

# Aboriginal peoples

2022-2024 Needs Assessment  
**2023 Annual Review**

In this document we have used the terms Aboriginal, Aboriginal person and Aboriginal people/s when referring to Aboriginal and Torres Strait Islander peoples. We chose Aboriginal because it is inclusive of different language groups and areas within the CESP HN region where this Needs Assessment will be used. There will be some instances where the terminology will be different to our preferred terms, as we use the terminology of the data set being used.

## Contents

<b>Contents.....</b>	<b>3</b>
<b>List of tables.....</b>	<b>5</b>
<b>List of figures.....</b>	<b>6</b>
<b>Population.....</b>	<b>8</b>
Geography and demographics.....	8
Age.....	8
Births.....	9
<b>Determinants of health.....</b>	<b>10</b>
Lifestyle risk factors .....	10
Smoking .....	10
Nutrition .....	11
Physical activity.....	11
Overweight/obesity .....	12
Socioeconomic index .....	13
Contact with the criminal justice system.....	14
Adult imprisonment.....	14
Youth justice supervision.....	14
Child protection .....	15
<b>Health status .....</b>	<b>15</b>
Life expectancy .....	15
Median age at death.....	16
Infant and child mortality .....	17
Perinatal mortality.....	17
Infant mortality.....	18
Child mortality .....	19
Premature mortality .....	19
Avoidable deaths .....	20
Self-assessed health status .....	21
Long term health conditions.....	22
Chronic conditions .....	23
Disability .....	24
NDIS participation.....	26
Potentially preventable hospitalisation (PPH) .....	27
Total potentially preventable hospitalisations .....	27
Acute potentially preventable hospital admissions.....	28
Chronic preventable hospital admissions.....	29
<b>Preventive health .....</b>	<b>30</b>
Immunisation.....	30
Potentially preventable hospitalisations (vaccine preventable).....	32
Cancer screening .....	32

BreastScreen .....	32
National Bowel Cancer Screening Program .....	33
Hearing screening .....	34
<b>Maternal and child health .....</b>	<b>34</b>
Antenatal care .....	34
Smoking during pregnancy .....	36
Gestational diabetes mellitus .....	37
Low birthweight babies .....	37
Breastfeeding.....	39
<b>Social and emotional well-being.....</b>	<b>40</b>
Psychological distress .....	40
Self-harm .....	41
Suicide.....	42
<b>Alcohol and substance use .....</b>	<b>43</b>
Alcohol.....	43
Single occasion risk .....	44
Lifetime risk .....	44
Substance use.....	45
<b>Older people .....</b>	<b>46</b>
Demographics.....	46
Aged care.....	47
Home care.....	47
Residential care .....	49
<b>Hospitalisations.....</b>	<b>51</b>
Demographics.....	51
Gender .....	51
0-14 years .....	52
15 years and older .....	53
Principal diagnosis .....	54
External causes .....	54
Emergency department presentations.....	55
<b>Access .....</b>	<b>56</b>
Indigenous health PIP .....	56
MBS item 715 .....	56
After hours.....	59
Lower urgency emergency department (ED) presentations .....	60
Patient experience.....	62
Communication .....	62
Treated respectfully.....	63
Unfair treatment and cultural barriers.....	63
Left against medical advice.....	63
Service gaps .....	63

Aboriginal health workforce .....	65
<b>References .....</b>	<b>67</b>

## List of tables

Table 1: Usual resident population (URP) in the CESP HN region by IARE, 2021 .....	8
Table 2: Births by mother's and baby's Aboriginality, by PHN, 2021 .....	9
Table 3: Smoking status by gender, NSW 2018-19 .....	10
Table 4: Adequacy of fruit and vegetable intake, by group, NSW, 2018-19 .....	11
Table 5: People meeting physical activity guidelines, by age group, gender, Australia, 2018-19 .....	12
Table 6: BMI level by gender, aged 2-17 years, NSW, 2018-19 .....	12
Table 7: BMI level by gender, aged 18 years and over, NSW, 2018-19 .....	12
Table 8: Waist circumference risk, by gender, aged 18 years and over, NSW, 2018-19 .....	13
Table 9: Indigenous Relative Socioeconomic Outcome (IRSEO) index score by IARE, 2016 .....	13
Table 10: Young people released from sentenced supervision who returned to sentenced supervision, by time period and gender, Australia, 2016-17 .....	14
Table 11: Child protection rates for Aboriginal children (per 1,000), Australia, 2009 to 2018 .....	15
Table 12: Life expectancy at birth by gender, NSW, 2015-17 .....	15
Table 13: Life expectancy by age group and gender, Australia, and Major Cities, 2015-17 .....	16
Table 14: Median age at death by gender and regions, 2016-20 .....	16
Table 15: Aboriginal child mortality by sex, NSW, Qld WA, SA and NT, 2015-19 .....	19
Table 16: Current long-term health conditions, by gender, NSW 2018-19 .....	22
Table 17: Selected chronic conditions, by gender NSW 2018-19 .....	23
Table 18: Disability, by age and gender, Australia, 2018 .....	25
Table 19: NDIS participants by Aboriginal status and service district, CESP HN region, 2021 .....	26
Table 20: Outcome framework choice measure by Aboriginal status and service district, CESP HN region, 2021 .....	27
Table 21: NDIS participants with more choice and control in their life by Aboriginal status and service district, CESP HN region, 2021 .....	27
Table 22: Potentially preventable hospital admissions. by IARE and age group, 2017-18 to 2019-20 .....	28
Table 23: Potentially preventable hospital admissions by acute condition and IARE, 2017-18 to 2019-20 .....	29
Table 24: Potentially preventable hospital admissions by chronic condition and IARE, 2017-18 to 2019-20 .....	30
Table 25: Immunisation status, by age and region, 2021 .....	30
Table 26: Potentially preventable hospitalisations, vaccine preventable, by IARE, 2017-18 to 2019-20 .....	32
Table 27: BreastScreen participation by Aboriginality, Australia, 2014-15 .....	33
Table 28: National Bowel Cancer Screening Program participation by Aboriginality, Australia, 2014-16 .....	33
Table 29: Gestational diabetes status by Aboriginality, Australia, 2017 .....	37
Table 30: Suicide rates by Aboriginality, Australia, 2021 .....	42
Table 31: Deaths by age, Aboriginality, NSW and Australia, 2017-21 .....	43
Table 32: Alcohol consumption status, by gender, NSW, 2018-19 .....	44
Table 33: Substance use in NSW, 2018-19 .....	45
Table 34: Usual resident population (URP) aged 50 years and over, by IARE, 2021 .....	47
Table 35: Home care admissions by ACPR, 2021-22 .....	47
Table 36: Residential care admissions by ACPR, 2021-22 .....	49

Table 37: Average annual ASR per 100,000 by gender and IARE, 2017-18 to 2019-20 .....	52
Table 38: Hospital admissions by cause, 0–14-year-olds, by IARE, 2017-18 to 2019-20 .....	53
Table 39: Hospital admissions by cause, 15 years and older, by IARE, 2017-18 to 2019-20 .....	54
Table 40: Hospital admissions by external causes, by IARE, 2017-18 to 2019-20 .....	55
Table 41: ED Presentations by Aboriginality, CESP HN region, 2014-15 to 2019-20 .....	55
Table 42: Health assessment (MBS 715) by financial year, CESP HN region, 2018-19 - 2020-21 .....	56
Table 43: Callers to HealthDirect After Hours Helpline, by Aboriginality and PIP timeframe, CESP HN region, 2021 .....	59
Table 44: Lower urgency ED presentations by IARE, 2019-20 .....	61
Table 45: Identified health service gaps in organisations funded for primary health care, 2017-18 .....	64
Table 46: Aboriginal health professionals, CESP HN region, 2020 .....	66

## List of figures

Figure 1: Population by 5-year age groups, CESP HN region, 2021 URP .....	9
Figure 2: Smoking status by PHN, 2018-19 .....	10
Figure 3: Median age at death by gender and IARE, 2016-20 .....	17
Figure 4: Perinatal deaths, NSW 2012 to 2020 .....	18
Figure 5: Infant mortality, NSW, 2003 to 2021 .....	18
Figure 6: Premature deaths by age group and cause, CESP HN region, 2016-20 .....	19
Figure 7: Premature deaths by age group and gender, CESP HN region, 2016-20 .....	20
Figure 8: Avoidable deaths by cause of death, CESP HN region, 2016-20 .....	21
Figure 9: Self-assessed health status by PHN, 2018-19 .....	22
Figure 10: Long term health conditions by PHN, 2018-19 .....	23
Figure 11: Selected chronic conditions, by PHN, 2018-19 .....	24
Figure 12: Disability status, by PHN, 2018-19 .....	26
Figure 13: Total potentially preventable hospital admissions, by IARE, 2017-18 to 2019-20 .....	28
Figure 14: 1-year-olds fully immunised by IARE, 2021 .....	31
Figure 15: 2-year-olds fully immunised by IARE, 2021 .....	31
Figure 16: 5-year-olds fully immunised by IARE, 2021 .....	31
Figure 17: BreastScreen participation rates by Aboriginality, CESP HN region, 2011-20 .....	33
Figure 18: First antenatal visit by 14 weeks, by PHN NSW, 2020 .....	34
Figure 19: First antenatal visit by 14 weeks, CESP HN region, 2010-20 .....	35
Figure 20: First antenatal visit by 20 weeks, by PHN NSW, 2020 .....	35
Figure 21: First antenatal visit by 20 weeks, CESP HN region, 2010-20 .....	36
Figure 22: Smoking during pregnancy by NSW PHNs, 2021 .....	36
Figure 23: Smoking during pregnancy, CESP HN region, 2010-21 .....	37
Figure 24: Low birth weight babies by Aboriginal mothers, by PHN NSW, 2020 .....	38
Figure 25: Low birth weight babies born to Aboriginal mothers, CESP HN region, 2010-20 .....	38
Figure 26: Infant feeding at discharge, all PHNs NSW, 2020 .....	39
Figure 27: Aboriginal mothers infant feeding at discharge, CESP HN region, 2015-20 .....	39
Figure 29: Distress level by Aboriginality, NSW, 2019-21 .....	40
Figure 30: Psychological distress by PHN, 2018-19 .....	41
Figure 31: Self-harm by Aboriginality and age group, Australia, 2020-21 .....	41

Figure 32: Self-harm by Aboriginality and sex, Australia, 2020-21 .....	42
Figure 33: Short term alcohol consumption status, PHN, 2018-19 .....	44
Figure 34: Long term alcohol consumption, PHN, 2018-19 .....	45
Figure 35: Substance use by PHN, 2018-19 .....	46
Figure 36: Home care admissions by age group, CESP HN region, 2021-22 .....	48
Figure 37: Home care admissions by gender, CESP HN region, 2021-22 .....	48
Figure 38: Home care discharges, by discharge reason, by ACPR, CESP HN region, 2021-22 .....	49
Figure 39: Residential care admissions, by admission type and age group, CESP HN region, 2021-22 .....	50
Figure 40: Proportion of residential care admissions by gender, CESP HN region, 2021-22 .....	50
Figure 41: Exits from residential care by discharge reason, CESP HN region, 2021-22 .....	51
Figure 42: Health assessment (MBS 715) by PHN, 2020-21 .....	57
Figure 43: Health assessment (MBS 715) by SA3, 2020-21 .....	57
Figure 44: Health assessment (MBS 175) follow-up by PHN, 2019-20 .....	58
Figure 45: Health assessment (MBS 175) follow-up by SA3, 2019-20 .....	58
Figure 46: Calls by Aboriginal population, by postcode, CESP HN, 2021 .....	60
Figure 47: Lower urgency ED presentations for certain infectious and parasitic diseases, by IARE, 2019-20 .....	61
Figure 48: Lower urgency ED presentations for mental and behavioural disorders, by IARE, 2019-20 .....	62
Figure 49: Identified health service challenges in organisations funded for primary health care, 2017-18 .....	64

## Population

### Geography and demographics

There was an estimated 16,225 Aboriginal people within the Central and Eastern Sydney PHN (CESPHN) region in 2021, accounting for 1.05% of the total population.(1)

There are 12 Indigenous Areas (IARE) within the CESPHN region. Sutherland Shire IARE has the highest proportion of Aboriginal people within the CESPHN region, accounting for 20.1% of this population group. Followed by Sydney-City IARE and Randwick-La Perouse IARE accounting for 18.5% and 14.5% of the region's Aboriginal population respectively.(1)

**Table 1: Usual resident population (URP) in the CESPHN region by IARE, 2021**

Indigenous Area (IARE)	Aboriginal persons	% of region
Botany Bay	1,103	6.8
Canterbury -Bankstown (part a)	1,133	7.0
Hurstville-Kogarah	1,040	6.4
Leichhardt	611	3.8
Marrickville	1,253	7.7
Randwick-La Perouse	2,354	14.5
Rockdale	863	5.3
Sutherland Shire	3,273	20.1
Sydney-City	3,009	18.5
Sydney Inner West	1,169	7.2
Woollahra-Waverley	452	2.8
<b>CESPHN</b>	<b>16,265</b>	<b>100</b>

Source: PHIDU, 2022

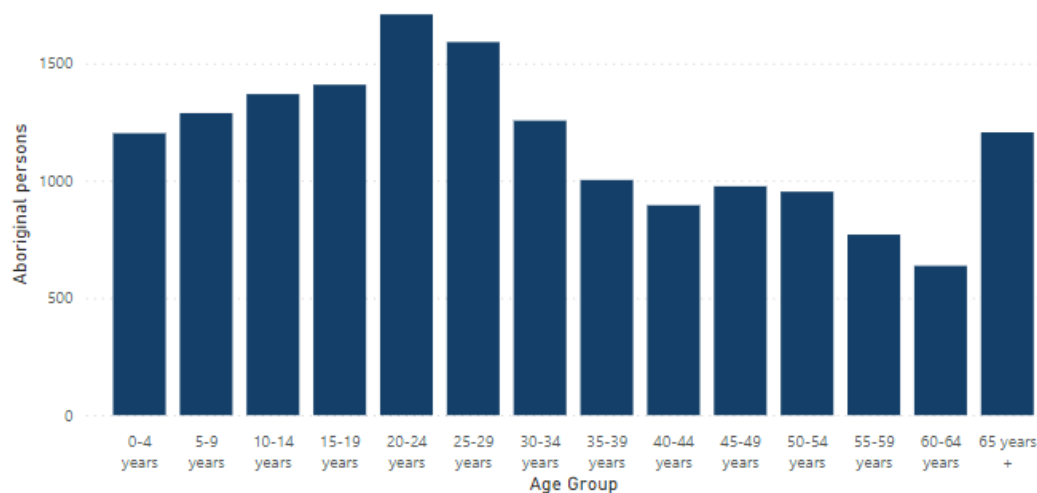
*Note: Lord Howe Island IARE data is not included due to low numbers.*

### Age

One in five (20.3%) Aboriginal people within the CESPHN region are aged between 20-29 years (n= 3,581). More than half (52.7%) of the Aboriginal population within the CESPHN region is under 30 years of age.(1)



Figure 1: Population by 5-year age groups, CESP HN region, 2021 URP



Source: PHIDU, 2022

## Births

In NSW, Aboriginal mothers accounted for 6.8% (5,101) of births in 2021. The proportion was lower within the CESP HN region, 1.8% (257 births).(2)

In NSW, 5.1% (6,731) of babies born in 2021 identified as Aboriginal. Similarly, the proportion was lower in within the CESP HN region – 1.4% (334).(2)

Table 2: Births by mother's and baby's Aboriginality, by PHN, 2021

Aboriginality	CESP HN	NSW
	Mother (%)	
Aboriginal	1.8	6.8
Non-Aboriginal	95.2	89.7
	Baby (%)	
Aboriginal	1.4	5.1
Non-Aboriginal	97.1	93.7

Source: HealthStats NSW, 2023

## Determinants of health

### Lifestyle risk factors

#### Smoking

In 2018-19, almost 4 in 10 Aboriginal people in NSW were current smokers, 38.7% were daily smokers, and a further 25% were ex-smokers. These rates are consistent across males and females.(3)

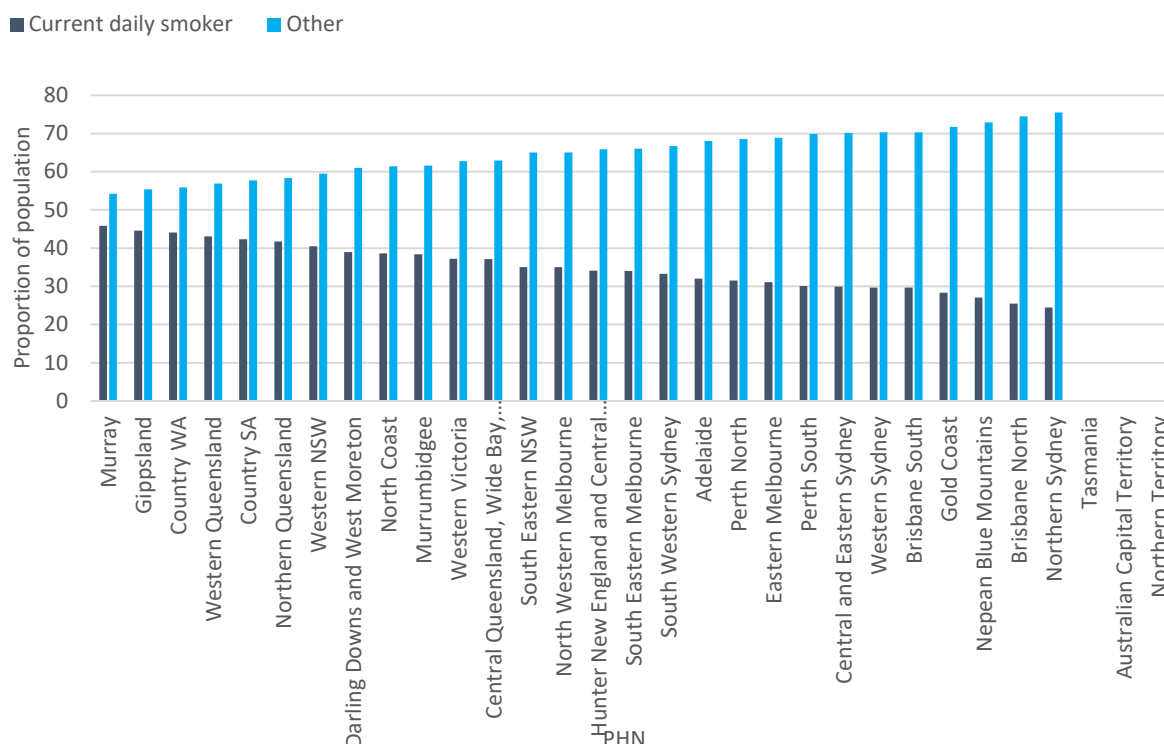
**Table 3: Smoking status by gender, NSW 2018-19**

Smoker status	Males (%)	Females (%)	Total NSW (%)
Current smoker	40.1	40.5	39.9
Daily	38.4	39.1	38.7
Ex-smoker	24.3	26.5	25.2
Never smoked	36.5	34.8	34.3

Source: ABS, NATSIHS 2019

Estimates at the PHN level show that approximately 3 in 10 Aboriginal people in the CESP HN region were current daily smokers in 2018-19, the 7<sup>th</sup> lowest rate for PHNs with available data.(3)

**Figure 2: Smoking status by PHN, 2018-19**



Source: ABS, NATSIHS 2019

## Nutrition

An estimated 5.5% of the Aboriginal population aged 2-17 years in NSW had both adequate daily fruit and adequate daily vegetable consumption. Adequate fruit consumption was almost 12 times the proportion of adequate vegetable consumption among this age group (68.2% compared to 5.7%).(3)

An estimated 2.9% of the Aboriginal population aged 18 years and over in NSW had both adequate daily fruit and adequate daily vegetable consumption. Adequate daily fruit consumption was approximately 8 times the proportion of adequate daily vegetable consumption among this age group (40.9% compared to 5.0%).(3)

**Table 4: Adequacy of fruit and vegetable intake, by group, NSW, 2018-19**

Daily fruit and vegetable consumption (2013 NHMRC Guidelines)	2-17 years	18+ years
Adequate daily fruit consumption	68.2	40.9
Adequate daily vegetable consumption	5.7	5.0
<i>Adequate daily fruit or adequate daily vegetable consumption</i>	<i>68.8</i>	<i>43.0</i>
Adequate daily fruit <i>and</i> adequate daily vegetable consumption	5.5	2.9
Inadequate daily fruit and/or vegetable consumption	94.4	96.5

Source: ABS, NATSIHS 2019

## Physical activity

Nationally, an estimated 89% of the Aboriginal population aged 15 years and older did not meet physical activity guidelines. The proportion is highest in the 15-17-year age group, where an estimated 93% did not meet physical activity guidelines. For most age groups, it is estimated that a higher proportion of males than females meet the physical activity guidelines, with the exception of the 15-17 year age group and 45-54 year age group.(3)

**Table 5: People meeting physical activity guidelines, by age group, gender, Australia, 2018-19**

2014 Physical Activity Guidelines	15-17	18-24	25-34	35-44	45-54	55 years and over	Total 15 years and over	Total 18 years and over
<b>Males</b>								
Met guidelines	3.8	15.4	15.5	10.5	11.4	13.3	12.5	13.2
Did not meet guidelines	93.9	85.7	84.9	89.2	90.6	86.7	87.4	86.6
<b>Females</b>								
Met guidelines	6.9	8.7	10.3	8.1	12.0	9.9	9.7	10.1
Did not meet guidelines	94.6	89.9	89.7	92.5	86.8	90.8	90.2	89.9
<b>Persons</b>								
Met guidelines	4.8	12.1	12.8	9.0	12.4	11.3	11.0	11.6
Did not meet guidelines	93.0	87.6	87.6	91.4	86.7	89.2	89.0	88.4

Source: ABS, NATSIHS 2019

## Overweight/obesity

An estimated 42.1% of the Aboriginal population aged 2-17 years in NSW were overweight/obese. A slightly higher proportion of males than females were overweight/obese (44.9% compared to 40.3% respectively).(3)

**Table 6: BMI level by gender, aged 2-17 years, NSW, 2018-19**

BMI	Males	Females	Total NSW
Underweight/ normal weight	57.7	59.5	58.2
Overweight/ obese	44.9	40.3	42.1

Source: ABS, NATSIHS 2019

An estimated 76.4% of the Aboriginal population aged 18 years and over in NSW were overweight/obese, of these almost two-thirds were considered obese (46.8%).(3)

**Table 7: BMI level by gender, aged 18 year and over, NSW, 2018-19**

BMI	Males	Females	Total NSW
Underweight/normal (BMI less than 25)	20.3	25.1	23.2
Normal weight (BMI 18.50-24.99)	18.8	22.2	21.1
Overweight/obese (BMI 25.00 or higher)	79.3	75.8	76.4
Overweight (BMI 25.00-29.99)	33.8	25.8	29.7
Obese (BMI 30.00 or higher)	43.9	49.8	46.8

Source: ABS, NATSIHS 2019

An estimated 72.4% of the Aboriginal population aged 18 years and over in NSW were at increased risk of developing chronic diseases due to their waist circumference risk level. The proportion of females is approximately 1.3 times the proportion of males (81.6% compared to 62.2% respectively).(3)

**Table 8: Waist circumference risk, by gender, aged 18 years and over, NSW, 2018-19**

Waist circumference risk level	Males	Females	Total NSW
At increased risk of developing chronic diseases	62.2	81.6	72.4
Not at risk	37.2	18.4	27.7

Source: ABS, NATSIHS 2019

## Socioeconomic index

The Centre for Aboriginal Economic Policy Research (CAEPR) developed the Indigenous Relative Socioeconomic Outcome (IRSEO) index that 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.

