



Surojeet
Photography

Population Health Profile

South Eastern NSW

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NSW PHN

Last Updated: December
2020

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PREFACE

The purpose of this **Population Health Profile** is to accurately and comprehensively quantify some of the key variables that are estimated to be pivotal in understanding the relative health needs of the resident population of the South Eastern New South Wales Primary Health Network (SENSWPHN) catchment that could assist in undertaking data-driven and evidence-based health service planning for the catchment.

The **Population Health Profile** is a contextual background document which is aimed to be a precursor to more analytical exploration for specific topics and an initiator of comprehensive qualitative inquiry into the perceived and/or expressed needs of the catchment's residents. This **Population Health Profile** along with any further health and service gaps analysis and/or consultation undertaken by COORDINARE form the fundamental basis of the continuous health needs assessment that is conducted by COORDINARE.

This report is aimed to be an ongoing and continuous body of evidence which will be updated with more recent information and figures, as and when sourced and adapted from various reliable sources of data. COORDINARE will attempt to keep the **Population Health Profile** as current as possible through an annual review and update cycle.

Some key points to note when reading this **Population Health Profile**:

- All the information presented in this report is based on the secondary analysis of data from various sources conducted by the author/ for COORDINARE - South Eastern NSW PHN
- Readers should read the **References** section of the report and any applicable **Technical Footnotes** wherever applicable carefully prior to secondary use of any and all information included in it
- Secondary use and further reporting of the information contained in this report requires appropriate citation/acknowledgment of this document and its affiliated personnel and organisation
- All maps presented in this report illustrate some selected towns (localities/suburbs). These towns have not been chosen on any health or social need basis but are simply used as a geographic guide for the ease of interpreting the geographic orientation of the catchment. All maps follow standard cartographic attribution with source data and authorship information added within map legends
- All tabular data in this report display a comparison among the SENSWPHN regions or areas. Wherever applicable the figures for the region or area with the highest estimated need or burden on the respective indicator have been highlighted with **red bold font**. Higher values could indicate a higher relative need/vulnerability, and, in some cases, lower values could indicate a higher relative need/vulnerability, depending on the indicator. It should be noted that this comparison-based flagging excludes the state and national figures and is **only a comparison between the SENSWPHN constituent regions or areas** that are displayed on the respective data table
- Where the format and granularity of the source data-enabled customisable aggregation, sub-totals for the health administrative boundaries (Local Health Districts) have also been shown in those respective data tables
- For certain indicators, data for the Jervis Bay region were either too small for publication or not available for analysis. Therefore, Jervis Bay has only been included in tables and figures where data were available/analysable/reportable

Suggested Citation

Ghosh A. 2019, **Population Health Profile: South Eastern NSW. COORDINARE - South Eastern NSW PHN.**
[Last Updated: December 2020]

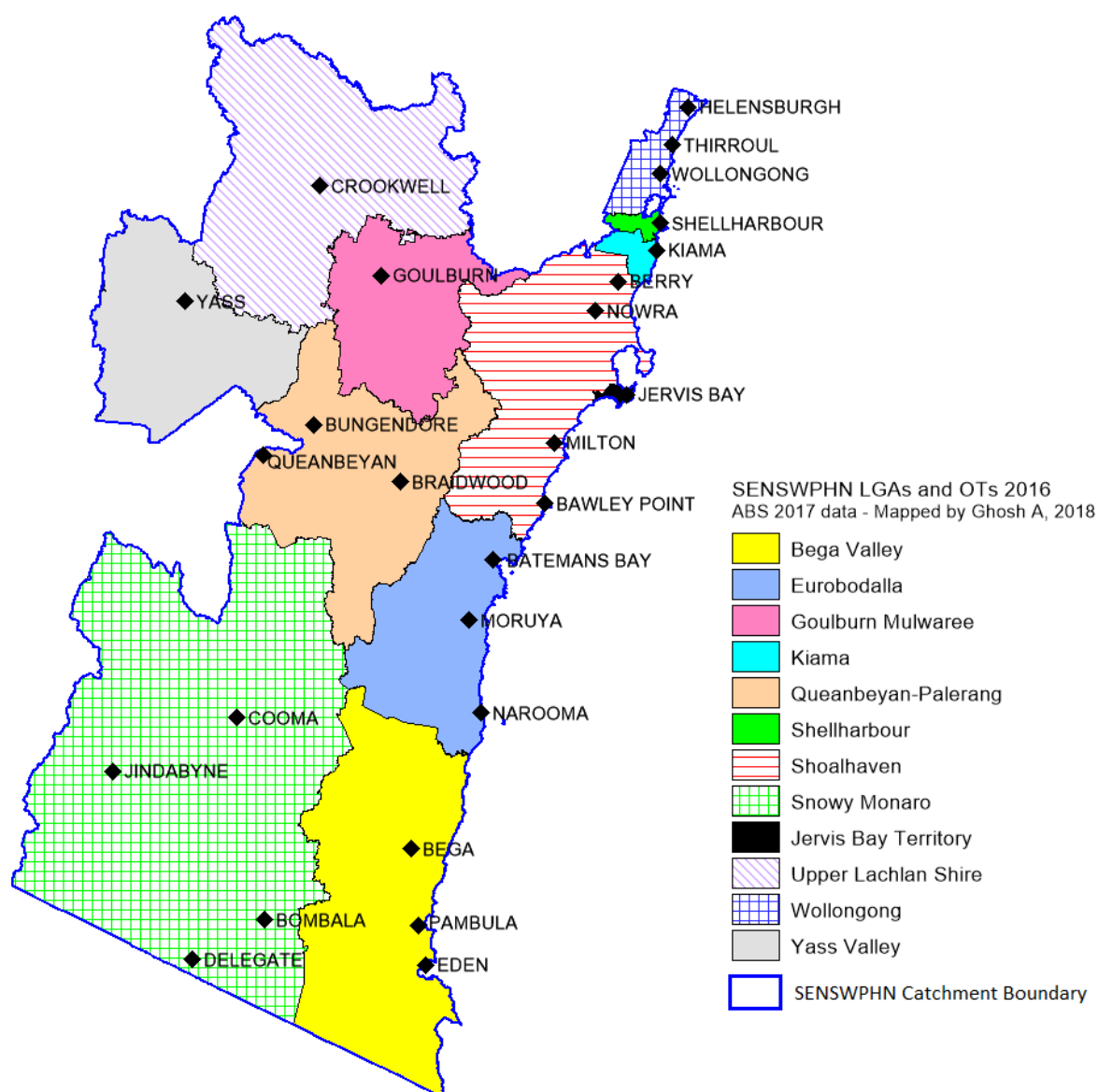
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1. GEOGRAPHY

The SENSWPHN catchment covers a large geographic catchment that extends over 50,000 square kilometers from Helensburgh down to the Victorian state border. For comprehensive population health profiling this report has used either of the following options below as the geographic unit for reporting of all predominant data indicators:

- **Regions** which are 12 administrative geographic boundaries^a including Local Government Area (LGA) and Unincorporated^b Other Territory (OT) boundaries which are defined by the Australian Statistical Geography Standard (ASGS) (2016 version) formulated by the Australian Bureau of Statistics (ABS)

