR Indigenous Population Project 2011 Census Papers, no. 14/2013. Canberra: Centre for Aboriginal Economic Policy Research (CAEPR), ANU; 2013.

Notes: The Index ranges from 1 to 100, where a score of 1 represents the most relatively advantaged and a score of 100 represents the most relatively disadvantaged.

For further information, refer to the Socioeconomic outcomes paper, produced by the Centre for Aboriginal Economic Policy Research (CAEPR).

Numerator: The Indigenous Relative Socioeconomic Outcomes index, derived by CAEPR from 2011 Census data

Detail of analysis: The Index ranges from 1 to 100, where a score of 1 represents the most relatively advantaged and a score of 100 represents the most relatively disadvantaged

Source: Compiled by PHIDU based on the CAEPR Indigenous Relative Socioeconomic Outcomes Index, 2011 data.

Note: Greater Capital City Statistical Areas, major urban centres, State/ Territory and Australian totals were constructed using population-weighted averages.