The IRSEO index for the CESPHE region reflects a relatively advantaged area (IRSEO = 9). None of the IAREs within the CESPHE region have an IRSEO index equal to or lower than the national or NSW index. Within the CESPHE region, Canterbury-Bankstown (part a) has the highest IRSEO score (21) indicating the least advantaged IARE within the CESPHE region, followed by Randwick-La Perouse with an IRSEO index of 19.(4)

**Table 9: Indigenous Relative Socioeconomic Outcome (IRSEO) index score by IARE, 2016**

Indigenous Area (IARE)	IRSEO Index score
Botany Bay	10
Canterbury - Bankstown (part a)	21
Hurstville - Kogarah	6
Leichhardt	5
Marrickville	6
Randwick - La Perouse	19
Rockdale	3
Sutherland Shire	2
Sydney - City	12
Sydney - Inner West	4
Woollahra - Waverley	1
<b>CESPHE</b>	<b>9</b>
<b>New South Wales</b>	<b>36</b>
<b>Australia</b>	<b>43</b>

Source: PHIDU, 2020

Note: Lord Howe Island IARE is not included due to low numbers.

## Contact with the criminal justice system

### Adult imprisonment

In 2019, NSW had an age-standardised imprisonment rate for Aboriginal adults of 1,684.2 per 100,000 population, with a 32.3% increase since 2006. The rate ratio between Aboriginal adult and non-Aboriginal adult imprisonment rates was 9.3.(5)

In 2021, 18,726 individuals were released from NSW adult correctional centres.(6) Our stakeholders have advised that prison inmates are often released with no medical plan and have low access to health services. The Community Restorative Centre (CRC) – a provider of specialist throughcare, post-release, and reintegration programs for people transitioning from prison into the community in NSW – has raised that a number of their clients have cognitive impairments, intellectual disabilities, and acquired brain injuries that are sometimes first identified and diagnosed in prison. CRC staff have highlighted the importance of diagnosis because it can have a significant impact on how clients are treated and how they function in the community.

### Youth justice supervision

In 2020-21, NSW had a reported 194.3 Aboriginal young people (aged 10-17 years) under youth justice supervision on an average day; a rate 10.6 times that of non-Aboriginal young people. This was lower than the Australian rate, which had 242.7 Aboriginal young people under youth justice supervision on an average day, with a rate ratio of 14.2.(5)

Of the young Aboriginal people released from sentenced supervision<sup>1</sup> in 2016-17, 26.3% returned to sentenced supervision within 6 months and 51.1% within 12 months. Of those released from detention, more than half (58.9%) returned to sentenced supervision within 6 months and four out of five (80.6%) returned to sentenced supervision within 12 months.(5)

**Table 10: Young people released from sentenced supervision who returned to sentenced supervision, by time period and gender, Australia, 2016-17**

	Released from community-based supervision		Released from detention	
	Returned to sentenced supervision within 6 months (%)	Returned to sentenced supervision within 12 months (%)	Returned to sentenced supervision within 6 months (%)	Returned to sentenced supervision within 12 months (%)
Females	27.4	53.9	59.0	80.6
Males	22.9	42.5	57.9	80.7
<b>Total</b>	<b>26.3</b>	<b>51.1</b>	<b>58.9</b>	<b>80.6</b>

Source: AIHW, 2020

<sup>1</sup> Supervision may take place while young people are unsentenced or sentenced and in each case, can take place in the community or a secure detention facility. Most young people under youth supervision are supervised in the community rather than in detention. For more information, please refer to the [Aboriginal and Torres Strait Islander Health Performance Framework](#).

## Child protection

In 2018, there were 54.3 per 1,000 Aboriginal children in out-of-home care across Australia, compared to 5.3 per 1,000 non-Aboriginal children. The rate for Aboriginal children has increased by 55.6% since 2009.(5)

There was 62.3 per 1,000 Aboriginal children who were on care and protection orders in 2018 across Australia, compared to 6.8 per 1,000 non-Aboriginal children.(5) Data regarding substantiated child protection notifications (children in substantiations) is unavailable for 2018 due to the change in reporting in NSW.

**Table 11: Child protection rates for Aboriginal children (per 1,000), Australia, 2009 to 2018**

Year	Children in out-of-home care	Children in substantiations	Children on care and protection orders
2009	35.2	27.5	34.3
2010	37.8	27.7	37.7
2011	40.2	26.9	39.9
2012	42.7	32.5	42.6
2013	44.3	35.1	45.9
2014	47.1	35.6	48.8
2015	48.1	36.5	52.6
2016	51.9	39.9	56.7
2017	54.0	42.2	60.1
2018	54.3	n.a.	62.3

Source: AIHW, 2020

From 30 June 2018, there were 7,626 Aboriginal children in NSW on care and protection orders. Thirty-five per cent of these children were aged 10-14 years, followed by 30.9% aged 5-9 years. A further 6,766 Aboriginal children were in out-of-home care, giving a rate of 60.8 per 1,000 population and a rate ratio of 9.5 when compared to non-Aboriginal children.(5)

## Health status

### Life expectancy

Between 2015-17, Aboriginal females born in NSW had a life expectancy of 75.9 years (1.5 years higher than national Aboriginal life expectancy) while males had a life expectancy of 70.9 years (0.9 years higher than the national Aboriginal life expectancy).(5)

**Table 12: Life expectancy at birth by gender, NSW, 2015-17**

	Females	Males
NSW	75.9	70.9
Australia	74.4	70.0

Source: AIHW, 2020

Estimates for life expectancy by current age in 2015-17 show that individuals living in major cities have a slightly longer life expectancy each year of life than national estimates.(5)

**Table 13: Life expectancy by age group and gender, Australia, and Major Cities, 2015-17**

Age Group	Australia		Major Cities	
	Males	Females	Males	Females
0	70.0	74.4	72.1	76.5
1-4	69.5	74.0	71.6	75.8
5-9	65.6	70.0	67.7	71.9
10-14	60.6	65.1	62.7	66.9
15-19	55.7	60.1	57.8	62.0
20-24	50.9	55.3	52.9	57.1
25-29	46.3	50.5	48.2	52.2
30-34	41.8	45.7	43.7	47.3
35-39	37.5	41.1	39.3	42.6
40-44	33.2	36.6	35.0	38.1
45-49	29.2	32.2	30.8	33.7
50-54	25.5	28.0	27.0	29.4
55-59	21.8	24.0	23.2	25.2
60-64	18.2	20.0	19.5	21.2
65-69	14.9	16.3	16.1	17.3
70-74	11.7	12.9	12.7	13.7
75-79	9.0	9.8	9.8	10.6
80-84	6.7	7.1	7.1	7.6
85 years and over	4.3	4.5	4.4	4.6

Source: AIHW, 2020

## Median age at death

Within the CESP HN region, Aboriginal males have a median age at death of 60 years and females have a median age at death of 63 years. For males, this is consistent with the Greater Sydney and NSW median age at death, however for females the median age at death is 3 years lower than NSW.(7)

**Table 14: Median age at death by gender and regions, 2016-20**

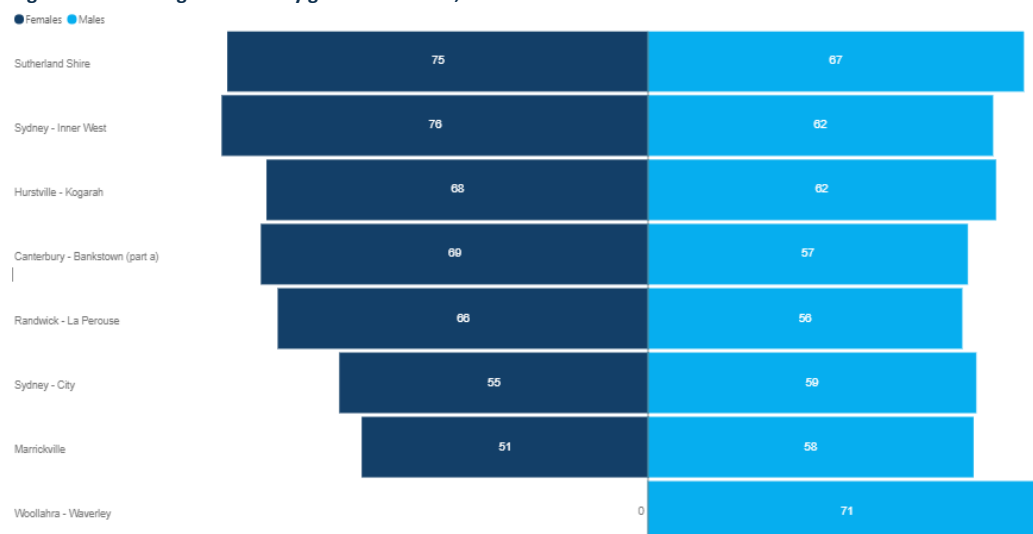
Region	Females (yrs)	Males (yrs)
CESP HN	63	60
Greater Sydney	65	61
NSW	66	61
NSW, QLD, SA, WA & NT	63	58

Source: PHIDU, 2022

Within the CESP HN region, the Marrickville IARE and Sydney-City IARE have a younger median age at death for both males and females compared to the CESP HN average.(7)



**Figure 3: Median age at death by gender and IARE, 2016-20**



Source: PHIDU, 2022

Note: data not available for Botany Bay IARE, Leichhardt IARE, Lord Howe Island IARE, Rockdale IARE or for females in Woollahra-Waverley IARE

## Infant and child mortality

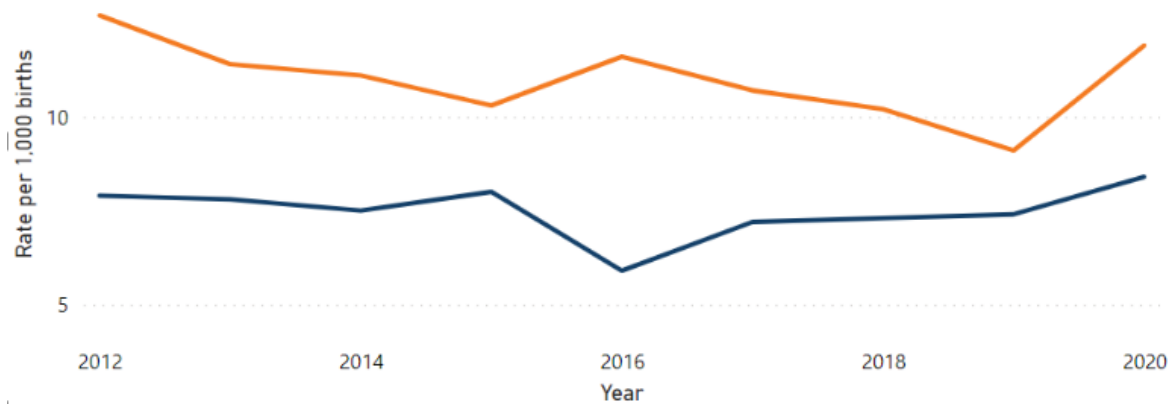
### Perinatal mortality

Perinatal mortality is defined as deaths commencing from at least 20 weeks of gestation (fetal deaths or 'stillbirths') and deaths of live-born babies within the first 28 days after birth (neonatal deaths).(5)

In the eight years to 2019, there was a slight decline in the rate of perinatal deaths per 1,000 Aboriginal live births. However, in 2020, rates of perinatal deaths in Aboriginal children increased to 11.9 per 1,000 live births (compared to 9.1 per 1,000 live births in 2019). Similarly, there was a slight increase in rates of perinatal deaths in non-Aboriginal children - 8.4 per 1,000 births (compared to 7.4 per 1,000 live births in 2019).(8)

Figure 4: Perinatal deaths, NSW 2012 to 2020

Aboriginality ● Aboriginal ● Non-Aboriginal



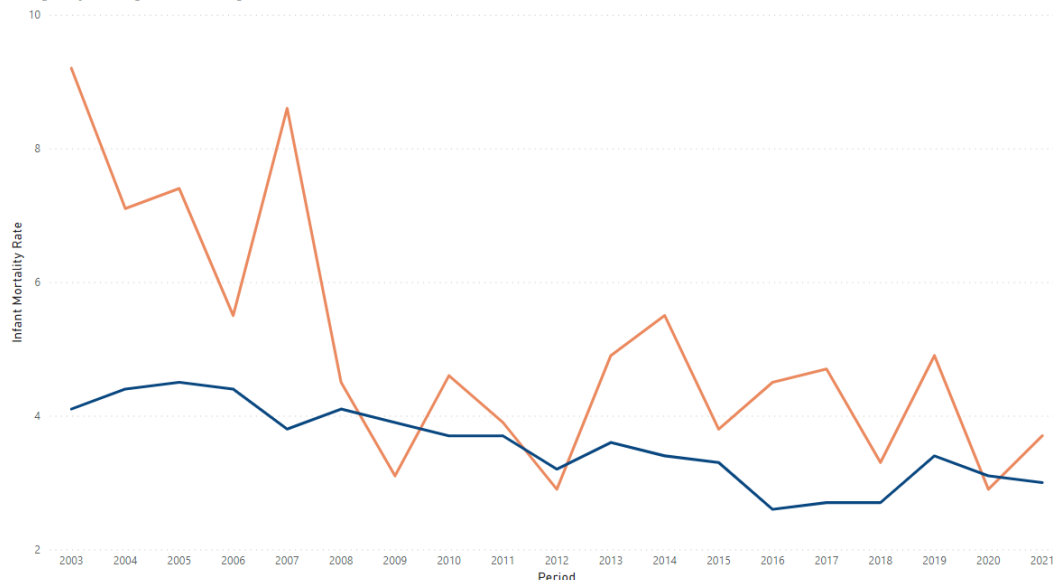
Source: HealthStats NSW, 2022

## Infant mortality

Infant mortality is defined by deaths in children under 1 year of age. Since 2003, there has been a decline in the rate of infant deaths per 1,000 live births for both Aboriginal and non-Aboriginal children. In 2021, there was 3.0 infant deaths per 1,000 Aboriginal live births, compared to 3.7 infant deaths per 1,000 non-Aboriginal live births across NSW.(2)

Figure 5: Infant mortality, NSW, 2003 to 2021

Aboriginality ● Aboriginal ● Non-Aboriginal



Source: HealthStats NSW, 2023

## Child mortality

Between 2015-19, there were 622 deaths among Aboriginal children aged 0-4 years and a rate ratio of 2.1 when comparing Aboriginal child mortality to non-Aboriginal child mortality.(9)

Table 15: Aboriginal child mortality by sex, NSW, Qld WA, SA and NT, 2015-19

Year	Deaths (no.)	Deaths (%)	Rate per 100,000	Rate ratio	Rate difference
<b>Child mortality (0-4)</b>					
Males	343	55.1	160.3	2.1	82.6
Females	279	44.9	138.5	2.2	74.3
Total children (0-4)	622	100	149.7	2.1	78.6
<b>Early childhood (1-4)</b>					
Males	52	54.7	30.5	1.9	14.4
Females	43	45.3	26.8	2.1	13.8
Total children (1-4)	95	100	28.7	2.0	14.1

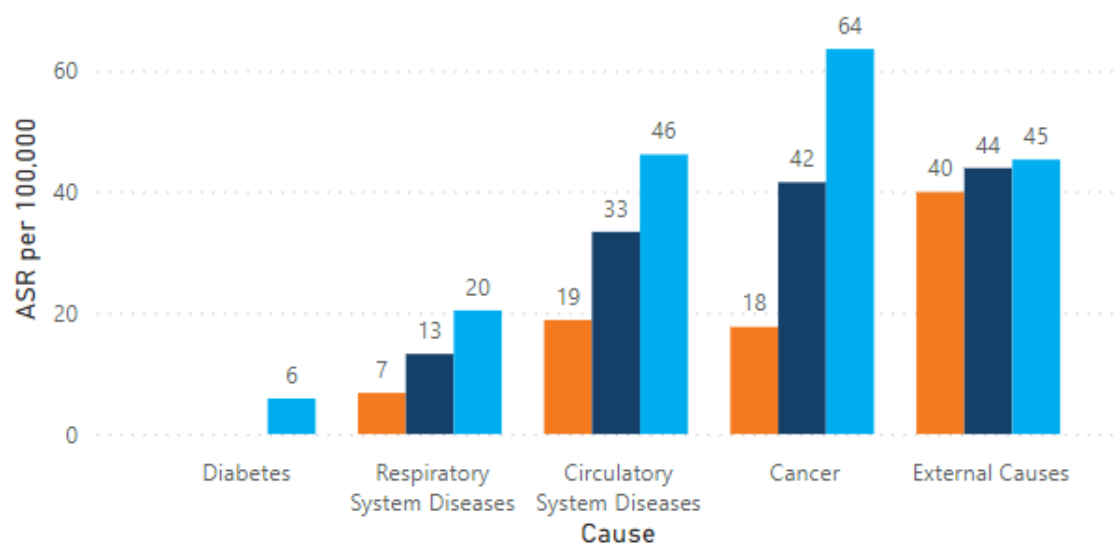
Source: ABS, 2022

## Premature mortality

Premature mortality refers to deaths that occur among people aged under 75 years. Between 2016-20, 39.9% of all premature deaths in 0-54-year-olds were due to external causes and a further 18.8% were caused by circulatory system diseases in the CESP HN region. As the age groups broadened, external causes formed approximately one-third of all premature deaths, and cancer and circulatory diseases contributed to approximately a quarter of causes each.(1)

Figure 6: Premature deaths by age group and cause, CESP HN region, 2016-20

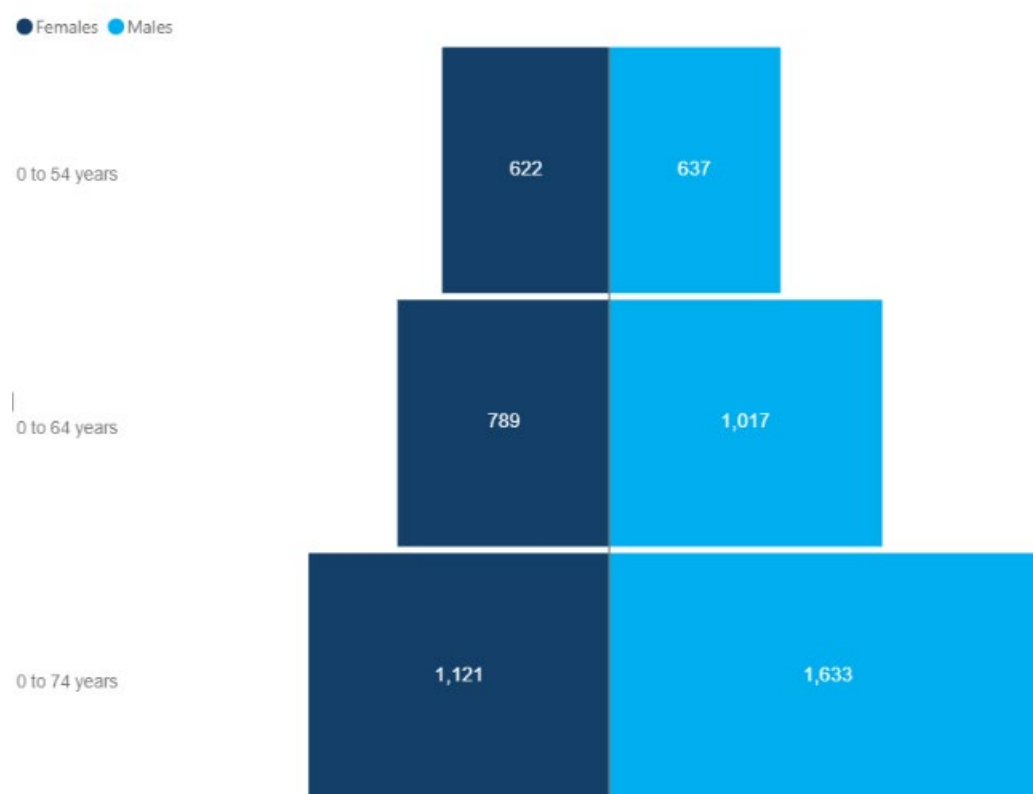
Age Group ● 0 to 54 years ● 0 to 64 years ● 0 to 74 years



Source: PHIDU, 2022

Males within all age brackets had a higher age standardised rate (ASR) of premature deaths per 100,000 population than females. In the 0 to 64 years age bracket, the ASR of premature deaths in males was 1.3 times the rate for females.(1)