Figure 1: Map of the SENSWPHN Catchment by Government Administrative Boundaries or **Regions** [1]



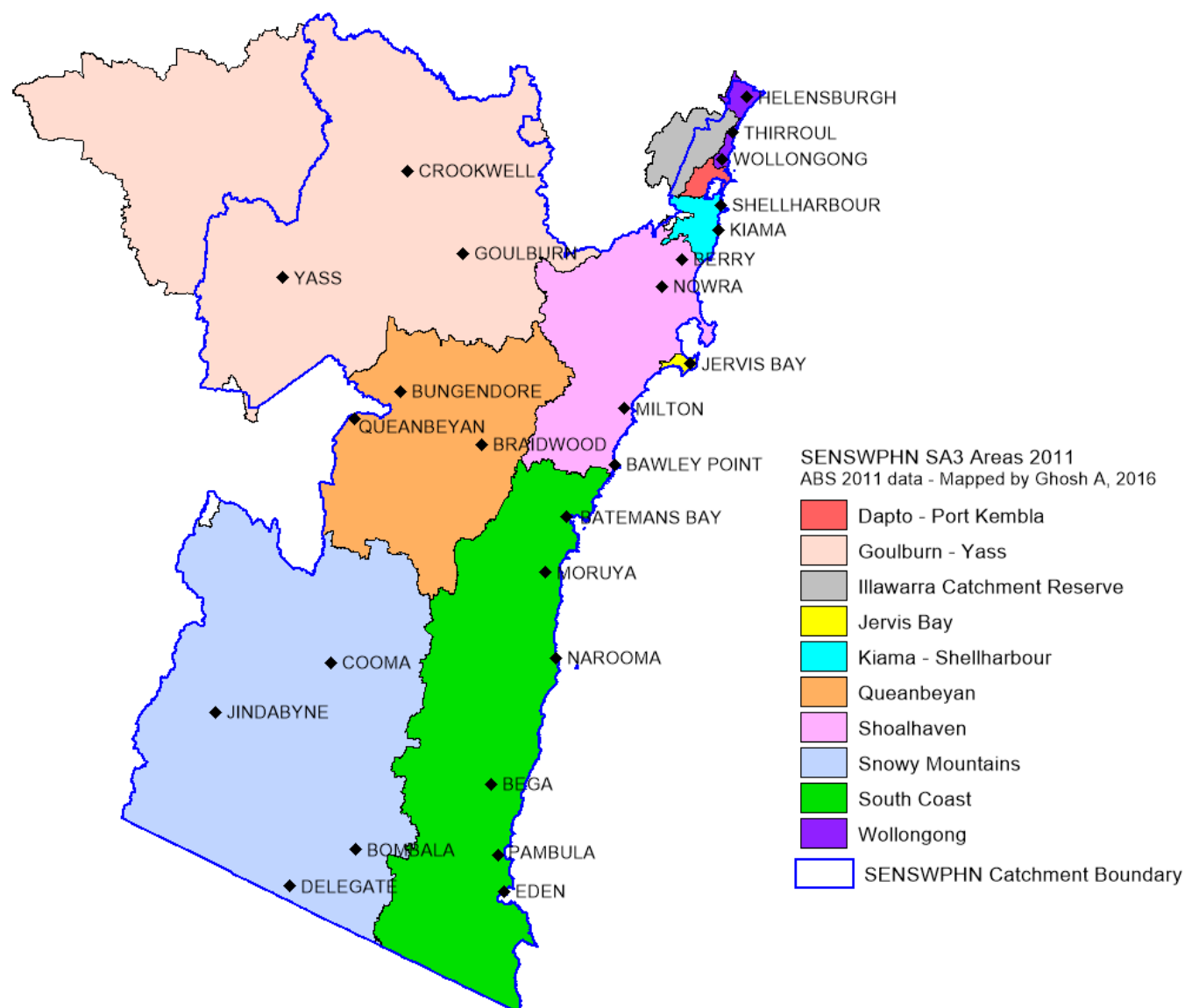
^a Administrative boundaries are the 11 Local Government Areas (LGAs) and 1 Commonwealth Territory of Jervis Bay that have been used. All the 13 **regions** are entirely (100% land mass and population) included within the SENSWPHN catchment. Therefore, these regions have been used as the best fit for analysing population health data and reporting the subsequent information within this document.

^b LGA boundaries cover incorporated areas of Australia. Incorporated areas are legally designated parts of a State or Territory over which incorporated local governing bodies have responsibility. Areas that are not administered by incorporated bodies are known as **Unincorporated**.

Or,

- **Areas Version 1** which are 10 standard geographical boundaries^c also known as Statistical Area Level 3 (SA3) which are defined by the Australian Statistical Geography Standard (2011 version) formulated by the ABS

*Figure 2: Map of the SENSWPHN Catchment by Standard Geographical Boundaries (SA3s) or **Areas Version 1** [2]*



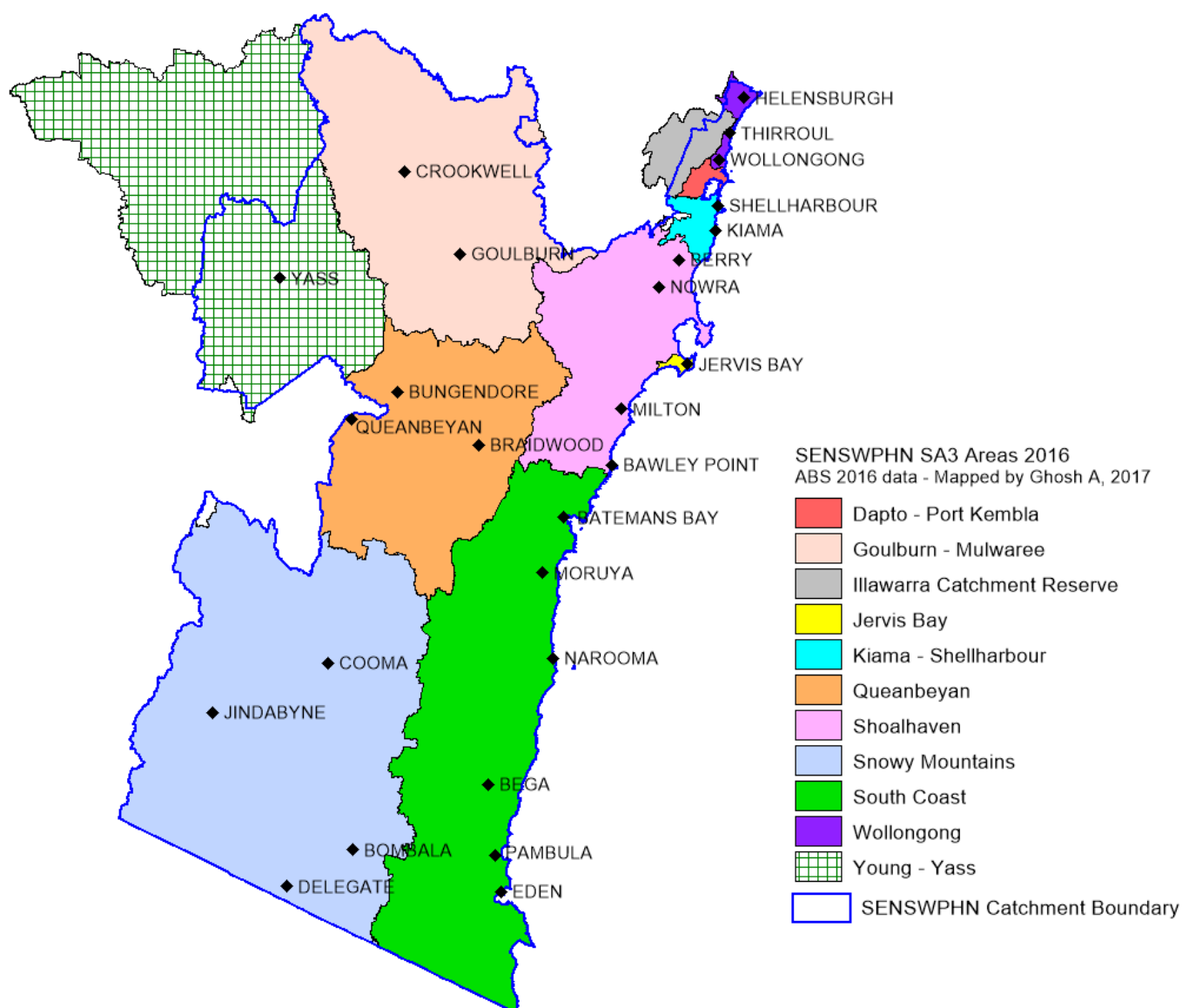
Note: Goulburn - Yass is one distinct area in this version

^c Statistical Area Level 3 (SA3) **Areas Version 1** have variable proportions of their total land mass/population within the SENSWPHN catchment. Therefore, SA3 based data reporting for the SENSWPHN catchment should be done with due caution. Only SA3s that have a substantial proportion within the SENSWPHN catchment have been included in this report.

Or,

- **Areas Version 2** which are 11 standard geographical boundaries^d also known as Statistical Area Level 3 (SA3) which are defined by the Australian Statistical Geography Standard (2016 version) formulated by the ABS.

*Figure 3: Map of the SENSWPHN Catchment by Standard Geographical Boundaries (SA3s) or **Areas Version 2** [3]*



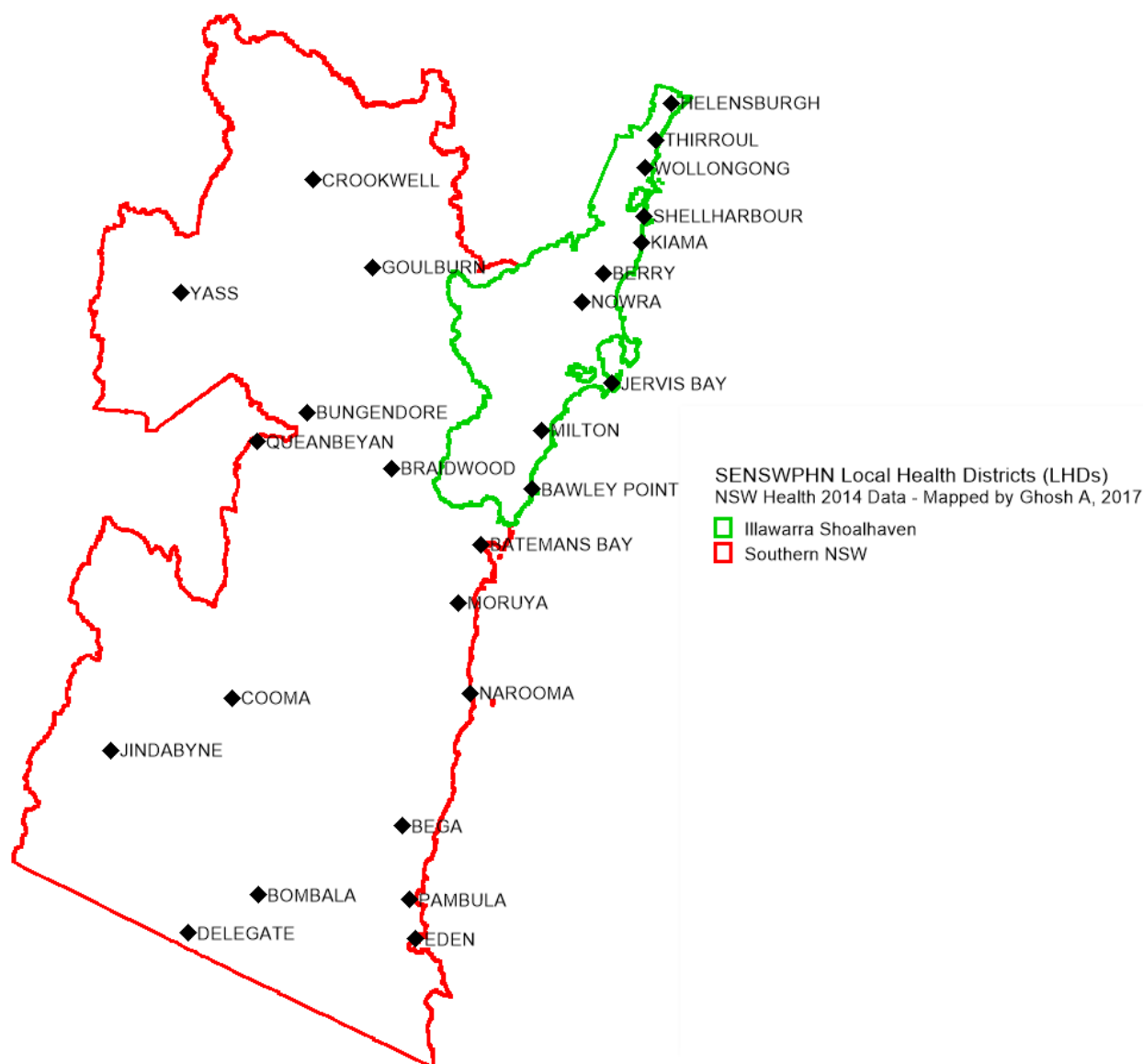
Note: Goulburn - Mulwaree and Young - Yass are two distinct areas in this version

^d Statistical Area Level 3 (SA3) **Areas Version 2** have variable proportions of their total land mass/population within the SENSWPHN catchment. Therefore, SA3 based data reporting for the SENSWPHN catchment should be done with due caution. Only SA3s that have a substantial proportion within the SENSWPHN catchment have been included in this report.

Or,

- **Local Health Districts** (LHDs) which are two NSW Ministry of Health defined health administrative boundaries. In the absence of **Region** or **Area** level data, these state health administrative boundaries namely have been used to present selected data tables and figures in this profile.