**Figure 7: Premature deaths by age group and gender, CESP HN region, 2016-20**



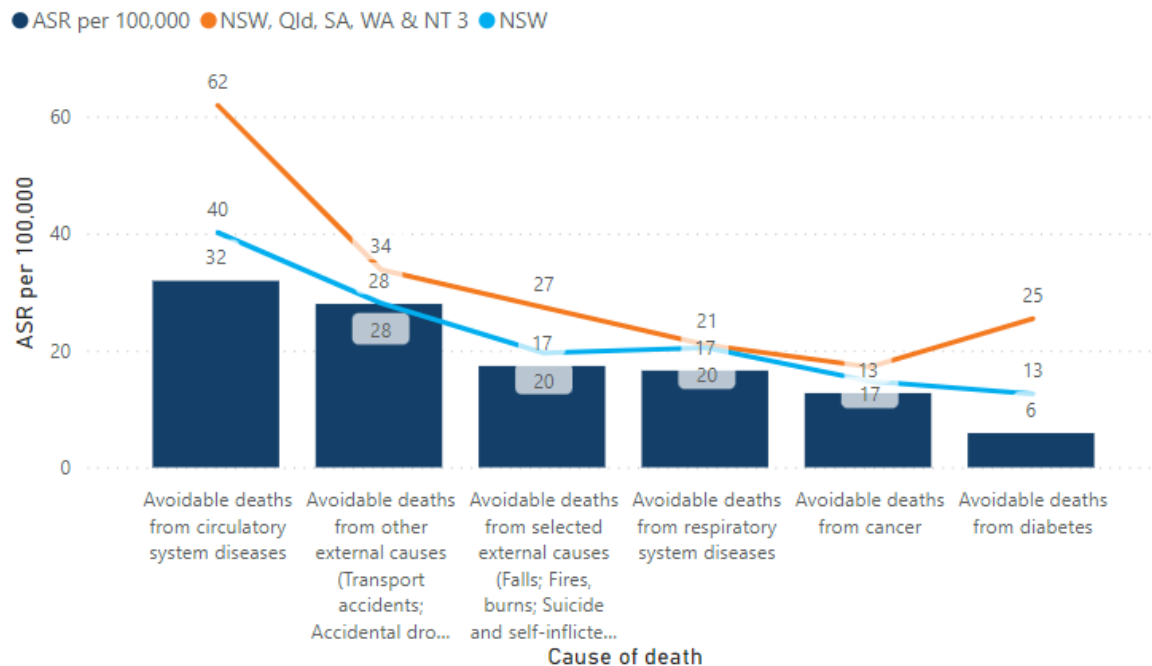
Source: PHIDU, 2022

## Avoidable deaths

Potentially avoidable deaths are deaths below the age of 75 years from conditions that are potentially preventable through primary or hospital care. Between 2016-20, the rate of avoidable deaths per 100,000 population was 1.5 times higher for males than females across the CESP HN region (152 compared to 98 respectively).(1)

Avoidable deaths from circulatory system diseases had the highest age standardised rate (ASR) within the CESP HN region (32 deaths per 100,000), followed by avoidable deaths from external causes (28 deaths per 100,000). Similarly, the highest rates for cause of avoidable deaths across NSW and NSW, Qld, SA, WA and NT combined was due to circulatory system diseases (40 and 62 per 100,000 respectively) followed by other external causes (28 and 34 per 100,000 respectively).(1)

Figure 8: Avoidable deaths by cause of death, CESP HN region, 2016-20



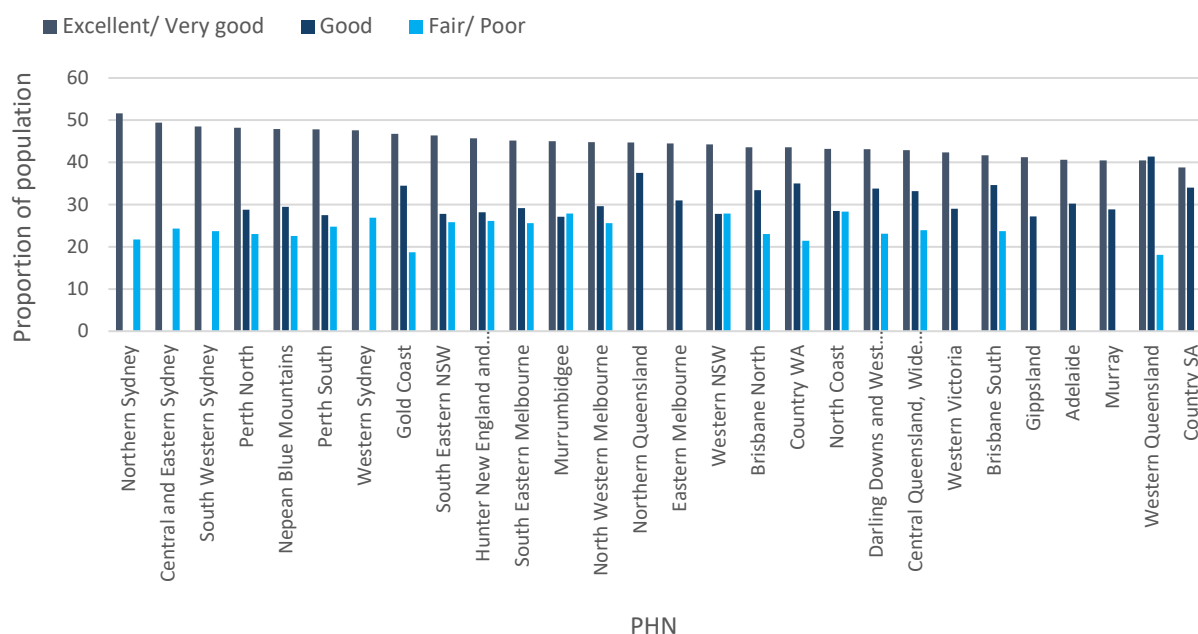
Source: PHIDU, 2022

## Self-assessed health status

Nationally in 2018-19, 44.5% of Aboriginal people rated their health status as excellent/very good, up from 39.2% in 2012-13. In NSW, the proportion who rated their health as excellent/very good was slightly higher at 46.5%.(3)

The CESP HN region has the second highest proportion (49.4%) of Aboriginal people who rate their health as excellent/very good when looking at all PHN regions. Almost one in four (24.3%) Aboriginal people within the CESP HN region rated their own health as fair/poor.(3)

Figure 9: Self-assessed health status by PHN, 2018-19



Source: ABS, NATSIHS 2019

## Long term health conditions

In NSW, 7 in 10 Aboriginal people had current long-term health conditions, this is consistent across genders. A higher proportion of males than females had only one or two current long-term health conditions, whereas females had a higher proportion than males with three or more current long-term health conditions.(3)

Table 16: Current long-term health conditions, by gender, NSW 2018-19

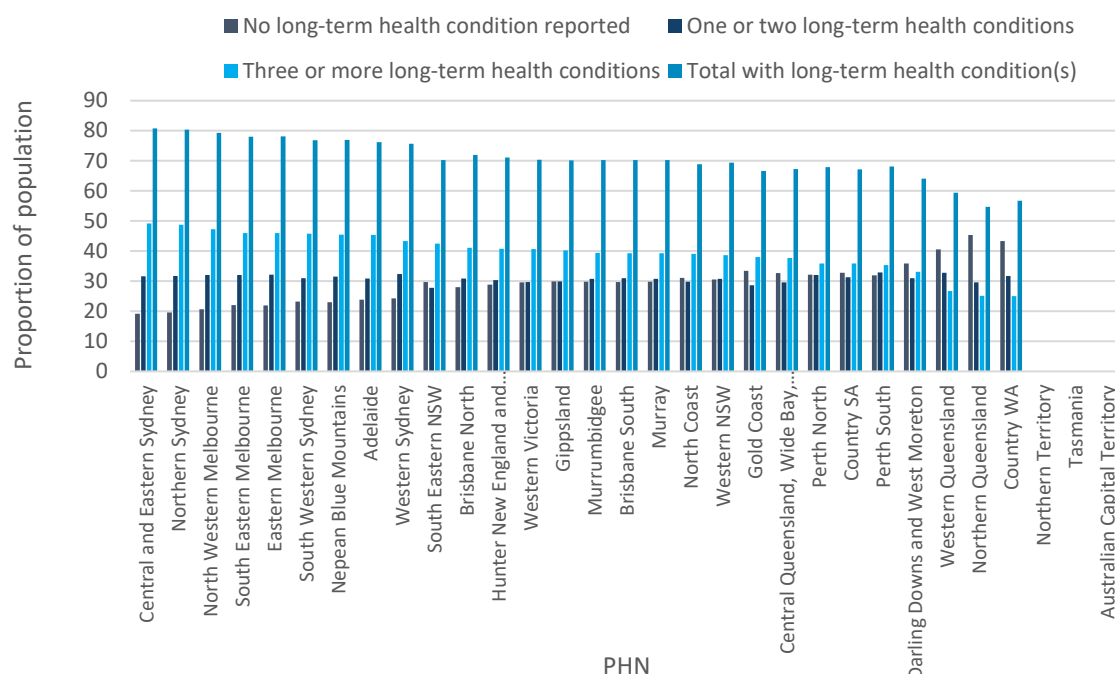
Number of current long-term health conditions*	Males (%)	Females (%)	NSW (%)
No current long-term health condition	29.9	28.6	29.5
One	18.9	13.4	16.3
Two	16.6	11.1	13.6
Three or more	34.5	46.4	40.3
Total with current long-term health condition	69.5	70.8	70.6

Source: ABS, NATSIHS 2019

\*Persons who have a current medical condition which has lasted, or is expected to last, for 6 months or more.

In 2018-19, an estimated 80.8% of the Aboriginal population in the CESPHN region had current long-term health conditions, ranking the highest of all PHNs. Almost half of Aboriginal people within our region were estimated to have three or more long term health conditions (49.2%), again the highest estimate for all PHNs.(3)

Figure 10: Long term health conditions by PHN, 2018-19



Source: ABS, NATSIHS 2019

## Chronic conditions

In NSW, just over half of all Aboriginal people (51.1%) had at least one chronic condition.(3)

Table 17: Selected chronic conditions, by gender NSW 2018-19

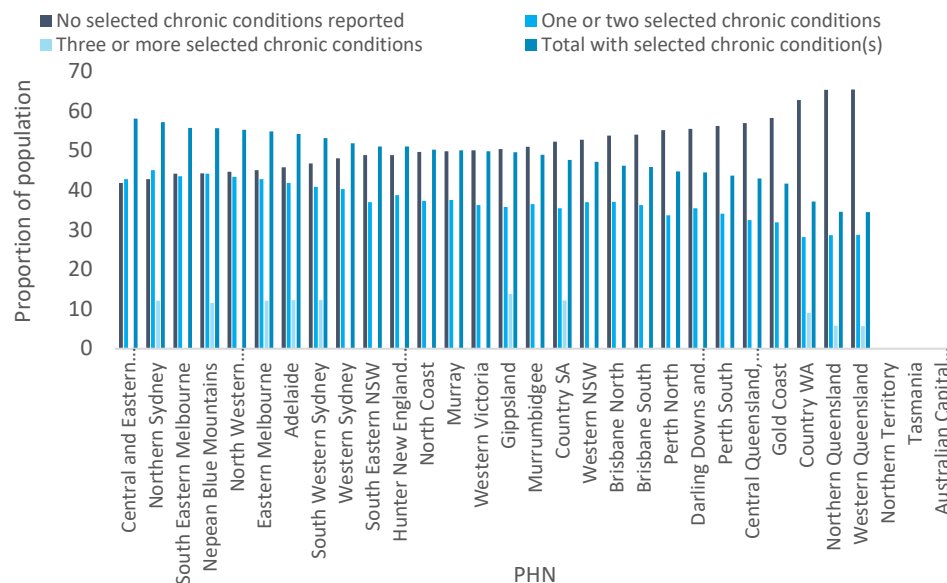
Number of selected chronic conditions*	Males (%)	Females (%)	NSW (%)
No selected chronic conditions	50.9	47.3	49.3
One	28.7	25.7	27.4
Two	10.2	13.8	11.7
Three or more	9.5	13.1	11.8
Has one or more selected chronic conditions	49.4	52.5	51.1

Source: ABS, NATSIHS 2019

\*Selected chronic condition consists of arthritis, asthma, back problems (dorsopathies), cancer (malignant neoplasms), chronic obstructive pulmonary disease (COPD), diabetes mellitus, heart, stroke and vascular disease, kidney disease, mental and behavioural conditions and osteoporosis.

In 2018-19, an estimated 58.1% of the Aboriginal population in the CESP HN region had selected chronic condition(s), ranking the highest of all PHNs.(3)

**Figure 11: Selected chronic conditions, by PHN, 2018-19**



Source: ABS, NATSIHS 2019

\*Selected chronic condition consists of arthritis, asthma, back problems (dorsopathies), cancer (malignant neoplasms), chronic obstructive pulmonary disease (COPD), diabetes mellitus, heart, stroke and vascular disease, kidney disease, mental and behavioural conditions and osteoporosis.

## Disability

The 2018 Survey of Disability, Ageing and Carers (SDAC) estimated that 29.3% of the Aboriginal population in Australia had a disability compared to 15.5% of the non-Aboriginal population (age standardised). The proportion was highest in the 55 years and over age group for both the Aboriginal population and the non-Aboriginal population and across genders.(10)



**Table 18: Disability, by age and gender, Australia, 2018**

Age group (years)	Aboriginal			Non-Aboriginal		
	Has disability	Does not have disability	Total	Has disability	Does not have disability	Total
<b>Males</b>						
0–14	19.5	83.2	100.0	9.1	90.8	100.0
15–34	10.9	86.1	100.0	7.9	92.1	100.0
35–54	32.5	65.9	100.0	11.7	88.3	100.0
55 years and over	52.4	47.6	100.0	37.6	62.5	100.0
<i>Total Males</i>	<i>23.7</i>	<i>76.8</i>	<i>100.0</i>	<i>17.0</i>	<i>83.0</i>	<i>100.0</i>
<b>Females</b>						
0–14	13.3	86.4	100.0	5.2	94.7	100.0
15–34	16.2	83.3	100.0	8.0	92.0	100.0
35–54	37.4	62.2	100.0	12.8	87.2	100.0
55 years and over	52.1	52.1	100.0	36.7	63.3	100.0
<i>Total Females</i>	<i>24.3</i>	<i>75.1</i>	<i>100.0</i>	<i>16.8</i>	<i>83.2</i>	<i>100.0</i>
<b>Persons</b>						
0–14	16.3	83.7	100.0	7.2	92.8	100.0
15–34	15.3	84.4	100.0	8.0	92.1	100.0
35–54	33.3	65.0	100.0	12.3	87.7	100.0
55 years and over	53.5	45.6	100.0	37.1	62.9	100.0
<i>Total 15 years and over</i>	<i>28.2</i>	<i>71.7</i>	<i>100.0</i>	<i>19.1</i>	<i>80.9</i>	<i>100.0</i>
<i>Total</i>	<i>24.0</i>	<i>75.9</i>	<i>100.0</i>	<i>16.9</i>	<i>83.1</i>	<i>100.0</i>
<i>Total, Age standardised</i>	<i>29.3</i>	<i>70.7</i>	<i>100.0</i>	<i>15.5</i>	<i>84.5</i>	<i>100.0</i>

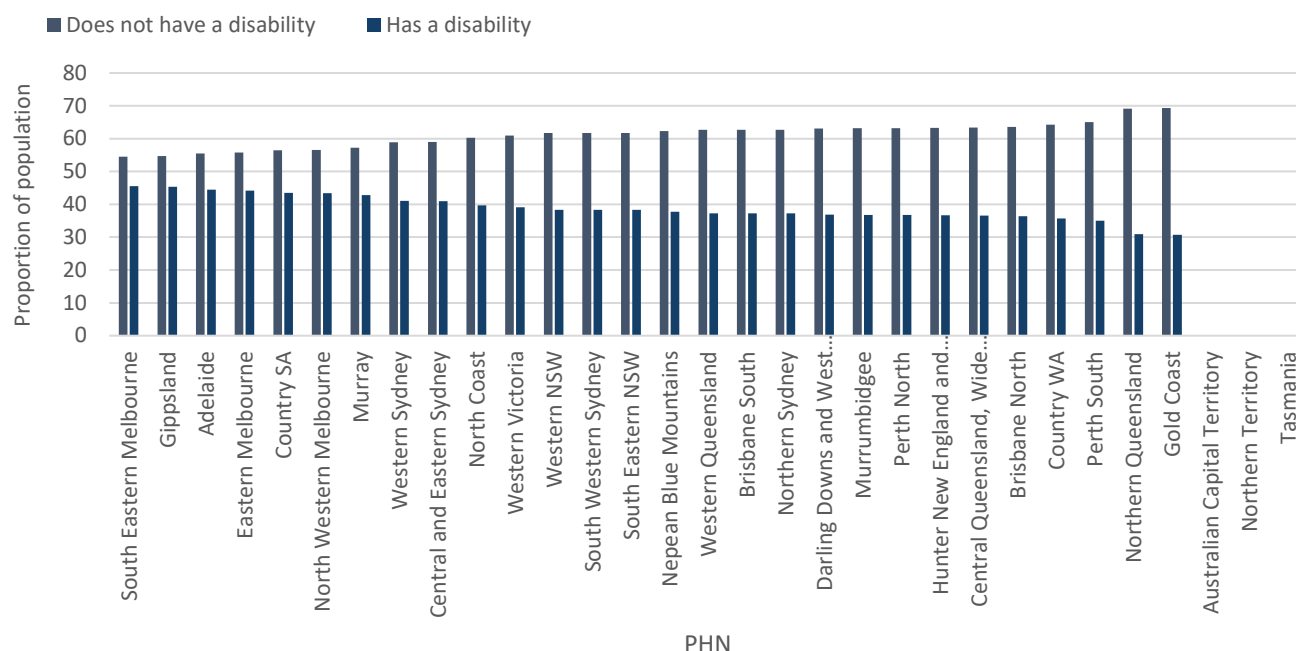
Source: ABS, 2021

Estimates from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) at the PHN level, show that an estimated 41% of the Aboriginal population within the CESP HN region had a disability, this ranks us 9<sup>th</sup> across all PHNs.(3)

It is important to recognise the SDAC and NATSIHS use different definitions of disability:

- SDAC: a person is living with disability if they report they have a limitation, restriction, or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities.
- NATSIHS: refers to people with a profound or severe limitation when performing at least one selected task related to mobility, communication, or self-care.

Figure 12: Disability status, by PHN, 2018-19



Source: ABS, NATSIHS 2019

## NDIS participation

There are low reported NDIS Aboriginal participants in both South Eastern Sydney and Sydney service districts, both within the CESP HN region. The Aboriginal participation rate in these service districts is approximately half of the national benchmark figure (4% each compared to 7%). There is also a higher than national rate of unstated Aboriginal status.(11)

Table 19: NDIS participants by Aboriginal status and service district, CESP HN region, 2021

Aboriginal status	South Eastern Sydney (%)	Sydney (%)	Benchmark (%)	SES Relative to benchmark	Sydney Relative to benchmark
Aboriginal	4	4	7	0.6	0.6
Non-Aboriginal	74	73	75	1.0	1.0
Not stated	22	23	17	1.3	1.4

Source: NDIS, 2022

The proportion of Aboriginal participants who reported they choose who supports them through NDIS activities is lower in South Eastern Sydney than the Sydney service district.(11)

**Table 20: Outcome framework choice measure by Aboriginal status and service district, CESP HN region, 2021**

Aboriginal status	South Eastern Sydney (%)	Sydney (%)
Aboriginal	43	56
Non-Aboriginal	49	49
Not stated	42	44

Source: NDIS, 2022

Overall, Aboriginal participants within the CESP HN region reported that the NDIS has helped with choice and control over their life in line with the national benchmark.(11)

**Table 21: NDIS participants with more choice and control in their life by Aboriginal status and service district, CESP HN region, 2021**

Aboriginal status	South Eastern Sydney (%)	Sydney (%)	Benchmark (%)	SES Relative to benchmark	Sydney Relative to benchmark
Aboriginal	72	67	74	1.0	0.9
Non-Aboriginal	76	76	75	1.0	1.0
Not stated	76	80	75	1.0	1.1

Source: NDIS, 2022

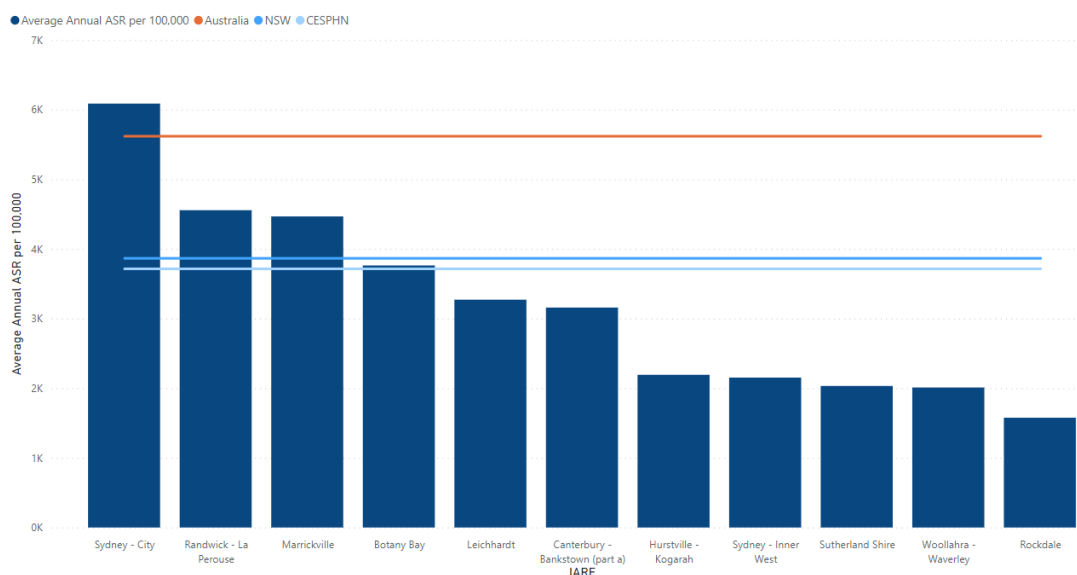
## Potentially preventable hospitalisation (PPH)

### *Total potentially preventable hospitalisations*

Between 2017-18 and 2019-20, there were 3,714.9 admissions for potentially preventable conditions per 100,000 Aboriginal persons within the CESP HN region (annual average age standardised rate). This rate is lower than both the NSW (3,865.5) and national rate (5,619.0).(7)

Within the CESP HN region, Sydney-City IARE, Randwick – La Perouse IARE and Marrickville IARE had rates higher than NSW (6087.6, 4556.8, and 4467.2 per 100,000 Aboriginal persons respectively), with Sydney-City IARE rates also higher than national rates.(7)

**Figure 13: Total potentially preventable hospital admissions, by IARE, 2017-18 to 2019-20**



Source: PHIDU, 2023

Note: There is no published data available for Lord Howe Island IARE.