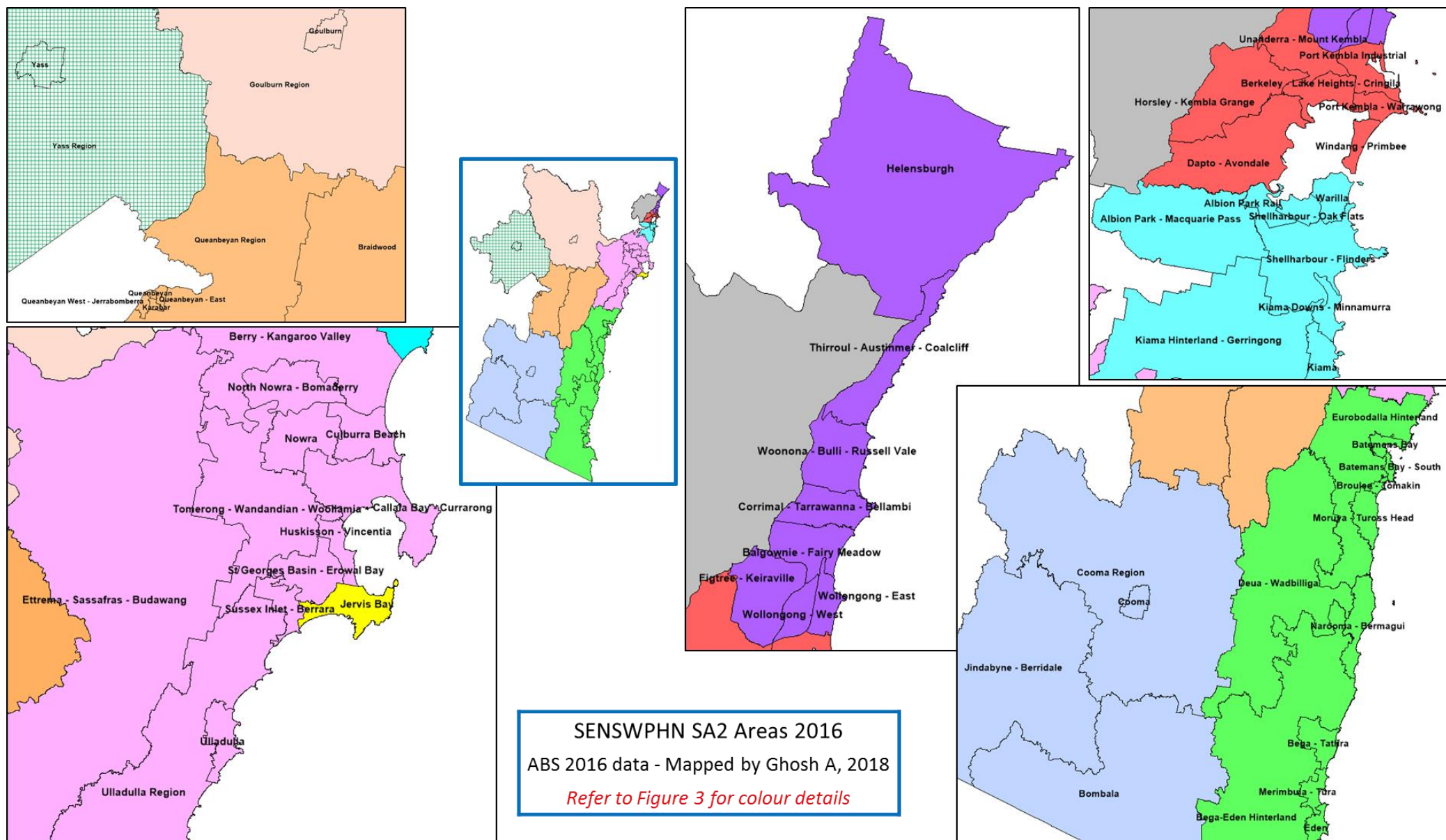
Figure 4: Map of the SENSWPHN Catchment by Health Administrative Boundaries or **Local Health Districts** [4]



While all the reporting indicators would be presented in a tabular or a charted manner using predominantly **Regions** and where applicable **Local Health Districts** or in cases of unavailability of data at the **Region** level then **Areas Version 1** or **Areas Version 2** as illustrated above; some indicators would also be spatially mapped for **smaller geographic areas**^e. These are 62 substantial standard geographical boundaries also known as Statistical Area Level 2 (SA2) which are defined by the Australian Statistical Geography Standard (2016 version) formulated by the ABS. A reference map is shown on the next page.

^e Statistical Areas Level 2 (SA2) **Smaller Geographic Areas** are designed by the Australian Bureau of Statistics (ABS) to reflect functional areas that represent a community that interacts together socially and economically. Like **Areas Version 1 and Areas Version 2**, SA2 areas too have variable proportions of their total land mass/population within the SENSWPHN catchment. Only SA2s that have a substantial proportion within the SENSWPHN catchment have been included in this report.

Figure 5: Map of the SENSWPHN Catchment by Smaller Geographic Areas (SA2) [3]



2. DEMOGRAPHY

2.1. Life expectancy

The life expectancy of the overall SENSWPHN catchment population is estimated to be less than average NSW state residents

Table 1: Life expectancy at birth, 2018 [5]

| LHDs and PHN | Females | Males | Persons |
|-----------------------------|-------------|-------------|-------------|
| <i>Illawarra Shoalhaven</i> | 84.9 | 80.4 | 82.6 |
| <i>Southern NSW</i> | 84.6 | 80.3 | 82.4 |
| South Eastern NSW | 84.8 | 80.4 | 82.5 |
| NSW | 85.7 | 81.5 | 83.6 |

2.2. Current population

The most updated Estimated Resident Population (ERP)^f of the SENSWPHN catchment is shown below. The catchment has a unique mix of population clustering with the bulk of residents residing in the northern part of the catchment, especially in the Wollongong and Shellharbour regions while regions like Snowy Monaro Regional and Upper Lachlan Shire being extremely sparsely populated.

Table 2: Estimated resident population, 2019 [6]

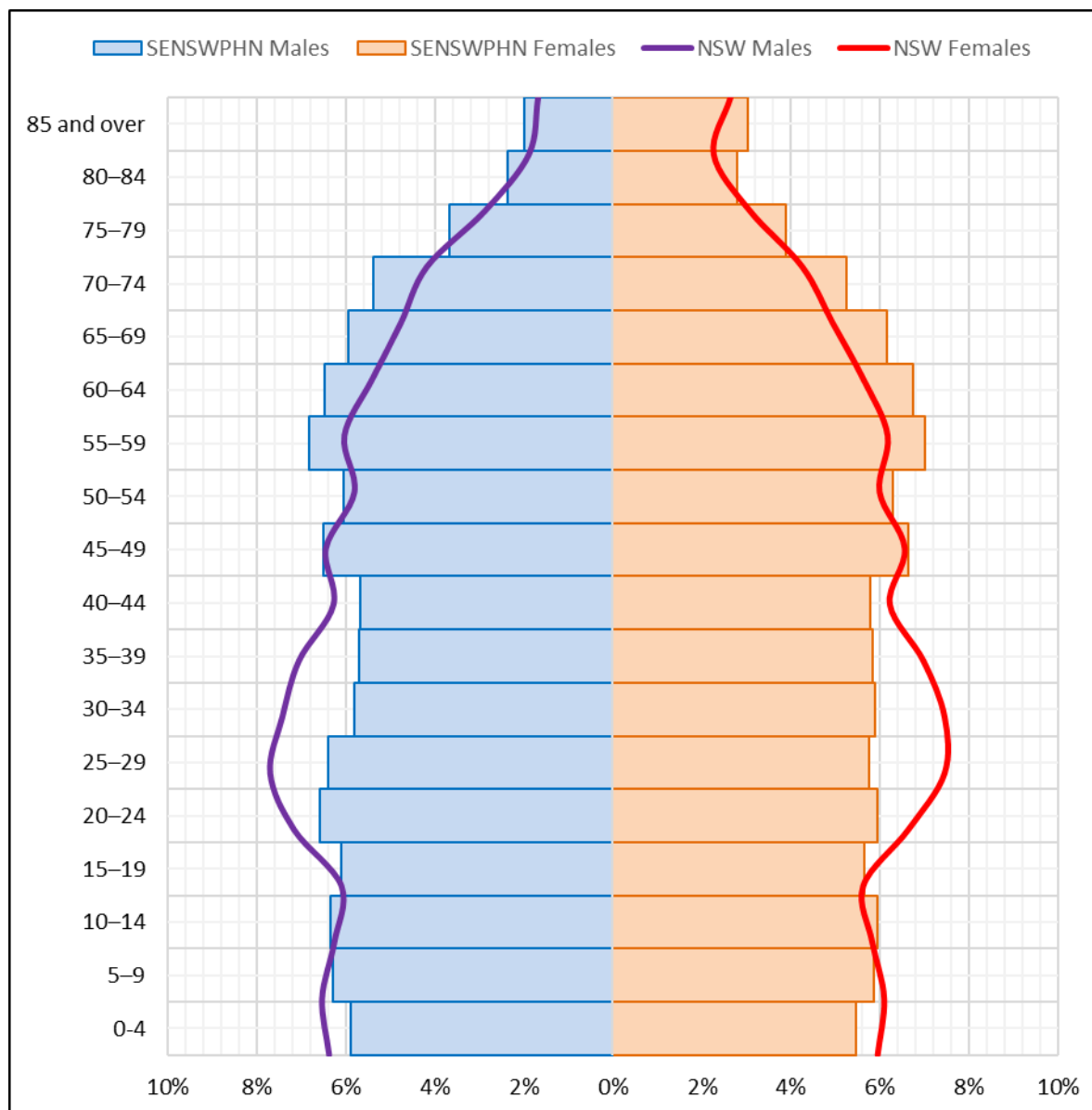
| Regions | Population | Population density |
|------------------------------|----------------|--------------------|
| Bega Valley | 34,476 | 5.5 |
| Eurobodalla | 38,473 | 11.2 |
| Goulburn Mulwaree | 31,132 | 9.7 |
| Jervis Bay | 398 | 5.9 |
| Kiama | 23,386 | 90.7 |
| Queanbeyan-Palerang Regional | 61,100 | 11.5 |
| Shellharbour | 73,233 | 496.8 |
| Shoalhaven | 105,648 | 23.1 |
| Snowy Monaro Regional | 20,795 | 1.4 |
| Upper Lachlan Shire | 8,059 | 1.1 |
| Wollongong | 218,114 | 318.9 |
| Yass Valley | 17,087 | 4.3 |
| SENSWPHN | 631,901 | 12.6 |
| <i>Illawarra Shoalhaven</i> | <i>420,779</i> | <i>73.5</i> |
| <i>Southern NSW</i> | <i>211,122</i> | <i>4.7</i> |
| NSW | 8,089,817 | 10.1 |
| Australia | 25,365,571 | 3.3 |

^f The **Estimated Resident Population (ERP)** is the official estimate of regional population produced by the ABS. It is based on the Usual Resident Population (URP) counts derived from the latest Census. It is compiled as at 30 June of each Census year and updated regularly to account for Census net under-enumeration (or undercount); residents who are temporarily overseas on Census Night and are therefore not covered by the Australian Census; and back-dating of population estimates using data from birth and death registrations, overseas arrivals and departures, and estimates of interstate migration, for the relevant period.

The sex distribution of the SENSWPHN population is very evenly distributed with 49.8% of the population being males and 50.2% females.

The overall age structure of the SENSWPHN population is typical of a rapidly aging population and in general, indicates a relatively older age profile. Compared to NSW state population distribution, the SENSWPHN catchment population has a substantially higher proportion in the older age groups.

Figure 6: Population Pyramid of SENSWPHN Catchment, 2019 [7]



The Eurobodalla region has a substantially higher proportion of older-aged persons and as per the latest figures, the Eurobodalla region had the highest NSW state figures for the proportion of its resident population being aged 65 years and over.

Figure 7: Population age distribution, 2019 [7]



2.3. Projected population

The population of the SENSWPHN catchment is expected to grow by 8.4% to a total of 660,999 residents by the year 2026 with the highest growth projected for the age group 65 years and over.

Table 3: Population projection figures, 2026 [8]

| Regions | 2026 Projected Population (no.) | | | | | Growth (no.) 2016 to 2026 | | | | | Growth (%) 2016 to 2026 | | | | |
|------------------------------|---------------------------------|----------------|----------------|----------------|----------------|---------------------------|---------------|-------------|---------------|---------------|-------------------------|-------------|--------------|--------------|-------------|
| | 0-14 | 15-44 | 45-64 | 65 & over | Total | 0-14 | 15-44 | 45-64 | 65 & over | Total | 0-14 | 15-44 | 45-64 | 65 & over | Total |
| Bega Valley | 4,816 | 8,989 | 9,150 | 10,955 | 33,910 | -730 | -129 | -1,668 | 2,496 | -31 | -13.2% | -1.4% | -15.4% | 29.5% | -0.1% |
| Eurobodalla | 4,990 | 9,455 | 9,779 | 13,130 | 37,354 | -652 | -218 | -1,727 | 2,032 | -565 | -11.6% | -2.3% | -15.0% | 18.3% | -1.5% |
| Goulburn Mulwaree | 5,441 | 11,214 | 7,932 | 7,371 | 31,958 | -176 | 229 | -46 | 1,690 | 1,697 | -3.1% | 2.1% | -0.6% | 29.7% | 5.6% |
| Kiama | 4,000 | 6,877 | 5,883 | 6,726 | 23,486 | 160 | -54 | -459 | 1,729 | 1,376 | 4.2% | -0.8% | -7.2% | 34.6% | 6.2% |
| Queanbeyan-Palerang Regional | 11,260 | 23,254 | 16,466 | 11,244 | 62,224 | -267 | -249 | 439 | 4,511 | 4,434 | -2.3% | -1.1% | 2.7% | 67.0% | 7.7% |
| Shellharbour | 15,179 | 30,663 | 19,382 | 16,481 | 81,705 | 913 | 3,728 | 1,562 | 5,111 | 11,314 | 6.4% | 13.8% | 8.8% | 45.0% | 16.1% |
| Shoalhaven | 17,321 | 31,349 | 26,878 | 35,102 | 110,650 | 80 | 356 | -937 | 9,209 | 8,708 | 0.5% | 1.1% | -3.4% | 35.6% | 8.5% |
| Snowy Monaro Regional | 3,007 | 6,351 | 5,464 | 4,924 | 19,746 | -614 | -901 | -451 | 1,154 | -812 | -17.0% | -12.4% | -7.6% | 30.6% | -3.9% |
| Upper Lachlan Shire | 1,445 | 2,334 | 2,276 | 2,139 | 8,194 | 49 | 61 | -151 | 382 | 341 | 3.5% | 2.7% | -6.2% | 21.7% | 4.3% |
| Wollongong | 41,701 | 93,656 | 54,084 | 45,251 | 234,692 | 3,320 | 8,590 | 2,895 | 9,493 | 24,298 | 8.7% | 10.1% | 5.7% | 26.5% | 11.5% |
| Yass Valley | 3,160 | 5,287 | 4,923 | 3,710 | 17,080 | -424 | -410 | 209 | 1,137 | 512 | -11.8% | -7.2% | 4.4% | 44.2% | 3.1% |
| SENSWPHN | 112,320 | 229,429 | 162,217 | 157,033 | 660,999 | 1,659 | 11,003 | -334 | 38,944 | 51,272 | 1.5% | 5.0% | -0.2% | 33.0% | 8.4% |
| <i>Illawarra Shoalhaven</i> | 78,201 | 162,545 | 106,227 | 103,560 | 450,533 | 4,473 | 12,620 | 3,061 | 25,542 | 45,696 | 6.1% | 8.4% | 3.0% | 32.7% | 11.3% |
| <i>Southern NSW</i> | 34,119 | 66,884 | 55,990 | 53,473 | 210,466 | -2,814 | -1,617 | -3,395 | 13,402 | 5,576 | -7.6% | -2.4% | -5.7% | 33.4% | 2.7% |
| NSW | 1,663,789 | 3,627,356 | 2,078,724 | 1,641,144 | 9,011,013 | 210,458 | 454,666 | 188,227 | 424,804 | 1,278,155 | 14.5% | 14.3% | 10.0% | 34.9% | 16.5% |