Within the CESP HN region, the IAREs with the highest rate of potentially preventable hospitalisations (PPHs) were:

- Marrickville IARE for the 0 to 14-years, 15 to 24 years and 65 years and over age groups.
- Sydney-City IARE for the 25 to 44 years, and 45-to-64-year age group.(7)

**Table 22: Potentially preventable hospital admissions. by IARE and age group, 2017-18 to 2019-20**

IARE/Region	0 to 14 years	15 to 24 years	25 to 44 years	45 to 64 years	65 years and over
Botany Bay	2,694.5	1,717.8	3,294.5	6,544.5	12,844.6
Canterbury - Bankstown (part a)	1,617.1	1,069.2	3,602.9	4,581.0	14,043.3
Hurstville - Kogarah	1,021.2	0.0	2,338.2	3,258.0	0.0
Leichhardt	2,383.2	1,466.3	2,442.0	6,120.0	12,129.2
Marrickville	3,244.3	3,448.9	3,140.5	6,211.0	21,656.6
Randwick - La Perouse	2,004.9	1,954.3	3,344.6	10,494.2	16,852.0
Rockdale	883.5	1,290.8	998.7	2,220.5	8,964.0
Sutherland Shire	1,137.0	1,494.7	1,854.6	2,491.3	9,553.6
Sydney - City	2,936.0	1,632.7	4,541.9	15,949.7	16,313.8
Sydney - Inner West	1,149.0	1,272.3	1,987.7	4,114.1	6,584.2
Woollahra - Waverley	2,204.8	0.0	971.1	3,642.4	0.0
<b>CESP HN</b>	<b>1,908.1</b>	<b>1,649.0</b>	<b>3,021.4</b>	<b>7,619.3</b>	<b>13,596.2</b>
<b>Greater Sydney</b>	<b>2,315.8</b>	<b>1,853.8</b>	<b>2,920.8</b>	<b>6,108.0</b>	<b>14,385.2</b>
<b>New South Wales</b>	<b>2,480.0</b>	<b>2,068.3</b>	<b>2,999.5</b>	<b>6,581.8</b>	<b>15,263.3</b>
<b>Australia</b>	<b>3,251.3</b>	<b>2,665.6</b>	<b>5,146.3</b>	<b>10,918.5</b>	<b>17,735.3</b>

Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

## Acute potentially preventable hospital admissions

Acute cellulitis had the highest ASR of all acute PPH admissions (382.3 per 100,000 population) in the CESP HN region; it is also the only condition where CESP HN rates are higher than the NSW rate of admission (344.5 per 100,000).(7)

Within the CESP HN region:

- Marrickville IARE had the highest rate of acute PPH for acute ear, nose and throat infections and urinary tract infections.
- Sydney-City IARE had the highest rate of acute PPH for acute cellulitis, acute convulsions and epilepsy, and acute dental conditions.(7)

**Table 23: Potentially preventable hospital admissions by acute condition and IARE, 2017-18 to 2019-20**

IARE/Region	Acute cellulitis	Acute convulsions and epilepsy	Acute dental conditions	Acute ear, nose and throat infections	Acute urinary tract infections
Botany Bay	325.5	151.1	404.9	461.4	368.5
Canterbury - Bankstown (part a)	355.4	203.4	222.2	236.8	217.6
Hurstville - Kogarah	316.6	0.0	350.9	269.2	153.1
Leichhardt	0.0	498.3	357.2	417.7	362.2
Marrickville	469.1	537.8	421.8	490.1	423.8
Randwick - La Perouse	339.9	364.0	397.2	313.9	307.0
Rockdale	156.6	0.0	180.3	216.6	187.3
Sutherland Shire	232.5	194.0	250.0	241.4	217.5
Sydney - City	717.4	580.1	573.4	206.3	359.7
Sydney - Inner West	198.9	155.4	178.7	260.9	214.4
Woollahra - Waverley	258.2	0.0	0.0	0.0	421.7
<b>CESP HN</b>	<b>382.3</b>	<b>325.0</b>	<b>353.8</b>	<b>291.6</b>	<b>296.4</b>
<b>Greater Sydney</b>	<b>325.9</b>	<b>313.6</b>	<b>344.5</b>	<b>350.3</b>	<b>307.3</b>
<b>New South Wales</b>	<b>344.5</b>	<b>330.1</b>	<b>357.3</b>	<b>366.6</b>	<b>311.1</b>
<b>Australia</b>	<b>594.8</b>	<b>472.1</b>	<b>442.2</b>	<b>464.6</b>	<b>458.3</b>

Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

## Chronic preventable hospital admissions

Chronic Obstructive Pulmonary Disease (COPD) had the highest ASR of all chronic PPH admissions in the CESP HN region (483.1 per 100,000 population).

Within the CESP HN region:

- Randwick – La Perouse IARE had the highest rate of PPH admissions for chronic asthma and for chronic angina.
- Sydney City IARE had the highest rate of PPH admissions for COPD, chronic congestive cardiac failure and second highest rate for chronic diabetes complications.(7)

**Table 24: Potentially preventable hospital admissions by chronic condition and IARE, 2017-18 to 2019-20**

IARE/Region	Chronic angina	Chronic asthma	Chronic congestive cardiac failure	Chronic diabetes complications	Chronic Obstructive Pulmonary Disease (COPD)
Botany Bay	155.1	218.5	204.0	415.6	179.2
Canterbury - Bankstown (part a)	0.0	163.2	223.9	348.2	546.0
Hurstville - Kogarah	0.0	0.0	0.0	469.3	245.8
Leichhardt	0.0	0.0	157.9	0.0	691.8
Marrickville	0.0	249.8	84.0	211.7	684.0
Randwick - La Perouse	178.5	570.4	228.6	222.6	637.7
Rockdale	0.0	0.0	0.0	0.0	328.8
Sutherland Shire	0.0	109.6	179.8	141.3	140.5
Sydney - City	117.7	237.7	236.2	436.9	832.6
Sydney - Inner West	0.0	0.0	102.8	271.0	204.8
Woollahra - Waverley	0.0	0.0	0.0	306.0	0.0
<b>CESPHN</b>	<b>86.9</b>	<b>228.4</b>	<b>170.5</b>	<b>279.6</b>	<b>483.1</b>
<b>Greater Sydney</b>	<b>65.6</b>	<b>212.6</b>	<b>160.9</b>	<b>278.9</b>	<b>522.6</b>
<b>New South Wales</b>	<b>84.7</b>	<b>197.5</b>	<b>171.6</b>	<b>342.8</b>	<b>577.0</b>
<b>Australia</b>	<b>162.2</b>	<b>228.4</b>	<b>251.3</b>	<b>469.9</b>	<b>650.5</b>

Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

## Preventive health

### Immunisation

**Table 25: Immunisation status, by age and region, 2021**

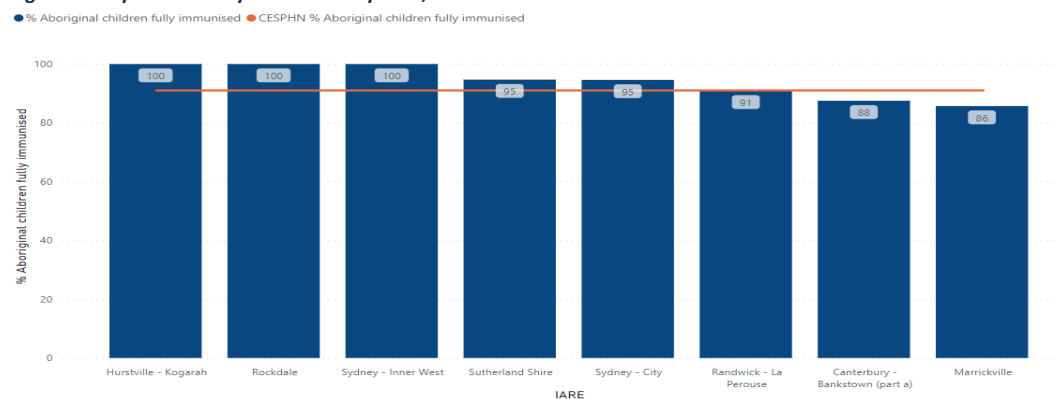
Region	1-year-olds	2-year-olds	5-year-olds
CESPHN	91.0	46.5	98.5
Greater Sydney	94.7	65.0	97.2
NSW	94.7	71.1	97.6
Australia	93.8	80.8	96.8

Source: PHIDU, 2023

In 2021, immunisation rates amongst Aboriginal children aged 1 or 2 years old in the CESPHN region were below the target of 95% (91% and 46.5% respectively).

Hurstville - Kogarah IARE, Rockdale IARE, Sydney - Inner West IARE, Sutherland Shire IARE and Sydney - City IARE had immunisation rates at or above 95% for the 1-year-old age group. No IAREs had immunisation rates above 95% for 2-year-olds. Marrickville IARE, Rockdale IARE, Sutherland Shire IARE, Sydney - City IARE and Randwick - La Perouse IARE had immunisation rates above the 95% for 5-year-olds.(7)

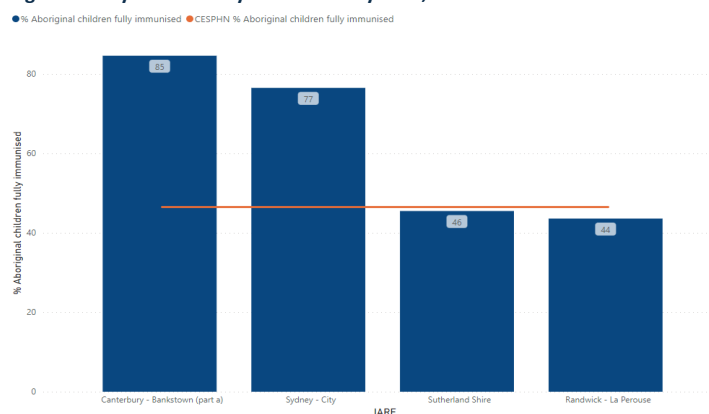
**Figure 14: 1-year-olds fully immunised by IARE, 2021**



Source: PHIDU, 2023

Note: data not available for Botany Bay IARE, Leichhardt IARE, Lord Howe Island IARE, or Woollahra-Waverley IARE.

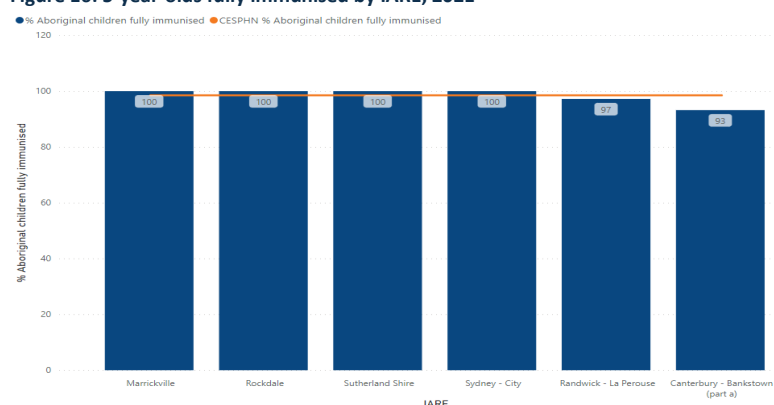
**Figure 15: 2-year-olds fully immunised by IARE, 2021**



Source: PHIDU, 2023

Note: data not available for Botany Bay IARE, Hurstville - Kogarah IARE, Leichhardt IARE, Lord Howe Island IARE, Marrickville IARE, Rockdale IARE, Sydney - Inner West IARE or Woollahra - Waverley IARE.

**Figure 16: 5-year-olds fully immunised by IARE, 2021**



Source: PHIDU, 2023

Note: data not available for Botany Bay IARE, Hurstville - Kogarah IARE, Leichhardt IARE, Lord Howe Island IARE, Sydney - Inner West IARE or Woollahra - Waverley IARE.

## Potentially preventable hospitalisations (vaccine preventable)

Between 2017-18 and 2019-20, there were 578.8 potentially preventable admissions for vaccine preventable conditions in the CESP HN region per 100,000 population. This rate is lower than the national rate (771.2 per 100,000), however higher than the NSW rate (400.2 per 100,000).

Within the CESP HN region, Sydney-City IARE had high rates for all vaccine preventable conditions. Rates per 100,00 population were:

- 1.7 times the national rate, and
- 3.3 times the NSW rate.(7)

**Table 26: Potentially preventable hospitalisations, vaccine preventable per 100,000 population, by IARE, 2017-18 to 2019-20**

IARE/Region	Pneumonia and influenza	Total
Botany Bay	144.2	537.9
Canterbury - Bankstown (part a)	168.8	261.8
Hurstville - Kogarah	0.0	150.7
Leichhardt	215.2	240.8
Marrickville	296.7	691.8
Randwick - La Perouse	286.1	699.8
Rockdale	0.0	0.0
Sutherland Shire	81.8	142.3
Sydney - City	345.2	1,315.0
Sydney - Inner West	144.8	373.8
Woollahra - Waverley	0.0	0.0
<b>CESP HN</b>	<b>211.4</b>	<b>578.8</b>
<b>Greater Sydney</b>	<b>211.7</b>	<b>463.4</b>
<b>New South Wales</b>	<b>227.2</b>	<b>400.2</b>
<b>Australia</b>	<b>334.3</b>	<b>771.2</b>

Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

## Cancer screening

There is limited local level data on cancer screening participation for Aboriginal people.

### BreastScreen

Nationally, Aboriginal females have a much lower participation rate in breast cancer screening programs than non-Aboriginal females (37.3% compared to 53.2% respectively). The proportion of participants recalled to assessment is comparable between Aboriginal and non-Aboriginal females nationally.(12)



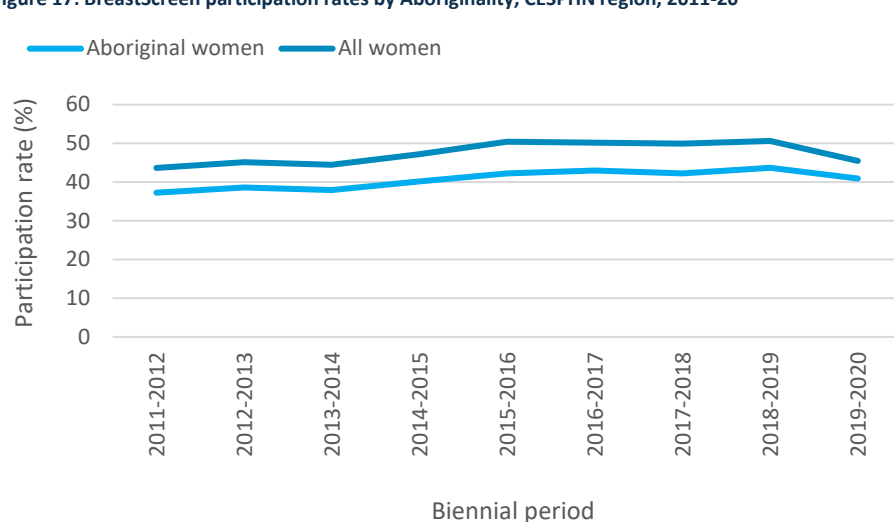
**Table 27: BreastScreen participation by Aboriginality, Australia, 2014-15**

Measure	Aboriginal	Non-Aboriginal
Participation rate (%) by Aboriginality	37.3	53.2
Recall to assessment (1st screening round) (%) by Aboriginality	11.3	11.9
Recall to assessment (2nd screening round) (%) by Aboriginality	3.7	3.8

Source: AIHW, 2018

Within the CESP HN region, breast screening participation rates for Aboriginal women aged 50-74 years have been consistently around 40% since 2011-12. All women (aged 50-74 years) in our region have had screening participation rates between 45-50% over this time period.(13)

**Figure 17: BreastScreen participation rates by Aboriginality, CESP HN region, 2011-20**



Source: Cancer Institute NSW, 2021

## National Bowel Cancer Screening Program

Nationally, Aboriginal people have had lower participation rates in bowel screening programs than non-Aboriginal people (23.5% compared to 40% respectively). Data shows that the rate of positive iFOBT results in Aboriginal participants is 1.4 times the rate of non-Aboriginal participants, and diagnostic assessment following a positive screen is 0.8 times the rate. Approximately 2 in 5 Aboriginal people (42.6%) are not assessed following a positive bowel cancer screen.(12)

**Table 28: National Bowel Cancer Screening Program participation by Aboriginality, Australia, 2014-16**

Measure	Aboriginal	Non-Aboriginal
Participation rate (%) by Aboriginality	23.5	40
Number of positive iFOBT results by Aboriginality	408	39,395
iFOBT positivity rate (%) by Aboriginality	11.3	8.2
Diagnostic assessment rate (colonoscopy) (%)	57.4	70.9
Not assessed following a positive screen (%)	42.6	29.1

Source: AIHW, 2018

## Hearing screening

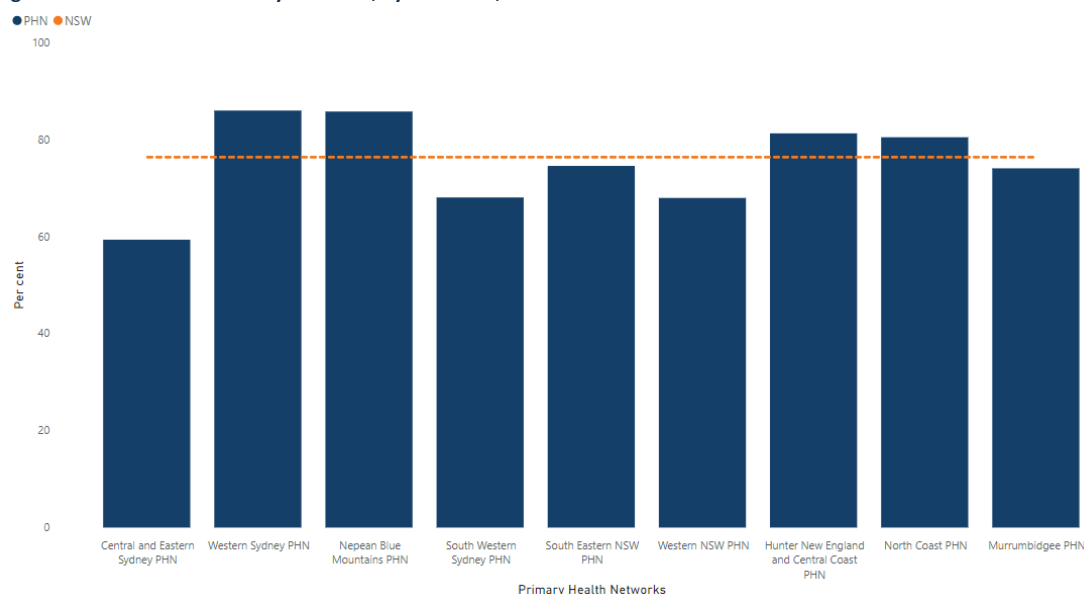
In 2018-19, 42.6% of Aboriginal people aged 7 years and older had a hearing impairment in one or both ears, with 22.7% had a hearing impairment in both ears. In NSW, the proportions were slightly lower, with 37.5% having a hearing impairment and 19.3% with an impairment in both ears. The proportion of people with a hearing impairment in one or both ears increased with age, those aged 15-24 years had the lowest proportion at 28.7%, those aged 55 years and over had the highest proportion at 81.8%.<sup>(3)</sup>

## Maternal and child health

### Antenatal care

In 2020, 76.3% of Aboriginal mothers across NSW attended their first antenatal visit by 14 weeks gestation. Within the CESP HN region, only 59.3% of Aboriginal mothers had attended their first antenatal visit by 14 weeks gestation.<sup>(8)</sup>

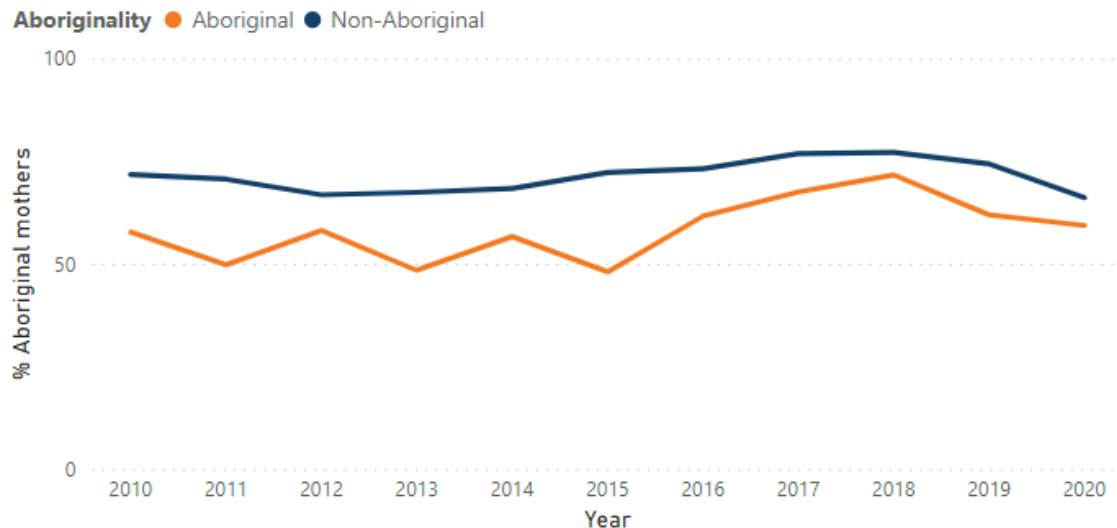
**Figure 18: First antenatal visit by 14 weeks, by PHN NSW, 2020**



Source: HealthStats NSW, 2022

Within the CESP HN region, Aboriginal mothers have consistently had a lower proportion attending their first antenatal visit by 14 weeks gestation compared to non-Aboriginal mothers. While the proportion has steadily increased since 2015, there has been a slight decrease between 2018 and 2020.<sup>(8)</sup>

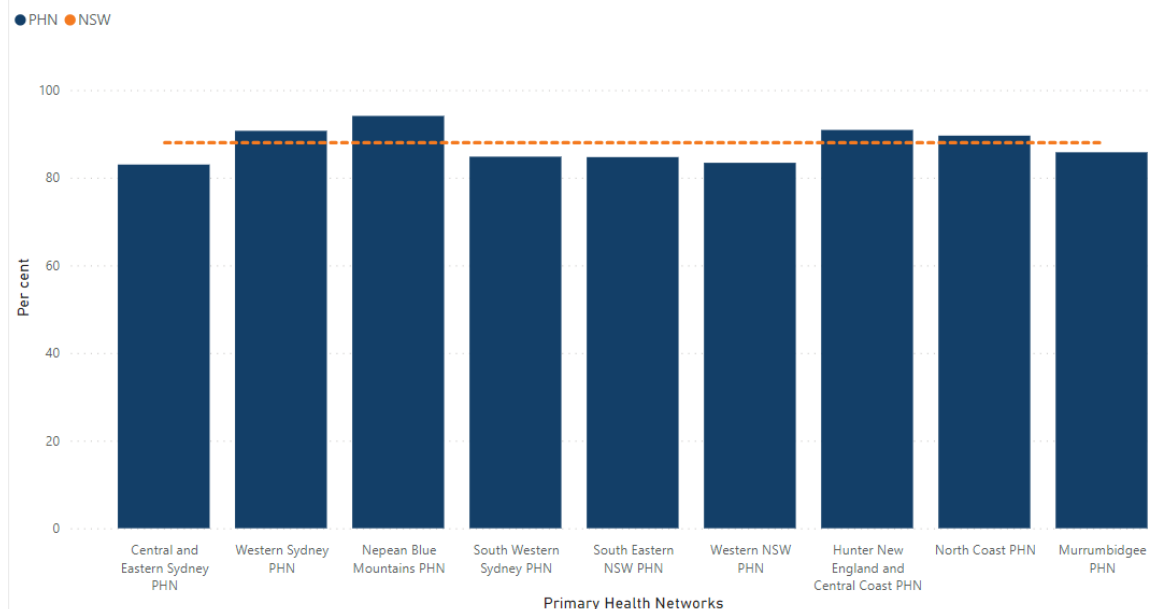
Figure 19: First antenatal visit by 14 weeks, CESPHN region, 2010-20