2.4. Population diversity

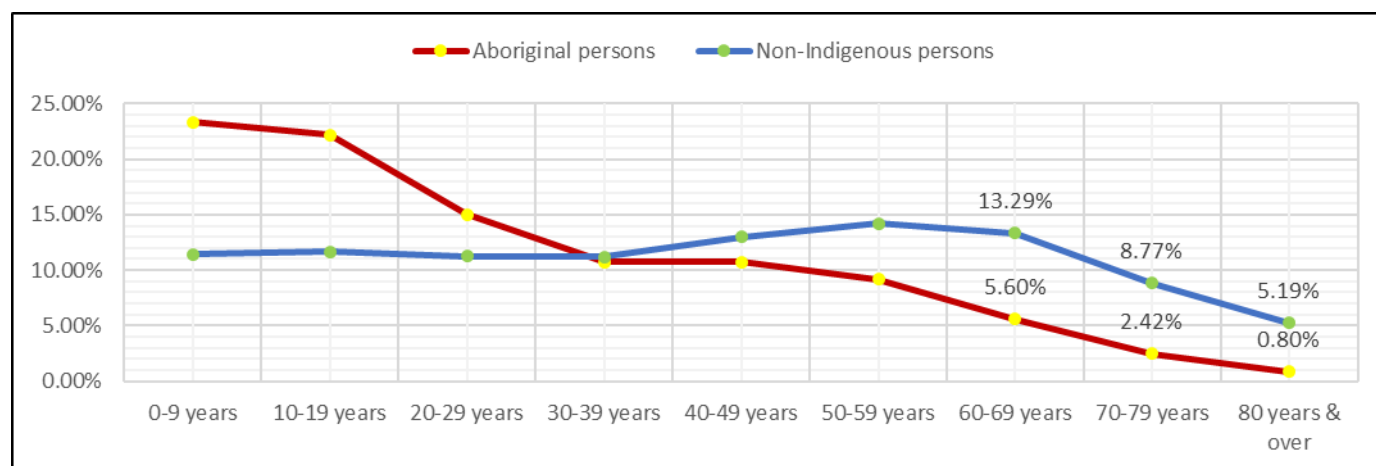
2.4.1. Aboriginal and Torres Strait Islander population

As per the 2016 estimates, the SENSWPHN catchment is home to 3.2% of Australia's Aboriginal^g population and 9.7% of the total Aboriginal population of NSW.

Table 4: Aboriginal^g population, 2016 [9]

| Regions | Total persons identified as Aboriginal or Torres Strait Islander | Aboriginal population as a proportion of total LGA population (%) | Aboriginal population as a proportion of total Aboriginal population of SENSWPHN (%) |
|------------------------------|--|---|--|
| Bega Valley | 1,275 | 3.8% | 4.9% |
| Eurobodalla | 2,591 | 6.8% | 10.0% |
| Goulburn Mulwaree | 1,447 | 4.8% | 5.6% |
| Jervis Bay | 234 | 58.2% | 0.9% |
| Kiama | 478 | 2.2% | 1.9% |
| Queanbeyan-Palerang Regional | 2,107 | 3.6% | 8.2% |
| Shellharbour | 3,178 | 4.5% | 12.3% |
| Shoalhaven | 6,808 | 6.7% | 26.4% |
| Snowy Monaro Regional | 545 | 2.7% | 2.1% |
| Upper Lachlan Shire | 222 | 2.8% | 0.9% |
| Wollongong | 6,444 | 3.1% | 25.0% |
| Yass Valley | 477 | 2.9% | 1.8% |
| SENSWPHN | 25,806 | 4.2% | 100.0% |
| <i>Illawarra Shoalhaven</i> | <i>17,142</i> | <i>4.2%</i> | <i>66.4%</i> |
| <i>Southern NSW</i> | <i>8,664</i> | <i>4.2%</i> | <i>33.6%</i> |
| NSW | 265,685 | 3.4% | |
| Australia | 798,365 | 3.3% | |

Figure 8: Age distribution comparisons of the Aboriginal^g and the non-Indigenous population of SENSWPHN^h, 2016 [10]