Source: HealthStats NSW, 2022

In 2020, 88% of Aboriginal mothers across NSW attended their first antenatal visit by 20 weeks gestation. Within the CESPHN region the proportion increased to 83% of Aboriginal mothers.(8)

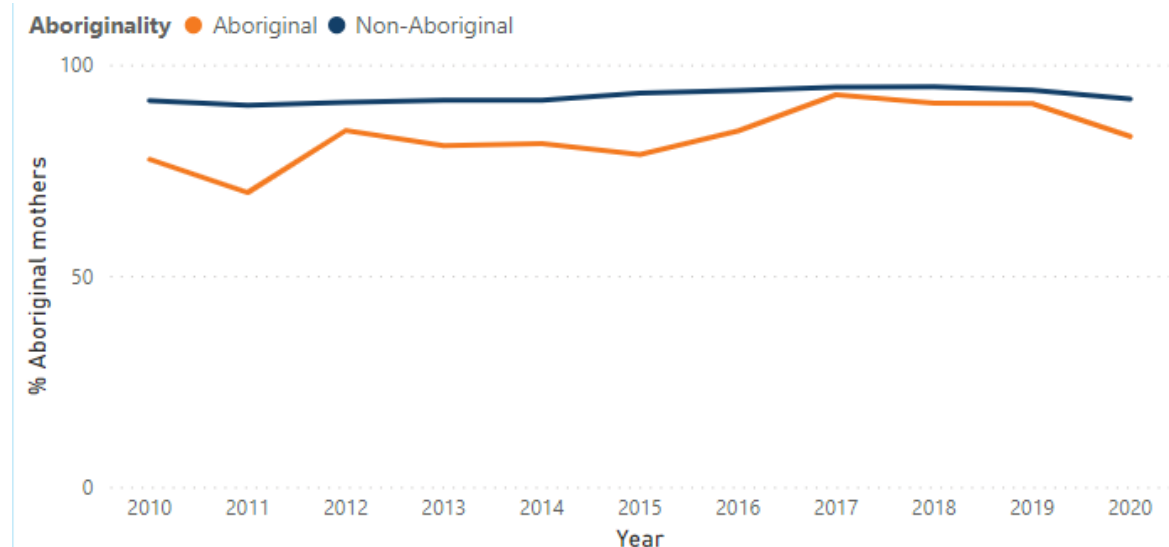
Figure 20: First antenatal visit by 20 weeks, by PHN NSW, 2020



Source: HealthStats NSW, 2022

Within the CESPHN region, Aboriginal mothers have consistently had a lower proportion attending their first antenatal visit by 20 weeks gestation compared to non-Aboriginal mothers, however the difference has been much smaller since 2017.(8)

Figure 21: First antenatal visit by 20 weeks, CESP HN region, 2010-20

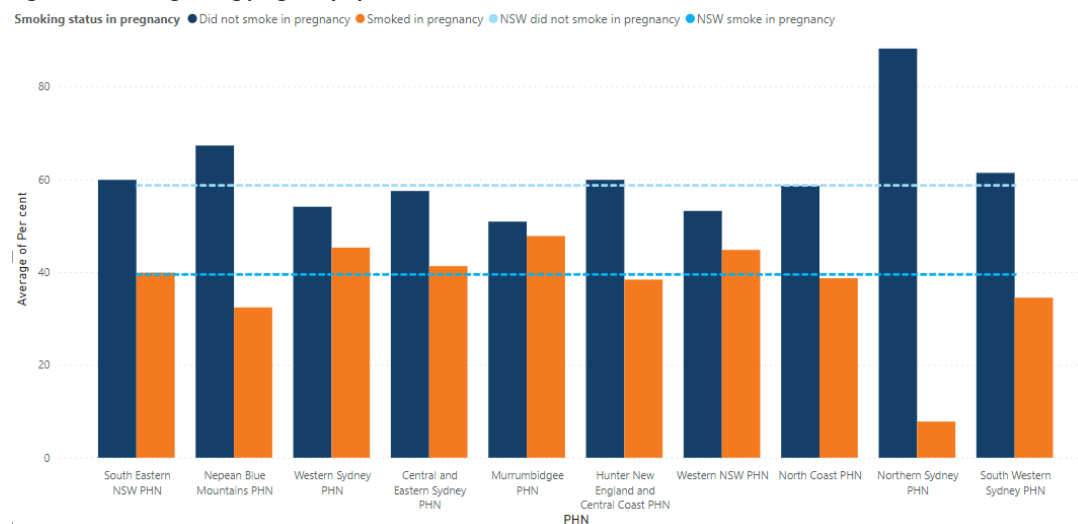


Source: HealthStats NSW, 2022

## Smoking during pregnancy

In 2021, 39.5% of Aboriginal mothers in NSW smoked at any time during their pregnancy. Within the CESP HN region, the rate was higher with 41.3% of Aboriginal mothers smoking at any point during their pregnancy.(2)

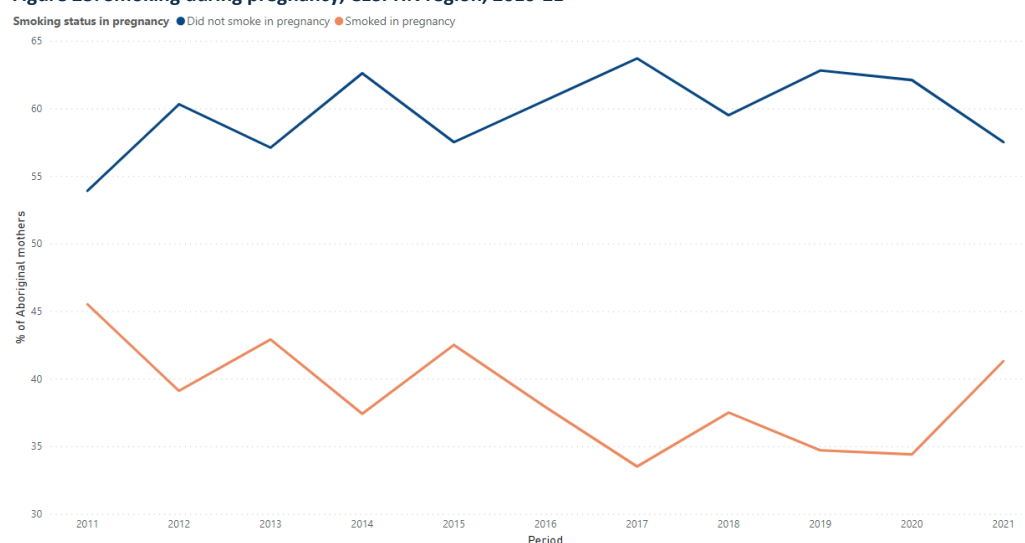
Figure 22: Smoking during pregnancy by NSW PHNs, 2021



Source: HealthStats NSW, 2023

Within the CESP HN region, there has been a decline between 2011-21 in the proportion of Aboriginal mothers smoking during pregnancy, however between 2017 and 2018 and between 2020 and 2021 there were increases in the proportion of Aboriginal mothers smoking at any point during their pregnancy.(2)

**Figure 23: Smoking during pregnancy, CESPHE region, 2010-21**



Source: HealthStats NSW, 2023

## Gestational diabetes mellitus

In 2017, 15.5% of Aboriginal mothers nationally who gave birth had gestational diabetes and 3.4% had pre-existing diabetes (compared with 12.5% and 1% of non-Aboriginal mothers, respectively).(5)

**Table 29: Gestational diabetes status by Aboriginality, Australia, 2017**

Health condition	Aboriginal (No.)	Non-Aboriginal (No.)	Aboriginal (AS%)	Non-Aboriginal (AS%)	Rate ratio	Rate difference
Pre-existing diabetes	274	2,066	3.4	1.0	3.4	2.4
Gestational diabetes	1,467	26,714	15.5	12.5	1.2	3.0
No diabetes	10,767	180,650	81.1	86.5	0.9	-5.4

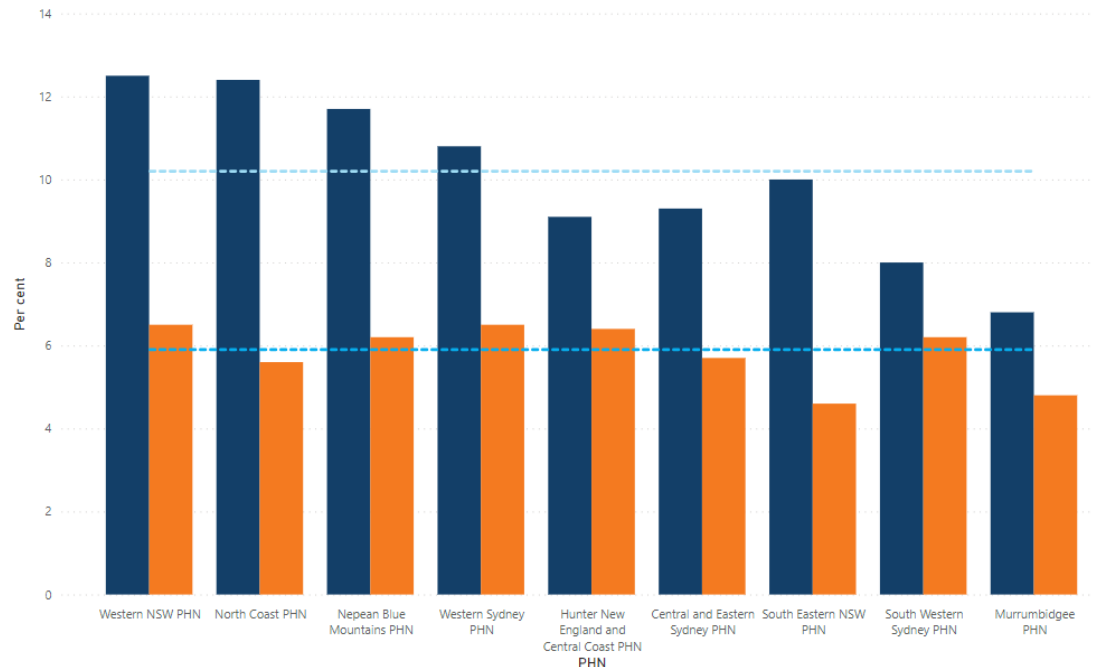
Source: AIHW, 2020

## Low birthweight babies

In 2020, 10.2% of all liveborn babies to Aboriginal mothers in the CESPHE region had a low birth weight; this was approximately double the proportion born to non-Aboriginal mothers (5.9%) (8) and was higher than the reported national rate for 2019 of 9.2%.(9)

**Figure 24: Low birth weight babies by Aboriginal mothers, by PHN NSW, 2020**

Aboriginality ● Aboriginal ● Non-Aboriginal ● NSW Non-Aboriginal ● NSW Aboriginal

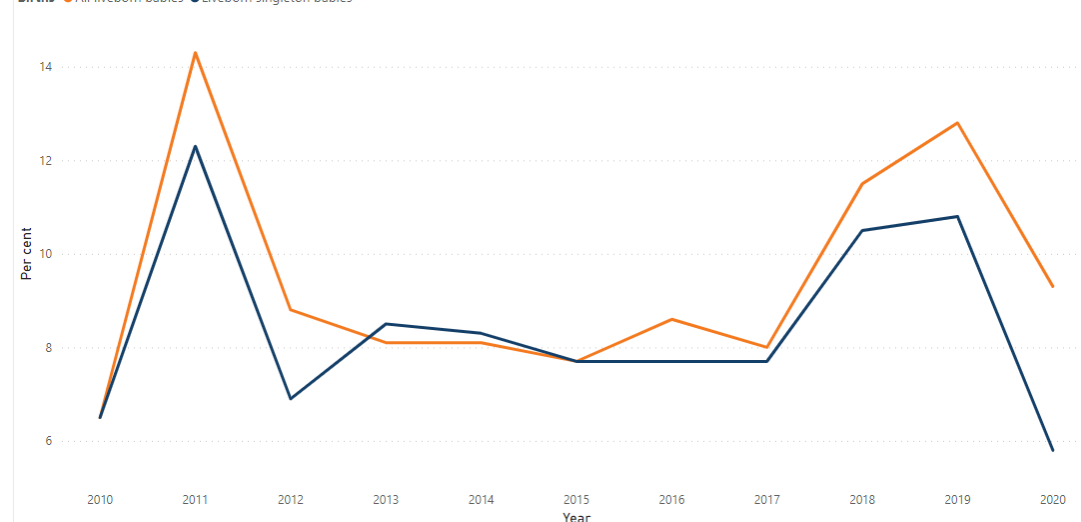


Source: HealthStats NSW, 2022

Within the CESP HN region, we saw an increase between 2017 to 2019 in the proportion of babies born to Aboriginal mothers with a low birth weight. However, in 2020, 9.3% of all liveborn babies and 5.8% of all live born singleton babies were of low birth weight, a decrease from 2019 rates of 12.8% and 10.8% respectively.(8)

**Figure 25: Low birth weight babies born to Aboriginal mothers, CESP HN region, 2010-20**

Births ● All liveborn babies ● Liveborn singleton babies



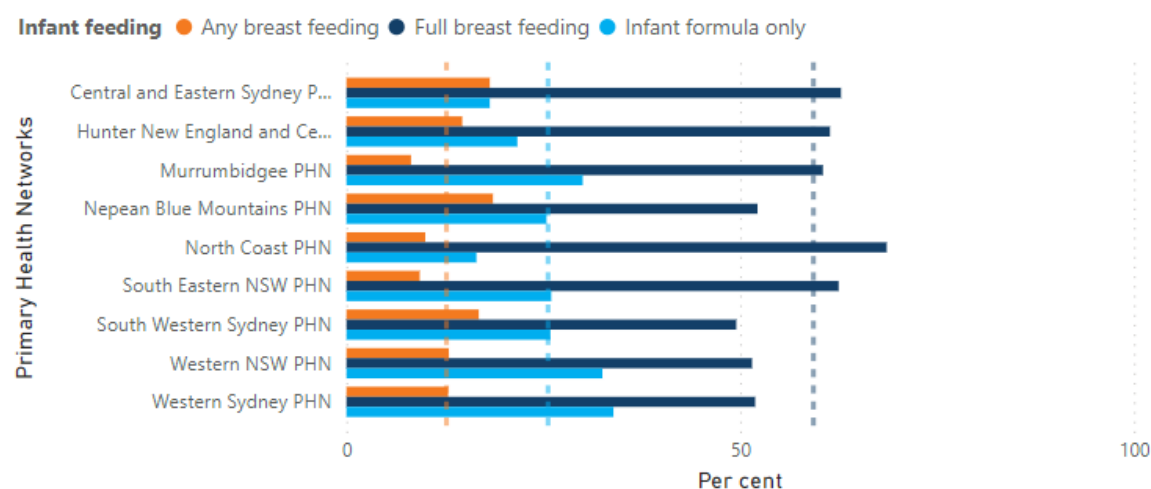
Source: HealthStats NSW, 2022

## Breastfeeding

Across NSW, 58.9% of Aboriginal mothers were full breast feeding their babies at discharge (from hospital, or discharge from home birth care), a further 13.7% were offering any level of breast feeding and 24.5% were offering infant formula only.

Within the CESPHN region, we had a higher proportion of Aboriginal mothers full breast feeding (62.8%) and/or offering any level of breast feeding (18.2%) at time of discharge compared to NSW.(8)

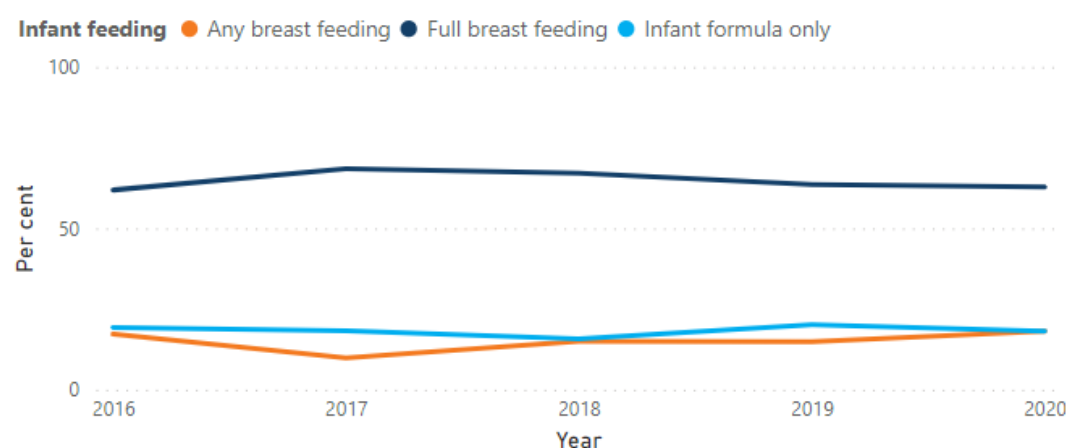
Figure 26: Infant feeding at discharge, all PHNs NSW, 2020



Source: HealthStats NSW, 2022

Infant feeding patterns at the time of discharge have remained relatively constant across the CESPHN region for Aboriginal mothers since 2015.(8)

Figure 27: Aboriginal mothers infant feeding at discharge, CESPHN region, 2015-20



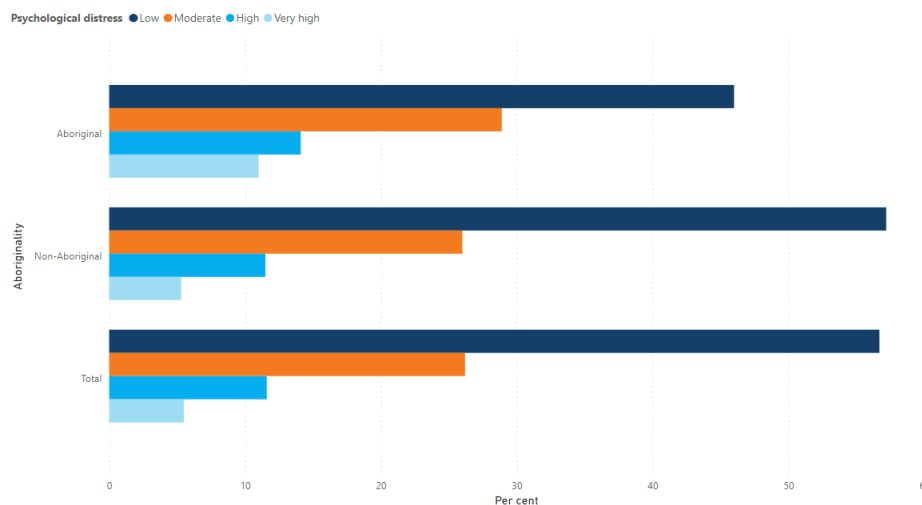
Source: HealthStats NSW, 2022

## Social and emotional well-being

### Psychological distress

Between 2019-21, the Aboriginal population in NSW had levels of very high psychological distress at twice the rate of the non-Aboriginal population (11% compared to 5.3%); the rate of high psychological distress was 2.1 times the rate of non-Aboriginal individuals.(2)

**Figure 28: Distress level by Aboriginality, NSW, 2019-21**

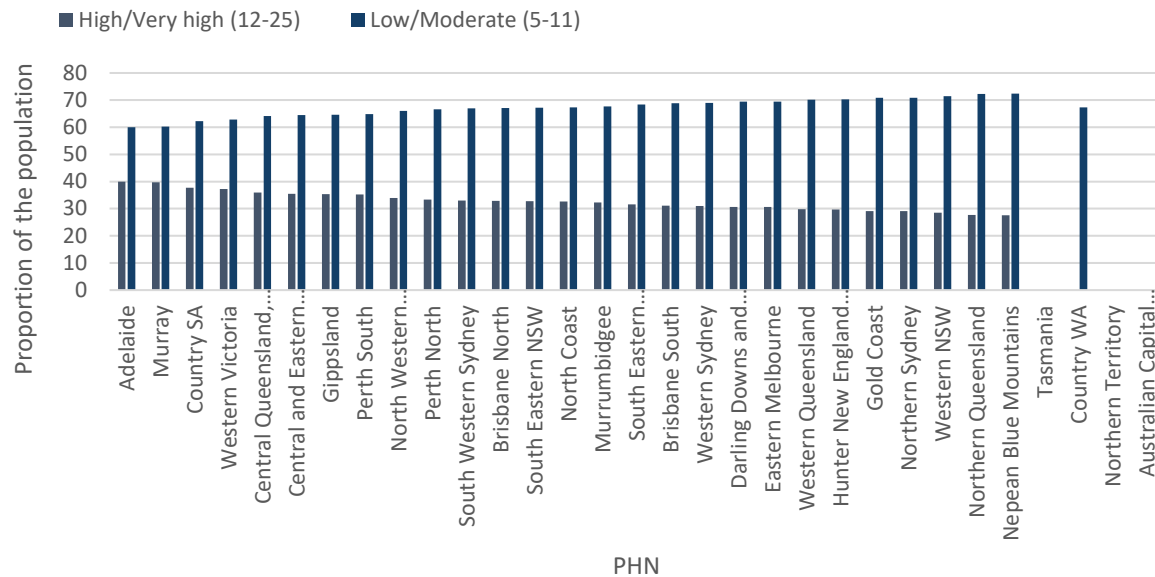


Source: HealthStats NSW, 2023

Estimates at the PHN level show that an estimated 35.5% of the Aboriginal population within the CESPHN region experienced high/very high levels of psychological distress in 2018-19, ranking 6<sup>th</sup> highest out of all PHNs and highest in NSW.(3)



Figure 29: Psychological distress by PHN, 2018-19

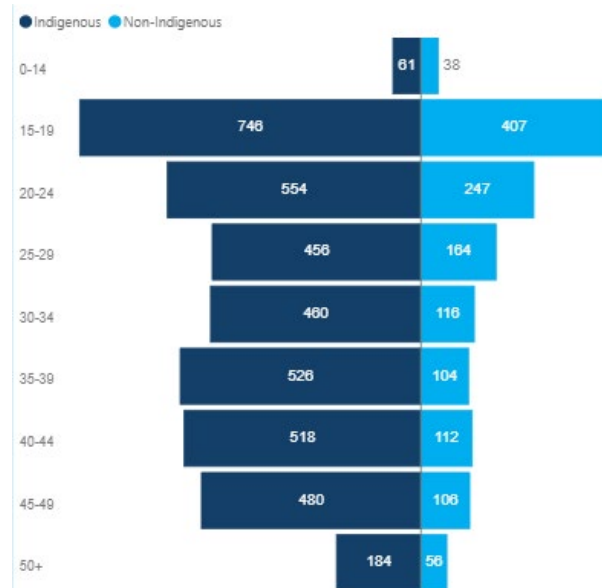


Source: ABS, NATSIHS 2019

## Self-harm

Nationally, individuals aged 15-19 years have the highest rates per 100,000 population of intentional self-harm hospitalisations; the rate for Aboriginal persons is 3.0 times the rate of non-Aboriginal persons.(14)

Figure 30: Self-harm by Aboriginality and age group, Australia, 2020-21

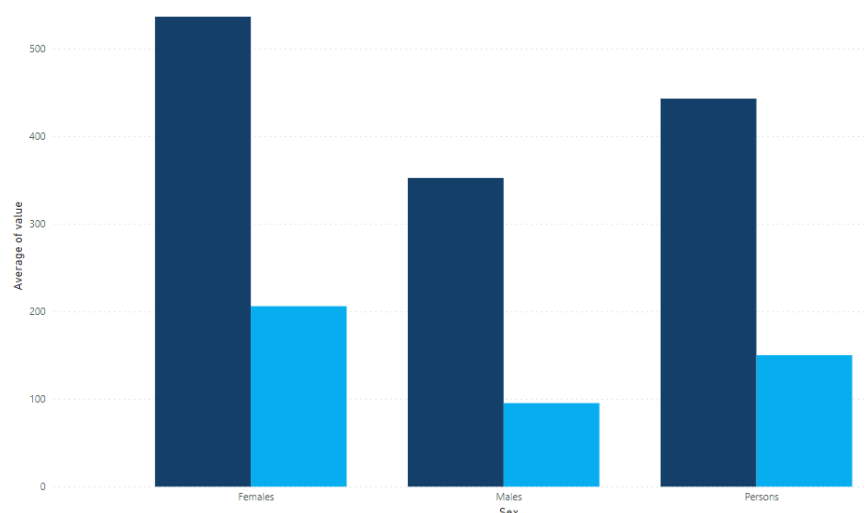


Source: AIHW, 2022

Females have a higher rate of intentional self-harm hospitalisations per 100,000 population than males (536.2 compared to 352.2). However, Aboriginal females have rates of intentional self-harm hospitalisations 2.8 times that of non-Aboriginal females and Aboriginal males have rates of intentional self-harm hospitalisations 3.4 times that of non-Aboriginal males.(14)

**Figure 31: Self-harm by Aboriginality and sex, Australia, 2020-21**

Indigenous status ● Indigenous ● Non-Indigenous



Source: AIHW, 2022

## Suicide

In 2021, 5.3% of deaths in the Aboriginal population were by suicide, a rate which is almost three times that of the non-Aboriginal population (1.8%). The age-standardised rate (per 100,000 population) for those who died by suicide was more than twice as high in the Aboriginal population than the non-Aboriginal population (27.1 compared to 11.8).(15)

**Table 30: Suicide rates by Aboriginality, Australia, 2021**

Measure	Aboriginal	Non-Aboriginal
Number	196	2,105
Per cent of all causes of death	5.3	1.8
Age-standardised rate (per 100,000)	27.1	11.8

Source: AIHW, 2023

Between 2017 and 2021, 929 Aboriginal people in Australia died by suicide, 63.5% of these deaths were people aged under 35 years. In NSW, similar proportions were seen with 252 Aboriginal people dying by suicide; 53.2% of these deaths were individuals under 35 years of age.(15)

The 35-44 years age group has the highest age-specific rate for the Aboriginal population in NSW and nationally, (40.1 and 47.7 per 100,000 respectively).(15)

**Table 31: Deaths by age, Aboriginality, NSW and Australia, 2017-21**

Aboriginality and Age Group	Age-specific rate (per 100,000)	Deaths	Lower age specific rate (per 100,000)	Upper age specific rate (per 100,000)
<b>Australia</b>				
<b>Aboriginal</b>				
0-24	16.6	324	14.8	18.4
25-34	47.5	266	41.8	53.3
35-44	47.7	188	40.9	54.6
45+	18.5	151	15.5	21.4
<b>Non-Aboriginal</b>				
0-24	5.3	1,388	5.0	5.6
25-34	15.2	1,893	14.5	15.9
35-44	17.3	1,975	16.5	18.0
45+	15.7	5,555	15.3	16.1
<b>NSW</b>				
<b>Aboriginal</b>				
0-24	9.0	67	6.8	11.1
25-34	33.3	67	25.3	41.3
35-44	40.1	55	29.5	50.7
45+	19.8	63	14.9	24.6
<b>Non-Aboriginal</b>				
0-24	4.6	537	4.2	4.9
25-34	12.6	726	11.7	13.5
35-44	14.1	736	13.1	15.1
45+	14.0	2,244	13.5	14.6

Source: AIHW, 2023

## Alcohol and substance use

### Alcohol

An estimated 23.3% of Aboriginal people in NSW did not consume alcohol in the twelve months preceding the National Aboriginal and Torres Strait Islander Health Survey – the rate was higher in the female population compared to the male population (28.2% compared to 18.1%). Males exceeded both the single occasion risk guidelines and lifetime risk guidelines more than females.(3)

**Table 32: Alcohol consumption status, by gender, NSW, 2018-19**

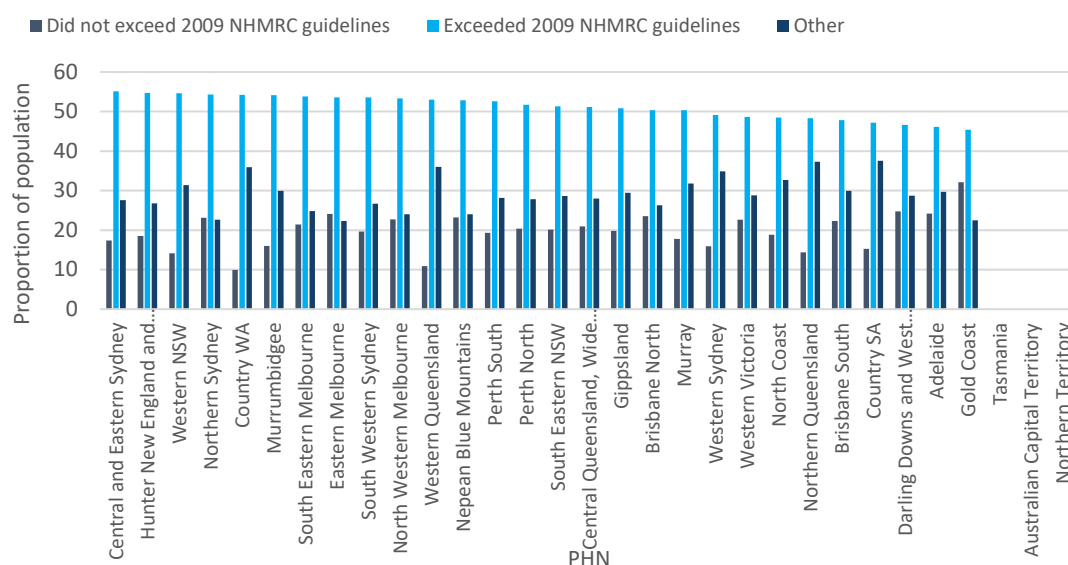
Alcohol consumption	Males	Females	Total NSW
Did not consume alcohol in the last 12 months/have never consumed	18.1	28.2	23.3
Consumed alcohol in the last 12 months	78.9	68.8	74.0
Did not exceed single occasion risk guidelines	14.3	24.8	20.1
Exceeded single occasion risk guidelines	64.0	44.9	53.8
Consumed alcohol in the last week	55.4	38.9	47.4
Did not exceed lifetime risk guidelines	26.9	27.3	27.4
Exceeded lifetime risk guidelines	28.6	12.2	19.8

Source: ABS, NATSIHS 2019

## Single occasion risk

Within the CESP HN region, an estimated 55.1% of the Aboriginal population exceeded the NHMRC guidelines for single occasion risk (short term alcohol consumption), ranking CESP HN the highest amongst all PHNs. An estimated 17.4% did not exceed the NHMRC guidelines.(3)

**Figure 32: Short term alcohol consumption status, PHN, 2018-19**



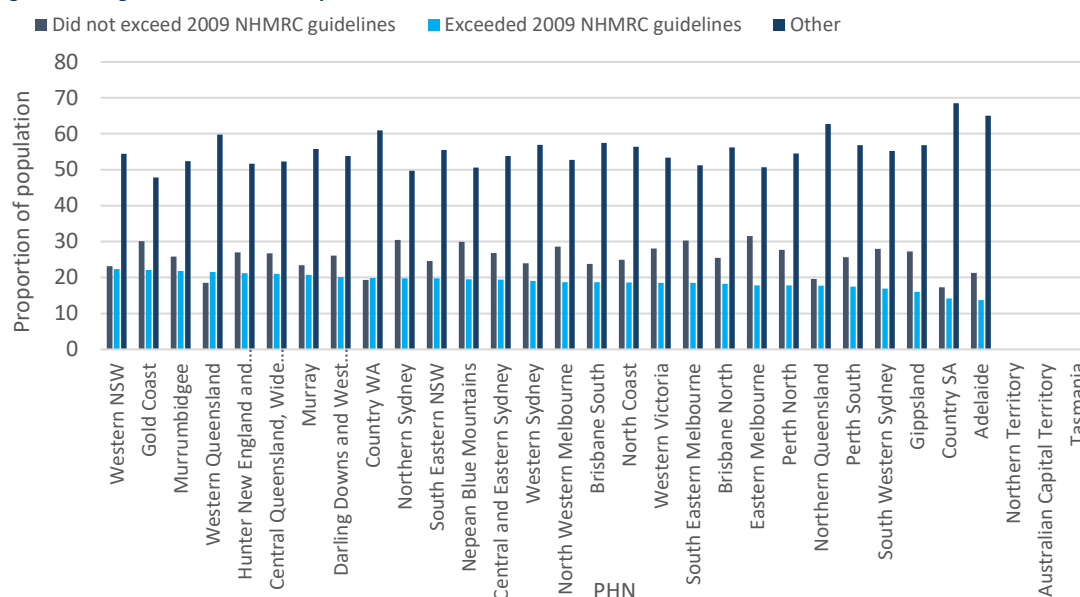
Source: ABS, NATSIHS 2019

\*Other Includes persons who did not consume alcohol in the last week, including those who never consumed alcohol, those for whom alcohol intake could not be determined, and those who could not remember when they had last consumed alcohol.

## Lifetime risk

Within the CESP HN region, an estimated 19.4% of the Aboriginal population exceeded the NHMRC guidelines for lifetime risk (long term alcohol consumption), ranking CESP HN 13<sup>th</sup> amongst all PHNs. An estimated 26.8% did not exceed the NHMRC guidelines.(3)

**Figure 33: Long term alcohol consumption, PHN, 2018-19**



Source: ABS, NATSIHS 2019

## Substance use

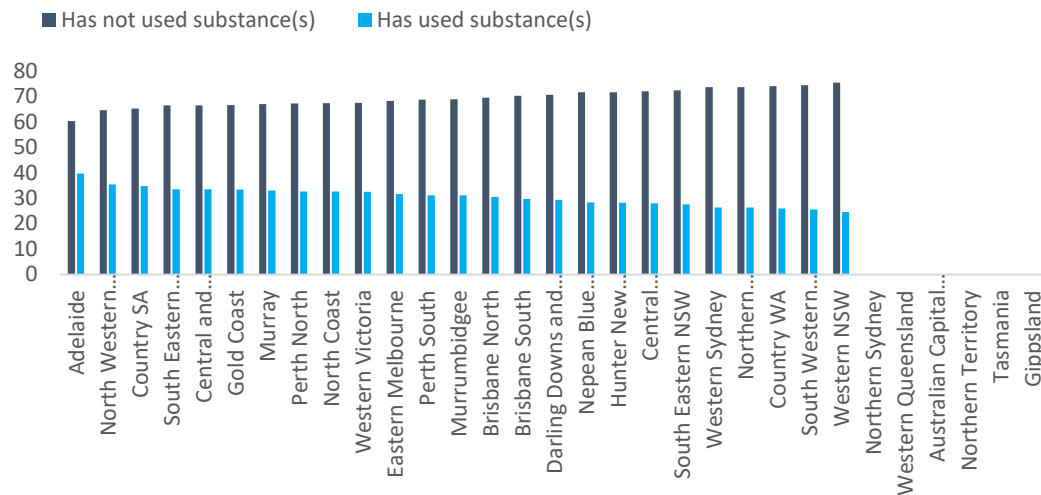
In 2018-19, an estimated 26.7% of the Aboriginal population in NSW had used substance(s) in the previous 12 months. Modelled estimates at the PHN level suggested that 33.5% of the CESP HN Aboriginal population had used substance(s) in the previous 12 months; placing our PHN equal 4<sup>th</sup> in terms of proportion of the population estimated to have used substances in the past 12 months, and highest in NSW.(3)

**Table 33: Substance use in NSW, 2018-19**

Substance use	Males (%)	Females (%)	Total NSW (%)
Used substance(s) in last 12 months	33.2	21.6	26.7
Has not used substance(s) in last 12 months	65.9	76.6	72.5

Source: ABS, NATSIHS 2019

Figure 34: Substance use by PHN, 2018-19



Source: ABS, NATSIHS 2019

## Older people

### Demographics

2021 Census data showed that 21.9% of the CESPHE Aboriginal population were aged 50 years and over and 7.4% were aged 65 years and over.(16) Leichhardt IARE had the highest proportion of Aboriginal persons aged 50 years and over (26.2%), followed by Canterbury-Bankstown IARE (23.5%) and Marrickville IARE (22.9%).(1)

**Table 34: Usual resident population (URP) aged 50 years and over, by IARE, 2021**

IARE	50-54	55-59	60-64	65yrs +	Total	% Total IARE population
Botany Bay	63	59	48	68	238	21.6
Canterbury -Bankstown (part a)	64	55	49	98	266	23.5
Hurstville-Kogarah	46	53	48	78	225	21.7
Leichhardt	41	37	27	55	160	26.2
Marrickville	76	64	56	92	288	22.9
Randwick-La Perouse	129	110	87	201	527	22.5
Rockdale	56	37	34	66	193	22.2
Sutherland Shire	182	140	109	224	655	20.0
Sydney-City	208	148	121	210	687	22.8
Sydney Inner West	69	50	40	83	242	20.8
Woollahra-Waverley	19	17	18	31	85	18.6
<b>CESPHN</b>	<b>953</b>	<b>770</b>	<b>637</b>	<b>1206</b>	<b>3566</b>	<b>21.9</b>

Source: PHIDU, 2022

Note: Lord Howe Island IARE is not included due to low numbers.

## Aged care

### Home care

Note: there is currently no data available regarding transition care admissions for the 2021-22 period. Therefore, this section only presents updated data regarding home care services during this period.

In 2021-22 there were 59 admissions to home care in the CESPHN region who identified as Aboriginal, accounting for 1.0% of residents using home care services in the CESPHN region.(18)

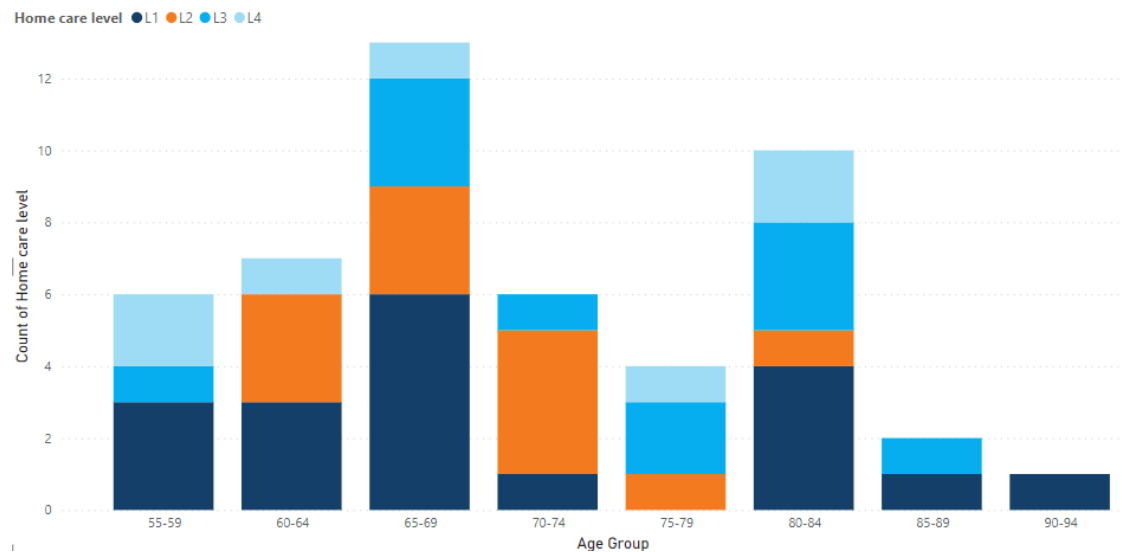
**Table 35: Home care admissions by ACPR, 2021-22**

Aged care planning region	Home care
Inner West	14
South East Sydney	45
CESPHN	59

Source: GEN, 2023

Individuals aged 65-69 years old had the highest number of home care recipients, followed by the 80-84 years old age group.(18)

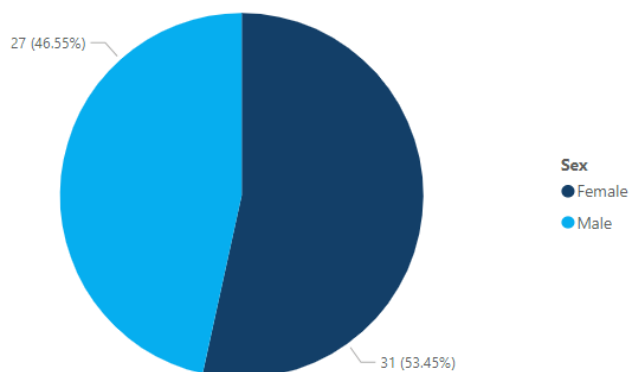
**Figure 35: Home care admissions by age group, CESP HN region, 2021-22**



Source: GEN, 2023

Over half of the admissions to home care support in 2021-22 were for females.(18)

**Figure 36: Home care admissions by gender, CESP HN region, 2021-22**



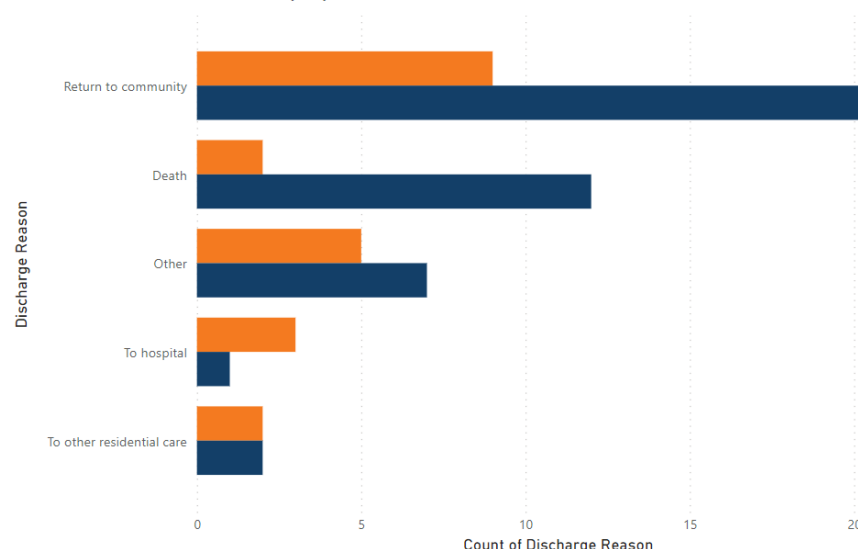
Source: GEN, 2023

Sixty-five individuals were discharged from home care supports in 2021-22; 21.5% of these discharges were due to death and a further 47.6% returned to the community.(19)



**Figure 37: Home care discharges, by discharge reason, by ACPR, CESP HN region, 2021-22**

ACPR\_NAME ● Inner West ● South East Sydney



Source: GEN, 2023

## Residential care

In 2021-22, there were 63 residential care admissions for people who identified as Aboriginal in the CESP HN region, accounting for 0.7% of all residential care admissions. Approximately 1 in 3 (33.3%) of these admissions were for permanent places.(18)

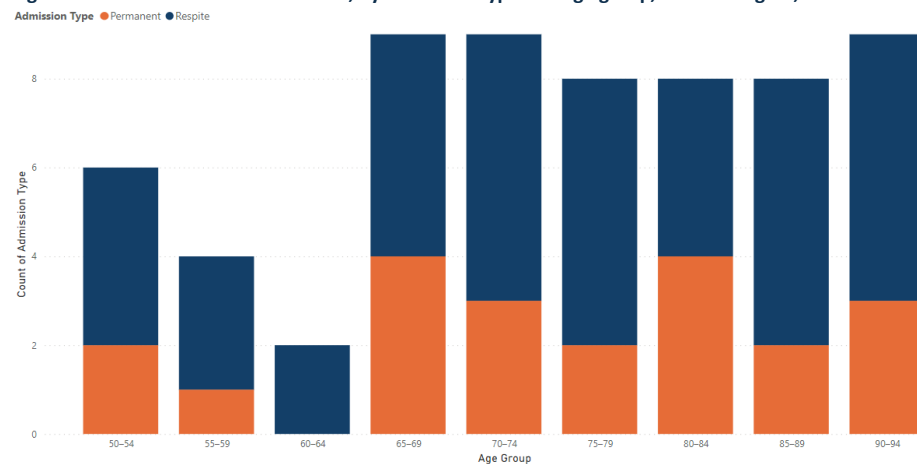
**Table 36: Residential care admissions by ACPR, 2021-22**

Aged care planning region	Permanent	Respite	Total residential care
Inner West	8	17	25
South East Sydney	13	25	38
CESPHN	21	42	63

Source: GEN, 2023

The majority of residential care admissions were in the 65-69 year age group (n=9), 70-74 year age group (n=9) and the 90-94 year age group (n=9) comprising 5 respite admissions and 4 permanent admissions, 6 respite admissions and 3 permanent admissions and 6 respite admissions and 3 permanent admissions respectively.(18)