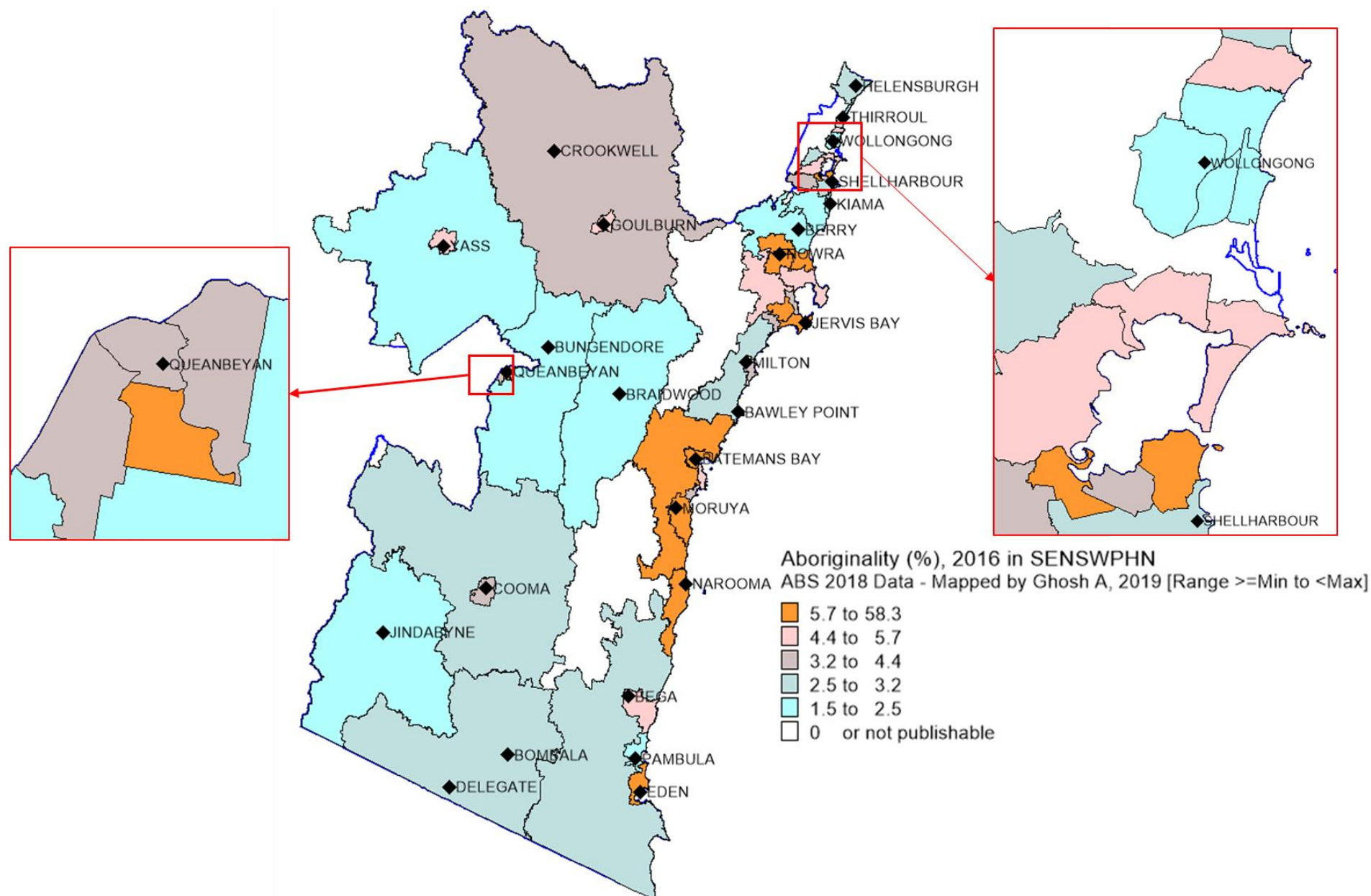


The age distribution of the SENSWPHN catchment's Aboriginal^g population differs remarkably from that of the non-Indigenous resident population suggestive of the noteworthy differences and 'gaps' in key indicators between the two groups primarily the gap in life expectancy. While 27.3% of the non-Indigenous population is aged 60 years and over; only 8.8% of the Aboriginal^g population is aged 60 years and over.

^g In this report the term **Aboriginal** respectfully refers to persons identified as Aboriginal and / or Torres Strait Islander.

^h These figures are based on **Usual Resident Population (URP)** figures as per the 2016 Census which may differ from the **Estimated Resident Population (ERP)** figures used in the previous table for the regions and the catchment.

Figure 9: Aboriginal⁹ population as a proportion of the resident population of smaller geographic areas of South Eastern NSW, 2016 [10]



2.4.2. Culturally and Linguistically Diverse (CALD) population

A total of 55,284 of residents in the SENSWPHN catchment are persons who were born overseas in predominantly non-English speaking background countriesⁱ.

Table 5: Culturally and Linguistically Diverse (CALD) population, 2016 [10]

| Regions | Population born in predominantly non-English speaking countries | % of Resident Population |
|------------------------------|---|--------------------------|
| Bega Valley | 1,475 | 4.4% |
| Eurobodalla | 1,967 | 5.3% |
| Goulburn Mulwaree | 1,611 | 5.4% |
| Kiama | 985 | 4.6% |
| Queanbeyan-Palerang Regional | 6,159 | 11.0% |
| Shellharbour | 6,281 | 9.2% |
| Shoalhaven | 5,251 | 5.3% |
| Snowy Monaro Regional | 1,306 | 6.5% |
| Upper Lachlan Shire | 173 | 2.2% |
| Wollongong | 29,457 | 14.5% |
| Yass Valley | 623 | 3.9% |
| SENSWPHN | 55,284 | 9.3% |
| <i>Illawarra Shoalhaven</i> | <i>41,974</i> | <i>10.7%</i> |
| <i>Southern NSW</i> | <i>13,314</i> | <i>6.7%</i> |
| NSW | 1,573,969 | 21.0% |
| Australia | 4,190,925 | 17.9% |

Based on the country of birth of residents as identified in the latest national Census figures, the biggest CALD cohorts in the SENSWPHN catchment are shown below

Table 6: Top 10 CALD nationalities, 2016 [10]

| Illawarra Shoalhaven | Southern NSW | South Eastern NSW PHN |
|---|---|---|
| The former Yugoslav Republic of Macedonia | Germany | The former Yugoslav Republic of Macedonia |
| China (excludes SARs and Taiwan) | India | Italy |
| Italy | Philippines | China (excludes SARs and Taiwan) |
| Germany | Netherlands | Germany |
| India | Italy | India |
| Philippines | The former Yugoslav Republic of Macedonia | Philippines |
| Netherlands | China (excludes SARs and Taiwan) | Netherlands |
| Croatia | Croatia | Croatia |
| Portugal | Thailand | Vietnam |
| Vietnam | Greece | Greece |

While simply being born in a non-English speaking nation may not be an indicator of any relative disadvantage or social vulnerability, the ability to speak and communicate in English is often identified as something that can contribute to the health and social marginalisation.

ⁱ **Predominantly non-English speaking countries** comprise of all nations except the countries that are designated as English-speaking. These English-speaking nations are: Australia, Canada, Ireland, New Zealand, South Africa, United Kingdom and the United States of America

In the SENSWPHN catchment, 9,201 residents are reported to have poor proficiency in speaking English.

Table 7: Poor English language proficiency population, 2016 [11, 12]

| Regions | Population with poor English proficiency | % of Resident Population |
|------------------------------|--|--------------------------|
| Bega Valley | 91 | 0.3% |
| Eurobodalla | 153 | 0.4% |
| Goulburn Mulwaree | 227 | 0.8% |
| Kiama | 90 | 0.4% |
| Queanbeyan-Palerang Regional | 783 | 1.4% |
| Shellharbour | 1,062 | 1.6% |
| Shoalhaven | 498 | 0.5% |
| Snowy Monaro Regional | 118 | 0.6% |
| Upper Lachlan Shire | 5 | 0.1% |
| Wollongong | 6,121 | 3.0% |
| Yass Valley | 43 | 0.3% |
| SENSWPHN | 9,201 | 1.5% |
| <i>Illawarra Shoalhaven</i> | <i>7,771</i> | <i>2.0%</i> |
| <i>Southern NSW</i> | <i>1,420</i> | <i>0.7%</i> |
| NSW | 336,404 | 4.5% |
| Australia | 819,925 | 3.5% |

Another mechanism to gauge the cultural and linguistic diversity in the resident community is to review the language that people speak at home. A substantial proportion of the SENSWPHN catchment population identify speaking a non-English language at home.