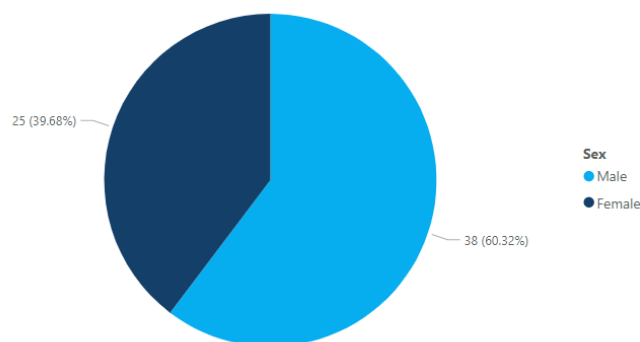
**Figure 38: Residential care admissions, by admission type and age group, CESP HN region, 2021-22**



Source: GEN, 2023

In 2021-22, a higher proportion of males (60.3%) were admitted into residential care, compared to females (39.7%).(18)

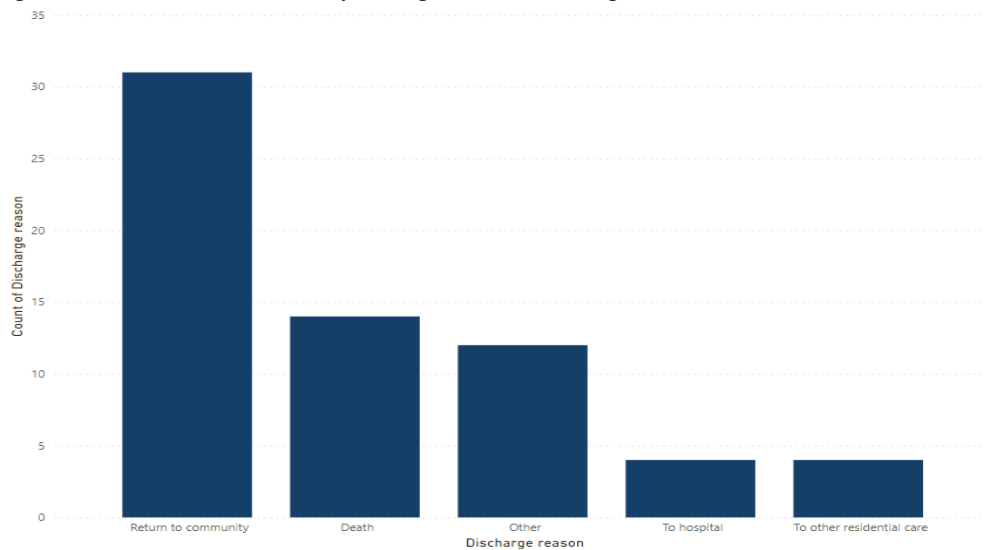
**Figure 39: Proportion of residential care admissions by gender, CESP HN region, 2021-22**



Source: GEN, 2023

In 2021-22, of the 65 individuals who identified as Aboriginal and exited residential care across the CESP HN region, approximately half (47.7%) of these discharges were due to the resident returning to the community.(20)

Figure 40: Exits from residential care by discharge reason, CESP HN region, 2021-22



Source: GEN, 2023

## Hospitalisations

### Demographics

#### Gender

Across the CESP HN region the rates of admission by gender were lower than both NSW and Australian rates for females. However, the rates of admission for males were higher than the NSW rate and lower than the Australian rate. Within the CESP HN region there were IAREs with admission rates higher than NSW rates:

- Botany Bay, Leichhardt, Marrickville, Randwick-La Perouse, Sydney-City and Woollahra-Waverley IAREs had admission rates for females all higher than the CESP HN rates.
- Botany Bay, Leichhardt, Randwick-La Perouse and Sydney City IAREs had admission rates for males all higher than the NSW rates.(7)

**Table 37: Average annual ASR per 100,000 by gender and IARE, 2017-18 to 2019-20**

Region	Female	Male
Botany Bay	31,840.9	31,186.5
Canterbury - Bankstown (part a)	26,120.7	21,451.4
Hurstville - Kogarah	22,055.3	17,334.1
Leichhardt	32,252.4	31,488.1
Marrickville	32,386.1	24,906.7
Randwick - La Perouse	41,631.7	32,422.6
Rockdale	22,522.1	18,572.1
Sutherland Shire	25,579.4	20,119.5
Sydney - City	36,257.8	31,020.0
Sydney - Inner West	24,163.5	19,906.4
Woollahra - Waverley	40,514.2	20,405.0
<b>CESPHN</b>	<b>31,533.5</b>	<b>25,918.5</b>
<b>New South Wales</b>	<b>33,251.0</b>	<b>25,054.7</b>
<b>Australia</b>	<b>42,947.0</b>	<b>31,446.3</b>

Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

## 0-14 years

Marrickville IARE had the highest ASR of hospital admissions for 0-14-year-olds for:

- respiratory system diseases (3,575.4 per 100,000 population), higher than both the state and national rates (2,949 and 3,553.6 per 100,000 population respectively)
- infectious and parasitic diseases (848.1 per 100,000 population), lower than the state and national rates (850.7 and 1,205.1 per 100,000 population respectively).(7)

Sydney City IARE had hospital admission rates for 0-14-year-olds for digestive system diseases (1,826.8 per 100,000 population) higher than the state and national rates (1,199.9 and 1,367.4 per population respectively).

Botany Bay IARE had hospital admission rates for 0-14-year-olds for injury, poisoning and other external causes (2,347.9 per 100,000 population) higher than the state and national rates (1,665.5 and 2,154.6 per 100,000 population).

Randwick - La Perouse IARE had hospital admission rates for 0-14-year-olds for skin and subcutaneous tissue diseases (892.7 per 100,000 population) higher than the state and national rates (423.1 and 875.3 per 100,000 population).(7)

**Table 38: Hospital admissions by cause, 0–14-year-olds, by IARE, 2017-18 to 2019-20**

IARE/Region	Digestive system diseases	Infectious and parasitic diseases	Injury, poisoning and other external causes	Respiratory system diseases	Skin and subcutaneous tissue diseases
Botany Bay	1,573.30	747.8	2,347.9	2,116.0	862.4
Canterbury - Bankstown (part a)	953.6	630.7	995.5	1,990.6	0.0
Hurstville - Kogarah	0.0	0.0	739.5	2,049.8	0.0
Leichhardt	1,064.50	0.0	1,821.8	3,437.6	0.0
Marrickville	1,425.80	848.1	1,212.0	3,575.4	453.1
Randwick - La Perouse	862.5	828.0	2,028.3	1,963.8	892.7
Rockdale	931.1	0.0	0.0	1,557.5	0.0
Sutherland Shire	1,158.8	326.3	936.1	1,634.5	266.7
Sydney - City	1,826.80	648.7	2,245.6	2,043.9	631.5
Sydney - Inner West	0.0	0.0	1,215.8	2,790.3	0.0
Woollahra - Waverley	0.0	0.0	0.0	2,532.3	0.0
<b>CESPHN</b>	<b>1,111.6</b>	<b>559.6</b>	<b>1,423.7</b>	<b>2,179.8</b>	<b>485.1</b>
<b>New South Wales</b>	<b>1,199.9</b>	<b>850.7</b>	<b>1,665.6</b>	<b>2,949.0</b>	<b>423.1</b>
<b>Australia</b>	<b>1,367.4</b>	<b>1,205.1</b>	<b>2,154.6</b>	<b>3,553.6</b>	<b>875.3</b>

Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

## 15 years and older

Randwick - La Perouse IARE and Sydney-City IARE had some of the highest ASR of hospital admissions for individuals aged 15 years and older for:

- digestive system diseases (4,014.3 and 3,203.6 per 100,000 population respectively),
- injury, poisoning and other external causes (5,103.3 and 4,831 per 100,000 population respectively), and
- respiratory system diseases (3,247.7 and 3,160.9 per 100,000 population respectively).(7)

Sydney-City IARE had the highest ASR of hospital admissions for individuals aged 15 years and older for skin and subcutaneous tissue diseases (1,764.8 per 100,000 population), higher than both the state and national rates (1,037.9 and 1,644.2 per 100,000 respectively).

Botany Bay IARE had the highest ASR of hospital admissions for individuals aged 15 years and older for infectious and parasitic diseases (1,146.1 per 100,000 population), higher than both the state and national rate (758 and 1,120.9 per 100,000 respectively).(7)

Table 39: Hospital admissions by cause, 15 years and older, by IARE, 2017-18 to 2019-20

IARE/Region	Digestive system diseases	Infectious and parasitic diseases	Injury, poisoning and other external causes	Respiratory system diseases	Skin and subcutaneous tissue diseases
Botany Bay	2,991.1	1,146.1	3,583.1	2,054.3	843.2
Canterbury - Bankstown (part a)	2,700.7	819.0	3,734.3	1,936.8	0.0
Hurstville - Kogarah	0.0	0.0	3,209.9	1,421.6	0.0
Leichhardt	2,913.4	0.0	3,470.6	2,657.0	0.0
Marrickville	2,902.9	649.4	3,208.9	2,915.4	1,679.9
Randwick - La Perouse	4,014.3	910.0	5,103.3	3,247.7	903.7
Rockdale	2,096.9	0.0	0.0	1,852.1	0.0
Sutherland Shire	3,396.1	507.6	2,676.5	1,141.8	685.2
Sydney - City	3,203.6	952.1	4,831.0	3,160.9	1,764.8
Sydney - Inner West	0.0	0.0	2,980.6	1,089.5	0.0
Woollahra - Waverley	0.0	0.0	0.0	846.0	0.0
<b>CESPHN</b>	<b>3,086.7</b>	<b>760.0</b>	<b>3,816.7</b>	<b>2,281.1</b>	<b>1,072.4</b>
<b>New South Wales</b>	<b>3,802.0</b>	<b>758.0</b>	<b>3,897.5</b>	<b>2,495.0</b>	<b>1,037.9</b>
<b>Australia</b>	<b>4,230.9</b>	<b>1,120.9</b>	<b>5,618.3</b>	<b>3,416.5</b>	<b>1,644.2</b>

Source: PHIDU, 2022

Note: Lord Howe Island IARE is not included as there is no published data available.

## Principal diagnosis

### External causes

Randwick-La Perouse IARE had hospital admission rates per 100,000 population for exposure to inanimate mechanical forces, intentional self-harm and total diagnosis of injury or poisoning above both NSW and Australia rates. Of particular note are the rates for intentional self-harm, which are 1.9 times the rates for Australia.(7)

Sydney-City IARE had hospital admission rates per 100,000 population for falls and intentional self-harm above both NSW and Australia rates. Of particular note are the rates for falls, which are 1.3 times the rates for Australia.(7)

**Table 40: Hospital admissions by external causes, by IARE, 2017-18 to 2019-20**

IARE/Region	Falls	Expose to inanimate mechanical forces	Intentional self-harm	Total diagnosis of injury or poisoning
Botany Bay	800.3	495.8	234.2	2,562.9
Canterbury - Bankstown (part a)	594.4	410.0	529.7	2,280.2
Hurstville - Kogarah	377.6	358.9	309.3	1,552.6
Leichhardt	810.4	411.2	0.0	2,357.8
Marrickville	615.6	525.5	131.9	2,202.6
Randwick - La Perouse	695.5	639.5	627.6	3,345.8
Rockdale	365.4	199.4	255.5	1,374.8
Sutherland Shire	396.7	244.9	189.6	1,655.1
Sydney - City	1,055.4	492.4	466.3	3,305.7
Sydney - Inner West	524.4	134.5	152.4	1,804.7
Woollahra - Waverley	617.0	0.0	0.0	1,234.2
<b>CESPHN</b>	<b>665.1</b>	<b>411.5</b>	<b>343.2</b>	<b>2,428.6</b>
<b>New South Wales</b>	<b>611.4</b>	<b>401.7</b>	<b>257.2</b>	<b>2,315.6</b>
<b>Australia</b>	<b>815.1</b>	<b>500.9</b>	<b>335.3</b>	<b>3,523.4</b>

Source: PHIDU, 2022

Note: Lord Howe Island IARE is not included as there is no published data available.

## Emergency department presentations

There has been a continual increase in the number of ED presentations by Aboriginal people in the CESPHN region since 2014-15 (6,954) to 2019-20 (10,670), with the same pattern seen in mental health related ED presentations.(21)

**Table 41: ED Presentations by Aboriginality, CESPHN region, 2014-15 to 2019-20**

Year	Mental health related ED presentations	Total ED presentations
2014-15	524	6,954
2015-16	731	7,430
2016-17	637	7,662
2017-18	682	8,172
2018-19	917	9,891
2019-20	933	10,670

Source: AIHW, 2021

## Access

In 2018-19, Aboriginal persons aged 15 years and over who were the most disadvantaged (1<sup>st</sup> quintile in SEIFA) were:

- 12.5 times more likely to have accessed health care
- 17.3 times more likely to have been admitted to hospital
- 16 times more likely to have visited casualty/emergency/outpatients/day clinic
- 11 times more likely to have consulted a doctor
- 8.3 times more likely to have consulted a dentist
- 8.8 times more likely to have consulted other health professionals

compared to Aboriginal persons aged 15 years and over who were most advantaged (5<sup>th</sup> quintile in SEIFA).(5)

### Indigenous health PIP

The Indigenous Health Incentive (IHI) supports general practices and Aboriginal health services to provide better health care for Aboriginal patients with chronic disease. In 2018, 127 practices in the CESP HN region received an IHI payment. This has increased from 104 practices in 2015. The uptake of new practices signing up to the program was zero at the beginning of 2018 (latest available data).(22)

### MBS item 715

The proportion of the Aboriginal population in the CESP HN region who have received a health assessment by a GP (MBS Item 715) in the last two years has remained stable.(23)

**Table 42: Health assessment (MBS 715) by financial year, CESP HN region, 2018-19 - 2020-21**

Financial Year	Total (No.)	Total (%)
2018-19	2,393	13.0
2019-20	2,416	12.9
2020-21	2,460	12.9

Source: AIHW, 2022

In 2020-21, CESP HN continued to have a lower proportion of the population who received a health assessment (12.9%) compared to the national rate (25.9%); 10% (n=1,906) of these health assessments were face-to-face consultations and 3% (n=566) were telehealth consultations.(23)

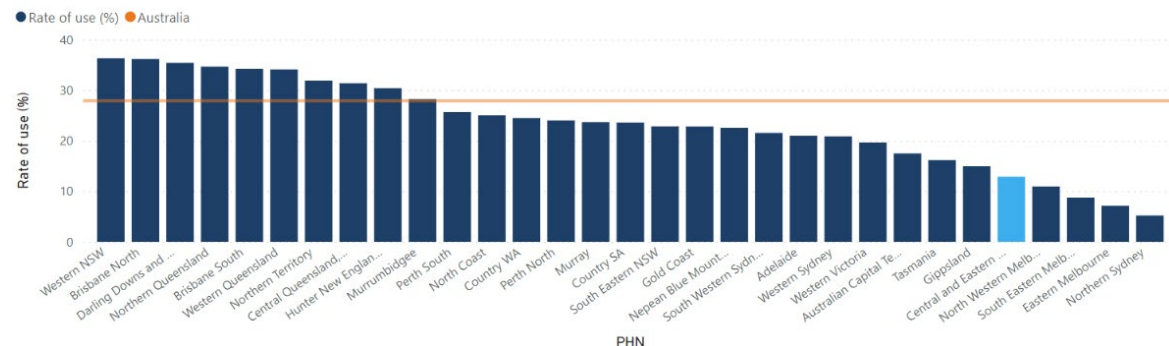
The CESP HN and national rates are well below targets that have been set in the Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013-2023:

- 0-4 years: 69%
- 5-14 years: 46%
- 15-24 years: 42%
- 25-54 years: 63%
- 55 years and over: 74%.

The uptake rate of health assessments in the CESP HN region was 12.9% in 2020-21, 5<sup>th</sup> lowest of all PHNs.(23)



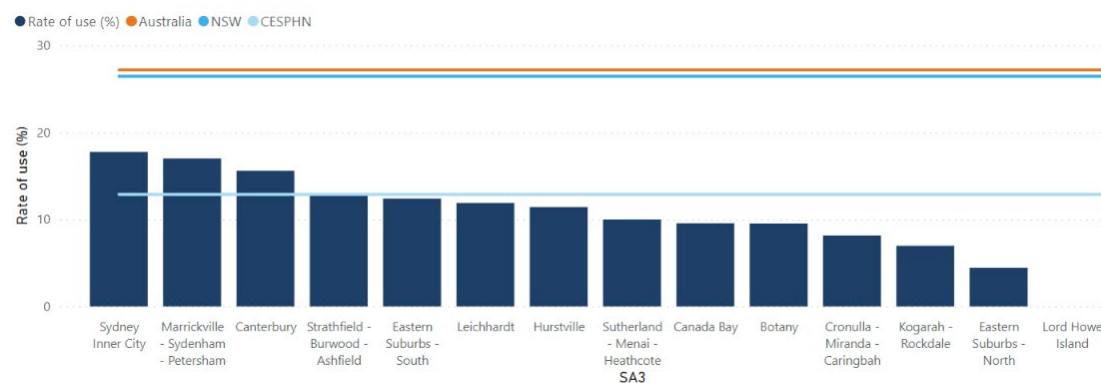
**Figure 41: Health assessment (MBS 715) by PHN, 2020-21**



Source: AIHW, 2022

Within the CESP HN region, all SA3s had MBS item 715 uptake rates lower than national and NSW rates. Sydney Inner City SA3, Marrickville-Sydenham-Petersham SA3, Canterbury SA3 and Strathfield – Burwood – Ashfield SA3 were the only SA3s within our region whose rates for MBS item 715 were higher than the CESP HN rate (17.76%, 17.00% 15.59% and 13% respectively).(23)

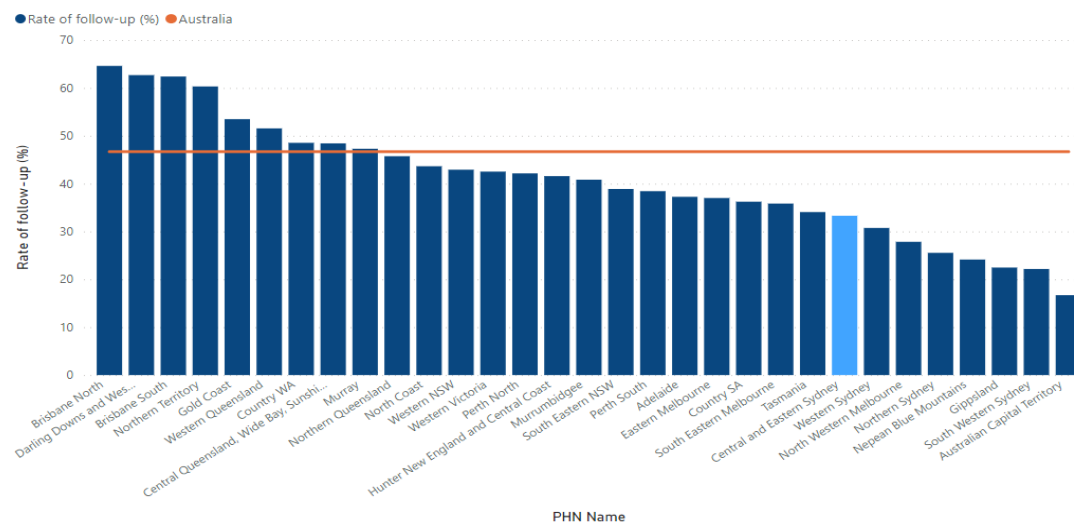
**Figure 42: Health assessment (MBS 715) by SA3, 2020-21**



Source: AIHW, 2022

The rate of follow up of patient who received a health assessment in the CESP HN region was 33.3% in 2019-20, 8<sup>th</sup> lowest of all PHNs.(23)

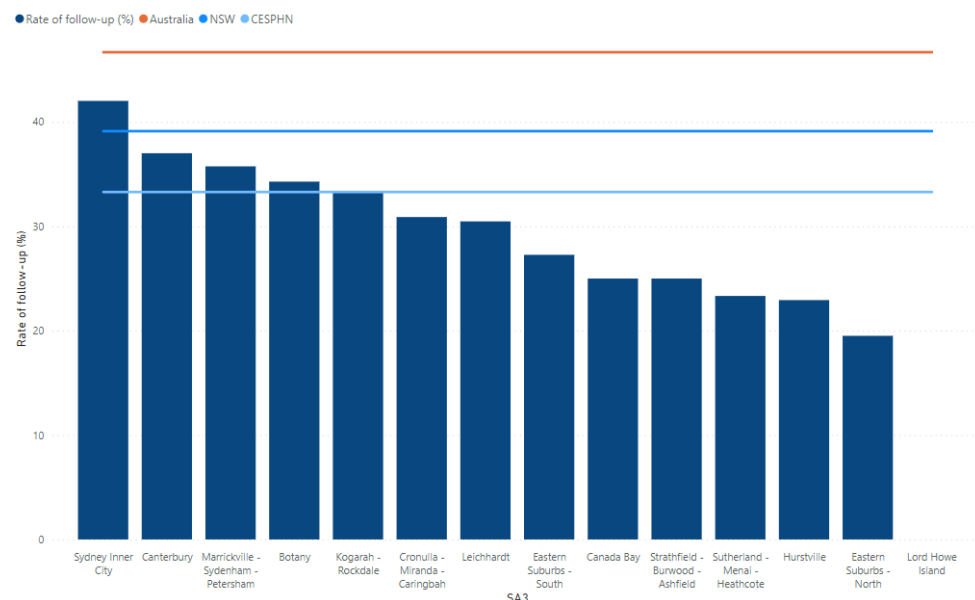
**Figure 43: Health assessment (MBS 715) follow-up by PHN, 2019-20**



Source: AIHW, 2022

Within the CESPHN region, all SA3s had MBS item 715 follow-up rates lower than the national rate. Sydney Inner City SA3 was the only SA3 to have a follow-up rate higher than the NSW rate. Sydney Inner City SA3 (42%), Canterbury SA3 (37%), Marrickville - Sydenham - Petersham SA3 (35.8%) and Botany SA3 (34.3%) all had MBS 175 follow-up rates higher than the CESPHN rate (33.3%).(23)

**Figure 44 Health assessment (MBS 715) follow-up by SA3, 2019-20**



Source: AIHW, 2022

## After hours

The after hours period is broken down into 4 timeframes, based on practice incentive program (PIP) time periods.

- T1 = 6pm through to 11pm weeknights
- T2 = 11pm through to 8am weekdays
- T3 = outside 8am to 12 noon on Saturdays
- T4 = all day on Sunday and public holidays.

In 2021, 2.6% of calls to the After Hours Helpline from the CESP HN region were from callers who identified as Aboriginal.(24)

Table 43: Callers to HealthDirect After Hours Helpline, by Aboriginality and PIP timeframe, CESP HN region, 2021

PIP timeframe	Aboriginal (%)	Non-Aboriginal (%)	Grand Total (%)
T1	0.8	31.3	32.1
T2	0.5	19.7	20.2
T3	0.4	17.1	17.5
T4	0.7	29.4	30.1
Grand Total	2.6	97.4	100.0

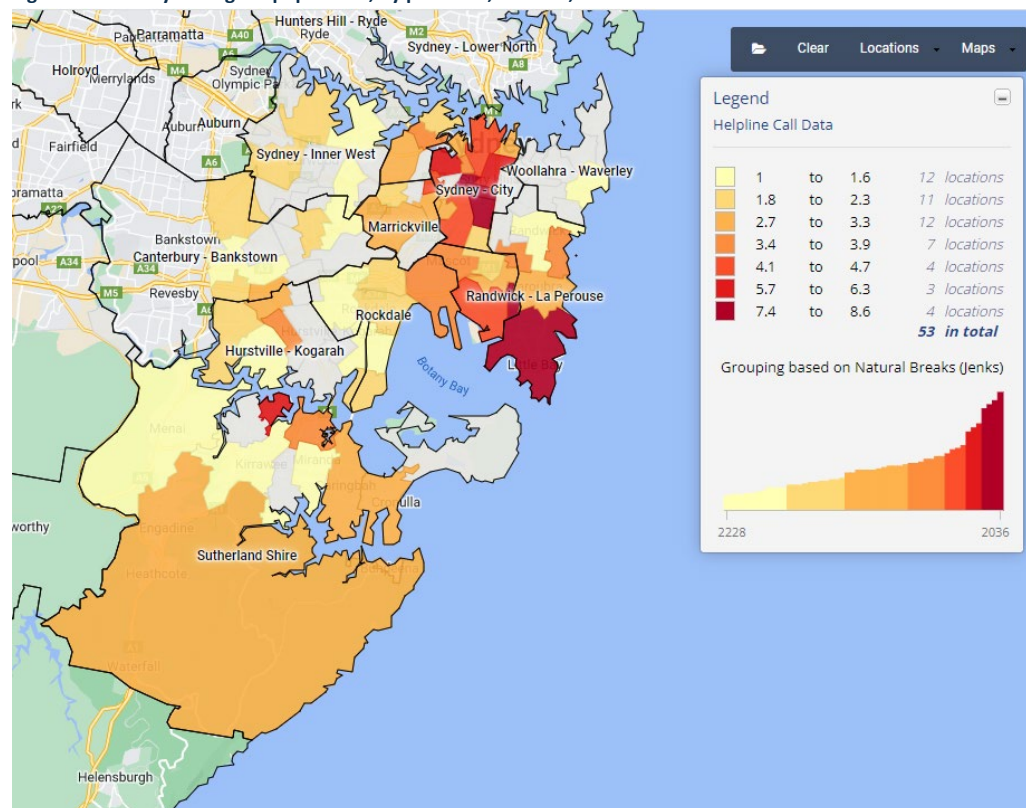
Source: HealthDirect Australia, 2022

Within the CESP HN region, there were seven postcodes where 5% or more of calls to the After Hours Helpline were by callers who identified as Aboriginal:

- 2036 (8.6%)
- 2008 (8.0%)
- 2016 (7.7%)
- 2017 (7.4%)
- 2037 (6.3%)
- 2010 (6.0%)
- 2225 (5.7%)

These postcodes predominantly fall under two IAREs (Randwick-La Perouse and Sydney-City).

**Figure 45: Calls by Aboriginal population, by postcode, CESP HN, 2021**



Source: HealthDirect Australia, 2022

## Lower urgency emergency department (ED) presentations

Lower urgency ED presentations are presentations to a public hospital ED with a triage category of 4 (semi-urgent) or 5 (non-urgent), where the patient did not arrive by ambulance, police or a correctional vehicle and was not admitted to the hospital, not referred to another hospital, or did not die.

In 2019-20, there were 4,103 lower urgency ED presentations in the CESP HN region for Aboriginal persons, 3,360 were semi-urgent presentations and 743 were non-urgent. This was equivalent to 31,677.7 per 100,000 population (semi-urgent) and 10,617.1 per 100,000 population (non-urgent). Both rates were higher than the national rate of 17,798.0 per 100,000 population (semi-urgent) and 3,832.2 per 100,000 population (non-urgent).(7)

**Table 44: Lower urgency ED presentations by IARE, 2019-20**

IARE	Non-urgent Presentations - Total, Aboriginal persons	Semi-urgent Presentations - Total, Aboriginal persons
Botany Bay	1,523.4	23,147.2
Canterbury - Bankstown (part a)	2,852.5	14,056.2
Hurstville - Kogarah	3,319.4	13,031.5
Leichhardt	1,866.4	16,310.2
Marrickville	2,545.7	16,172.0
Randwick - La Perouse	2,729.9	19,955.0
Rockdale	4,894.2	11,870.8
Sutherland Shire	8,128.9	14,352.3
Sydney - City	3,757.5	24,577.9
Sydney - Inner West	2,452.4	12,290.7
Woollahra - Waverley	2,997.9	15,929.7
<b>CESPHN</b>	<b>10,617.1</b>	<b>31,677.7</b>
<b>New South Wales</b>	<b>7,061.0</b>	<b>26,943.0</b>
<b>Australia</b>	<b>3,832.2</b>	<b>17,798.0</b>

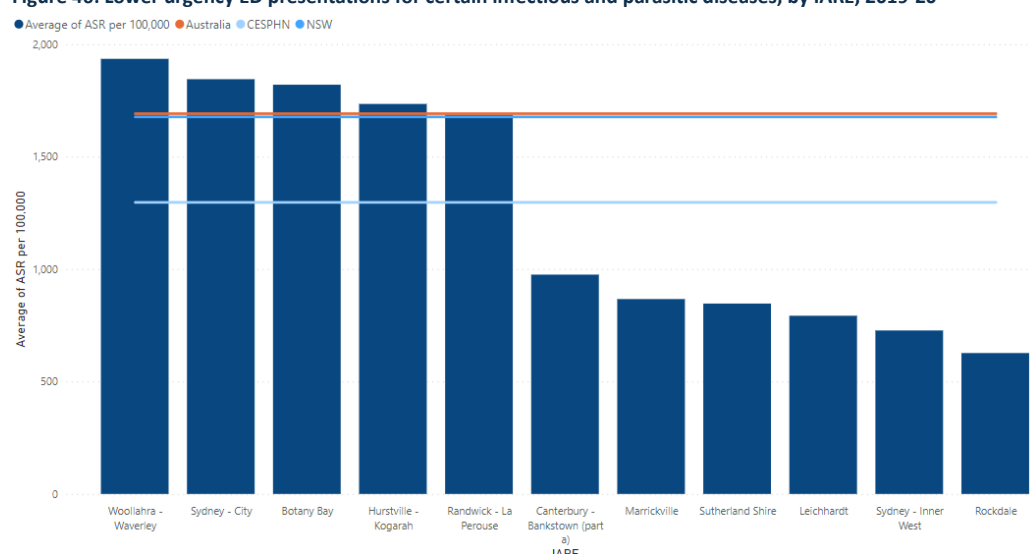
Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

The breakdown of lower urgency ED presentations in 2019-20 shows that there were IAREs within the CESPHN region where rates of presentations were higher than NSW and/or Australia.

Semi-urgent and non-urgent ED presentations for certain infectious and parasitic diseases in Woollahra - Waverly IARE, Sydney - City IARE, Botany Bay IARE and Hurstville - Kogarah IARE were higher than Australian and NSW rates in 2019-20.(7)

**Figure 46: Lower urgency ED presentations for certain infectious and parasitic diseases, by IARE, 2019-20**

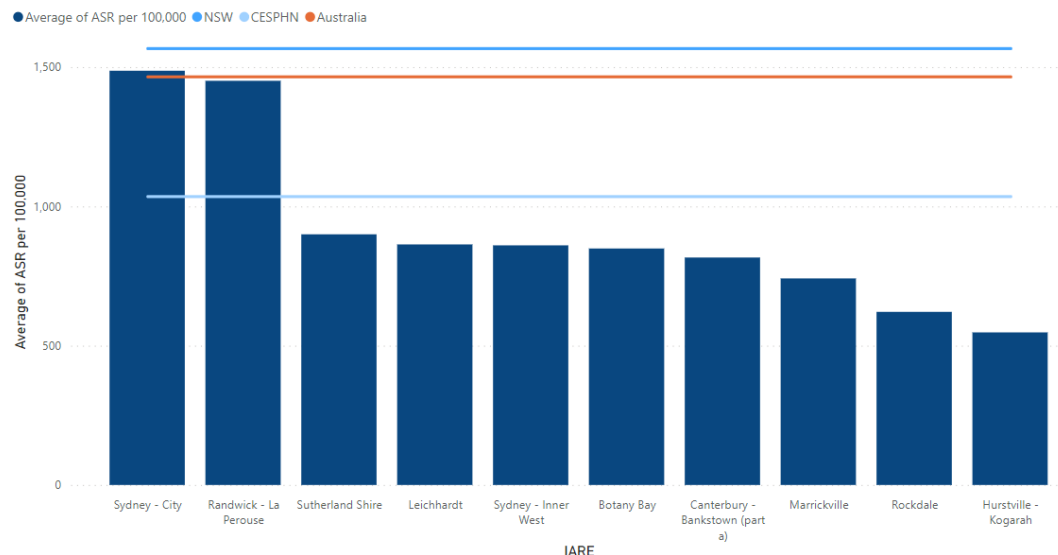


Source: PHIDU, 2023

Note: Lord Howe Island IARE is not included as there is no published data available.

Semi-urgent and non-urgent ED presentations for mental and behavioural disorders in Sydney-City IARE were higher than national rates in 2019-20.

**Figure 47: Lower urgency ED presentations for mental and behavioural disorders, by IARE, 2019-20**



Source: PHIDU, 2023

Note: Lord Howe Island IARE and Woollahra - Waverly IARE are not included as there is no published data available.

## Patient experience

### Communication

In 2018-19, 88.8% of Aboriginal patients in non-remote Australia felt their doctor listened carefully always/often when seeking health care, an increase from 79.5% in 2014-15. In non-remote NSW, similar rates were seen with 92.0% of patients feeling that their doctor listened carefully always/often when seeking health care. A higher proportion of males than females felt their doctor listened carefully always/often (90.0% compared to 87.7% respectively). Patients in older age groups reported a higher proportion of patients who felt their doctor listened carefully always/often (87% for 15-24 years, increasing to 90.5% for those aged 55 years and older).(5)

In 2018-19, 87.9% of Aboriginal patients in non-remote Australia felt their doctor(s) always/usually explained things in a way that could be understood. In NSW the proportion was slightly higher at 89.2%. A slightly higher proportion of males reported their doctor(s) always/usually explained things in a way that could be understood compared to females (89.8% compared to 86.6% respectively). Patients aged 55 years and older had the highest proportion of respondents who reported their doctor(s) always/usually explained things in a way that could be understood (92.2%).

Aboriginal Medical Services/Community clinics and Doctor/GP service types had the highest proportion of individuals who felt their doctor(s) always/usually explained things in a way that could be understood (88.4%).(5) Those with no usual GP/medical service reported slightly lower agreement regarding doctor(s) explaining things in a way that could be understood (81.2%), and hospital settings had the lowest proportion of people who felt their doctor(s) explained things in a way that could be understood (74.2%).

## *Treated respectfully*

In 2018-19, 91.0% of Aboriginal patients in non-remote Australia felt their doctor(s) showed respect always/often, this has increased from 85.0% in 2014-15. Patients in NSW reported similar levels, where 91.9% of patients felt their doctor(s) showed respect always/often. There were minimal differences between age groups, with the 35-44 year age group having the lowest proportion at 89.3% and those aged 55 years and older reporting the highest proportion of respect always/often at 93.6%.(5)

## *Unfair treatment and cultural barriers*

Almost a quarter of a million Aboriginal patients across Australia did not access a health service when needed in 2018-19, with approximately one third not accessing a service because it was not culturally appropriate (32.0%). The proportion of patients who did not access a service because it was not culturally appropriate is consistently at around one-third irrespective of gender and age group. The same is seen for residents who live in non-remote settings and those respondents from NSW.(5)

## *Left against medical advice*

Nationally, between July 2015 and June 2017, Aboriginal patients left hospital against medical advice/discharged at their own risk at a rate of 6.1 times that of non-Aboriginal patients. The rate ratio for NSW was slightly lower at 3.6 times that of non-Aboriginal patients.(5)

The highest age-standardised proportion in NSW was for Aboriginal patients whose principal diagnosis was *diseases of the skin and subcutaneous tissue* (4.9% of patients). The largest rate ratio in NSW was for patients whose principal diagnosis was *diseases of the musculoskeletal system and connective tissue* (rate ratio = 6.2).(3, 5)

## **Service gaps**

Nationally, 67.7% of organisations funded to provide primary health care for Aboriginal persons identified mental health/social and emotional health and wellbeing as a service gap in the community they served, 54.0% identified youth services and 44.9% identified alcohol, tobacco and other drugs as health service gaps.(5) Our stakeholders advise that Aboriginal youth access to mental health services have long waiting times.

**Table 45: Identified health service gaps in organisations funded for primary health care, 2017-18**

Health service gap	% of respondents who identified the gap
Mental health/social and emotional health and wellbeing	67.7
Youth services	54.0
Alcohol, tobacco and other drugs	44.9
Prevention/early detection of chronic disease	43.9
Environmental health services (including housing)	41.9
Dental services	37.4
Access to health services (including transport)	33.3
Early childhood development and family support	31.3
Services to support healthy ageing	27.3
Disability services	26.8
Maternal and child health	25.8
Nutrition services (including lack of access to affordable healthy food)	25.3
Palliative care	15.2
Treatment of injury and illness	8.1
Pharmacy services	5.6

Source: AIHW, 2020

Recruitment, training and support of Aboriginal staff was identified as the main health service challenge in organisations funded for primary health care (71% of respondents), followed by staffing levels (63.1%) and staff retention/turnover (53.5%).<sup>(5)</sup> Our stakeholders have advised that there is a shortage of Aboriginal health workers during weekends at major hospitals.

**Figure 48: Identified health service challenges in organisations funded for primary health care, 2017-18**

Health service challenges	% of respondents who identified the gap
Recruitment, training and support of Aboriginal staff	71.2
Staffing levels	63.1
Staff retention/turnover	53.5
Coordination of clinical care with other providers (e.g., hospitals)	47.0
Appropriate health service infrastructure	45.5
Access to specialist medical services	44.4
Information technology	32.8
Staff housing	31.3
Access to allied health services	28.3
Provision of care in a cross-cultural environment	21.2
Corporate services/administration	9.1
Availability/maintenance of equipment	8.1
Financial management	4.5

Source: AIHW, 2020



## Aboriginal health workforce

Across the CESP HN region, there were 253 AHPRA registered health professionals who identified as Aboriginal, giving a rate of 15.2 per 100,000 population and accounting for 0.6% of AHPRA registered health professionals. This is noticeably lower than the state and national rates per 100,000 population (29.0 and 25.1 respectively).(25)

Variations to NSW and Australian rates of Aboriginal health professionals are seen in the following professions:

- Aboriginal and Torres Strait Islander health practitioner: there are none registered in the CESP HN region
- Chinese medicine practitioners: there are less than 4 registered in the CESP HN region, therefore exact number are withheld from reporting
- Nurses and midwives: the rate across the CESP HN region is approximately half of the national rate per 100,000 population and approximately 40% of the NSW rate
- Occupational therapists: the rate across the CESP HN region is approximately half of both state and national rates
- Paramedicine practitioners: the rate is approximately 70% of the national rate and less than half of the state rate
- Physiotherapists: the rate across the CESP HN region is almost double that of the national rate.

**Table 46: Aboriginal health professionals, CESP HN region, 2020**

Health Profession	Number of Practitioners (Rate per 100,000)			FTE Total (Rate per 100,000)			FTE Clinical (Rate per 100,000)		
	CESP HN	NSW	AUS	CESP HN	NSW	AUS	CESP HN	NSW	AUS
Aboriginal and Torres Strait Islander health practitioner	-	1.3	2.0		1.4	2.2		1.2	2.0
Chinese medicine practitioners	-	0.1	0.1	-	0.1	0.1	0.2	0.1	0.1
Chiropractors	0.2	0.1	0.1	-	0.1	0.1	-	0.1	0.1
Dental practitioners	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.4
Medical practitioners	2.0	2.1	1.8	2.1	2.3	2.0	1.9	2.1	1.8
<i>General practice</i>	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3
Medical radiation practitioners	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.3
Nurses and midwives	8.4	19.4	16.5	7.6	17.9	15.0	7.3	17.3	14.3
Occupational therapists	0.2	0.5	0.5	0.2	0.5	0.5	0.2	0.4	0.4
Optometrists	-	0.0	0.0	-	0.0	0.0	-	0.0	0.0
Osteopaths	0.2	0.1	0.1	-	0.1	0.1	-	0.0	0.1
Paramedicine practitioners	0.8	1.7	1.1	0.9	2.1	1.3	0.9	2.0	1.3
Pharmacists	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3
Physiotherapists	1.4	1.2	0.8	1.4	1.1	0.7	1.3	1.0	0.7
Podiatrists	-	0.2	0.1	0.2	0.2	0.1	-	0.2	0.1
Psychologists	1.0	1.0	0.8	0.9	0.9	0.7	0.7	0.7	0.6
<b>Total</b>	<b>15.2</b>	<b>29.0</b>	<b>25.1</b>	<b>14.3</b>	<b>27.6</b>	<b>23.8</b>	<b>13.5</b>	<b>26.3</b>	<b>22.4</b>

Source: HWA, 2021

## References

1. Public Health Information Development Unit. Aboriginal & Torres Strait Islander Social Health Atlas of Australia 2022 [Available from: [https://phidu.torrens.edu.au/current/data/atsi-sha/phidu\\_atsi\\_data\\_phn\\_aust.xls](https://phidu.torrens.edu.au/current/data/atsi-sha/phidu_atsi_data_phn_aust.xls).
2. Centre for Epidemiology and Evidence. HealthStats NSW Sydney: NSW Ministry of Health; 2023 [Available from: <https://www.healthstats.nsw.gov.au/#/topics#D>.
3. Australian Bureau of Statistics. National Aboriginal and Torres Strait Islander Health Survey 2019 [Available from: <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/national-aboriginal-and-torres-strait-islander-health-survey/latest-release#key-statistics>.
4. Public Health Information Development Unit. Aboriginal & Torres Strait Islander Social Health Atlas of Australia 2021 [Available from: [https://phidu.torrens.edu.au/current/data/atsi-sha/phidu\\_atsi\\_data\\_phn\\_aust.xls](https://phidu.torrens.edu.au/current/data/atsi-sha/phidu_atsi_data_phn_aust.xls).
5. Australian Institute of Health and Welfare. Aboriginal and Torres Strait Islander Health Performance Framework 2020 [Available from: <https://www.indigenoushpf.gov.au/Available> from: <https://www.indigenoushpf.gov.au/measures>.
6. Commission P. Report on Government Services 2021 - C Justice. Canberra: Productivity Commission; 2021.
7. Public Health Information Development Unit. Aboriginal & Torres Strait Islander Social Health Atlas of Australia 2023 [Available from: <https://phidu.torrens.edu.au/social-health-atlases/data#aboriginal-torres-strait-islander-social-health-atlas-of-australia-primary-health-networks>.
8. Centre for Epidemiology and Evidence. HealthStats NSW 2022 [Available from: <http://www.healthstats.nsw.gov.au/IndicatorGroup/TopicIndicatorGroups>.
9. Australian Institute of Health and Welfare. Aboriginal and Torres Strait Islander Health Performance Framework 2022 [Available from: <https://www.indigenoushpf.gov.au/measures>.
10. Australian Bureau of Statistics. Aboriginal and Torres Strait Islander people with a disability 2021 [Available from: <https://www.abs.gov.au/articles/aboriginal-and-torres-strait-islander-people-disability>.
11. National Disability Insurance Scheme. Market monitoring 2021 [Available from: <https://data.ndis.gov.au/reports-and-analyses/market-monitoring/market-monitoring-nsw>.
12. Australian Institute of Health and Welfare. Cancer in Aboriginal & Torres Strait Islander people of Australia 2018 [Available from: <https://www.aihw.gov.au/reports/cancer/cancer-in-indigenous-australians>.
13. Cancer Institute NSW. Cancer Statistics NSW, Breast Screening 2021 [Available from: <https://www.cancer.nsw.gov.au/research-and-data/cancer-data-and-statistics/cancer-statistics-nsw/#/analysis/breastscreening/>.
14. Australian Institute of Health and Welfare. Suicide and self-harm monitoring 2022 [Available from: <https://www.aihw.gov.au/suicide-self-harm-monitoring>.
15. Australian Institute of Health and Welfare. Suicide and self-harm monitoring 2023 [Available from: <https://www.aihw.gov.au/suicide-self-harm-monitoring>.
16. Australian Bureau of Statistics. Census 2021 2022 [cited 2022 28 June]. Available from: <https://www.abs.gov.au/census>.
17. Australian Institute of Health and Welfare. People using aged care 2023 [Available from: <https://www.gen-agedcaredata.gov.au/Topics/People-using-aged-care>.
18. Health Ato, and Welfare. GEN data: Admissions into residential aged care 2021-22 2023 [Available from: <https://www.gen-agedcaredata.gov.au/Resources/Access-data/GEN-data-Admissions-into-aged-care>.
19. Australian Institute of Health and Welfare. GEN: People leaving aged care 2022 [cited 2022 10 October]. Available from: <https://www.gen-agedcaredata.gov.au/Topics/People-leaving-aged-care>.
20. Australian Institute of Health and Welfare. GEN data: People leaving aged care 2021-22 2023 [Available from: <https://www.gen-agedcaredata.gov.au/Topics/People-leaving-aged-care>.
21. Australian Institute of Health and Welfare. Mental health services in Australia 2021 [Available from: <https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia>.

22. Department of Health. Practice Incentives Program Data Canberra: Department of Health; 2018 [Available from: [https://www1.health.gov.au/internet/main/publishing.nsf/Content/PHN-PIP\\_Data](https://www1.health.gov.au/internet/main/publishing.nsf/Content/PHN-PIP_Data).
23. Australian Institute of Health and Welfare. Indigenous health checks and follow-ups 2022 [Available from: <https://www.aihw.gov.au/reports/indigenous-australians/indigenous-health-checks-follow-ups>.
24. Healthdirect Australia. HealthMap 2022 [Available from: <https://studio.healthmap.com.au/>.
25. Department of Health. National Health Workforce Database 2021 [Available from: <https://hwd.health.gov.au/>.