Table 8: Non-English speaking population, 2016 [10]

| Regions | Population that speaks a language other than English at home | % of Resident Population |
|------------------------------|--|--------------------------|
| Bega Valley | 1,004 | 3.0% |
| Eurobodalla | 1,369 | 3.7% |
| Goulburn Mulwaree | 1,408 | 4.8% |
| Kiama | 917 | 4.3% |
| Queanbeyan-Palerang Regional | 6,769 | 12.1% |
| Shellharbour | 7,111 | 10.4% |
| Shoalhaven | 4,005 | 4.0% |
| Snowy Monaro Regional | 1,027 | 5.1% |
| Upper Lachlan Shire | 106 | 1.4% |
| Wollongong | 34,306 | 16.8% |
| Yass Valley | 561 | 3.5% |
| SENSWPHN | 58,749 | 9.9% |
| <i>Illawarra Shoalhaven</i> | <i>46,339</i> | <i>11.8%</i> |
| <i>Southern NSW</i> | <i>12,244</i> | <i>6.1%</i> |
| NSW | 1,881,982 | 25.2% |
| Australia | 4,871,702 | 20.8% |

Based on the primary language spoken within households of residents as identified in the latest national Census figures, the biggest language-based diversity cohorts in the SENSWPHN catchment are shown below

Table 9: Top 10 non-English languages spoken in households, 2016 [10]

| Illawarra Shoalhaven | Southern NSW | South Eastern NSW PHN |
|----------------------|--------------|-----------------------|
| Macedonian | Italian | Macedonian |
| Italian | Macedonian | Italian |
| Mandarin | German | Mandarin |
| Arabic | Mandarin | Arabic |
| Spanish | Punjabi | Spanish |
| Greek | Greek | Greek |
| Serbian | Croatian | German |
| German | Spanish | Serbian |
| Vietnamese | French | Croatian |
| Portuguese | Filipino | Vietnamese |

Another significant segment of the CALD cohort of persons is the refugee population, especially permanent migrants settled in parts of the SENSWPHN catchment under the Offshore Humanitarian Program^j. A total of 2,182 persons are recorded to have arrived between the years 2000 and 9th August 2016; who settled in the SENSWPHN catchment with almost 50% of persons arriving between 2012 and 9th August 2016 [11, 12]. Little over 90% of this cohort is estimated to be in the Wollongong region; which therefore adds to the wider health and social needs of the CALD population of the region.

^j The **Humanitarian Program** is comprised of the offshore (UNHCR referred and the Special Humanitarian Program) and the onshore component (protection provided to onshore refugees).

2.4.3. Aged population

As identified earlier in the [Current population](#) section of this report, a significant proportion of the residents of the SENSWPHN catchment are aged 65 years and over. Moreover, the [Population projection](#) section highlights a notable projected growth in the overall numbers of persons aged 65 years and over by 2026.

Table 10: Population figures for persons aged 65 years and over, 2019 [7]

| Regions | 65 years & over | % of Resident Population |
|------------------------------|-----------------|--------------------------|
| Bega Valley | 9,248 | 26.8% |
| Eurobodalla | 12,080 | 31.4% |
| Goulburn Mulwaree | 6,190 | 19.9% |
| Jervis Bay | 29 | 7.3% |
| Kiama | 5,713 | 24.4% |
| Queanbeyan-Palerang Regional | 7,797 | 12.8% |
| Shellharbour | 12,354 | 16.9% |
| Shoalhaven | 27,985 | 26.5% |
| Snowy Monaro Regional | 4,071 | 19.6% |
| Upper Lachlan Shire | 1,907 | 23.7% |
| Wollongong | 37,567 | 17.2% |
| Yass Valley | 2,997 | 17.5% |
| SENSWPHN | 127,938 | 20.2% |
| <i>Illawarra Shoalhaven</i> | <i>83,648</i> | <i>19.9%</i> |
| <i>Southern NSW</i> | <i>44,290</i> | <i>21.0%</i> |
| NSW | 1,319,500 | 16.3% |
| Australia | 4,038,179 | 15.9% |

The SENSWPHN catchment and its constituent regions also have relatively very high median ages. Two of the regions in the catchment fall in the top 10 regions in NSW state for high median ages with Eurobodalla's overall resident median age being the highest among all regions (local government areas) in NSW.

Figure 10: Median Age, 2019 [7]

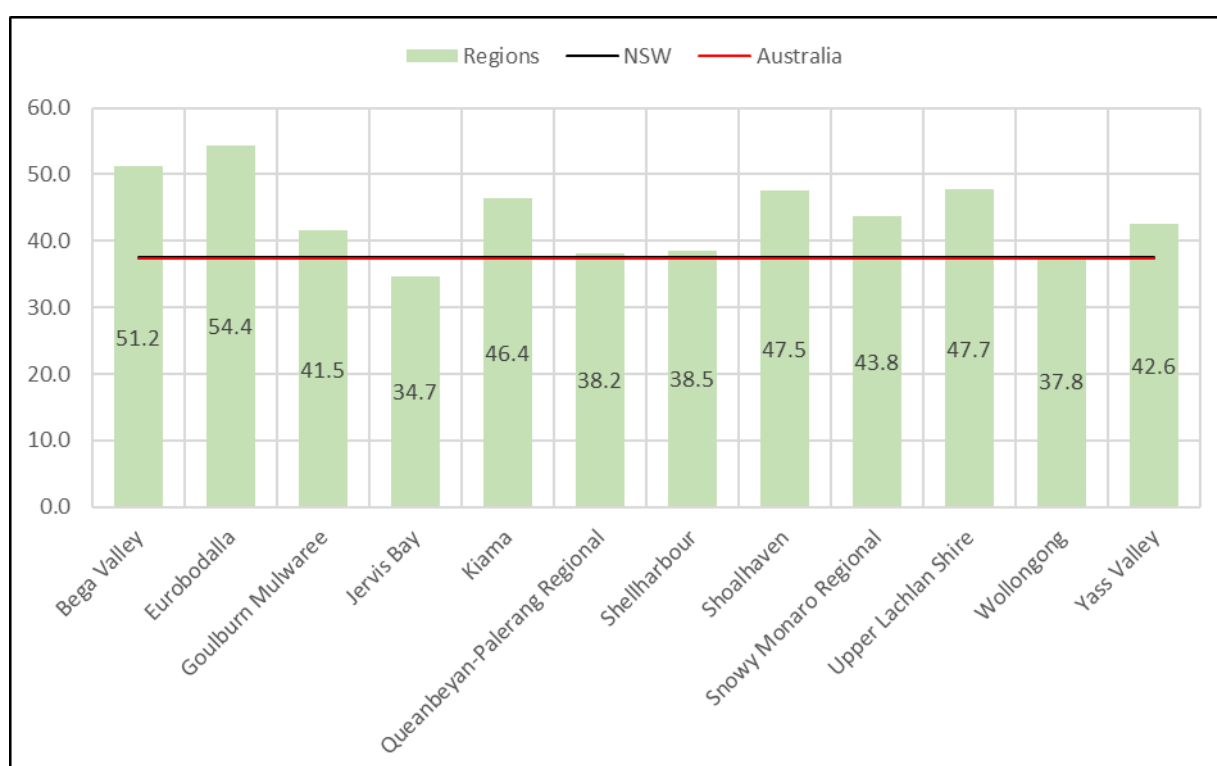
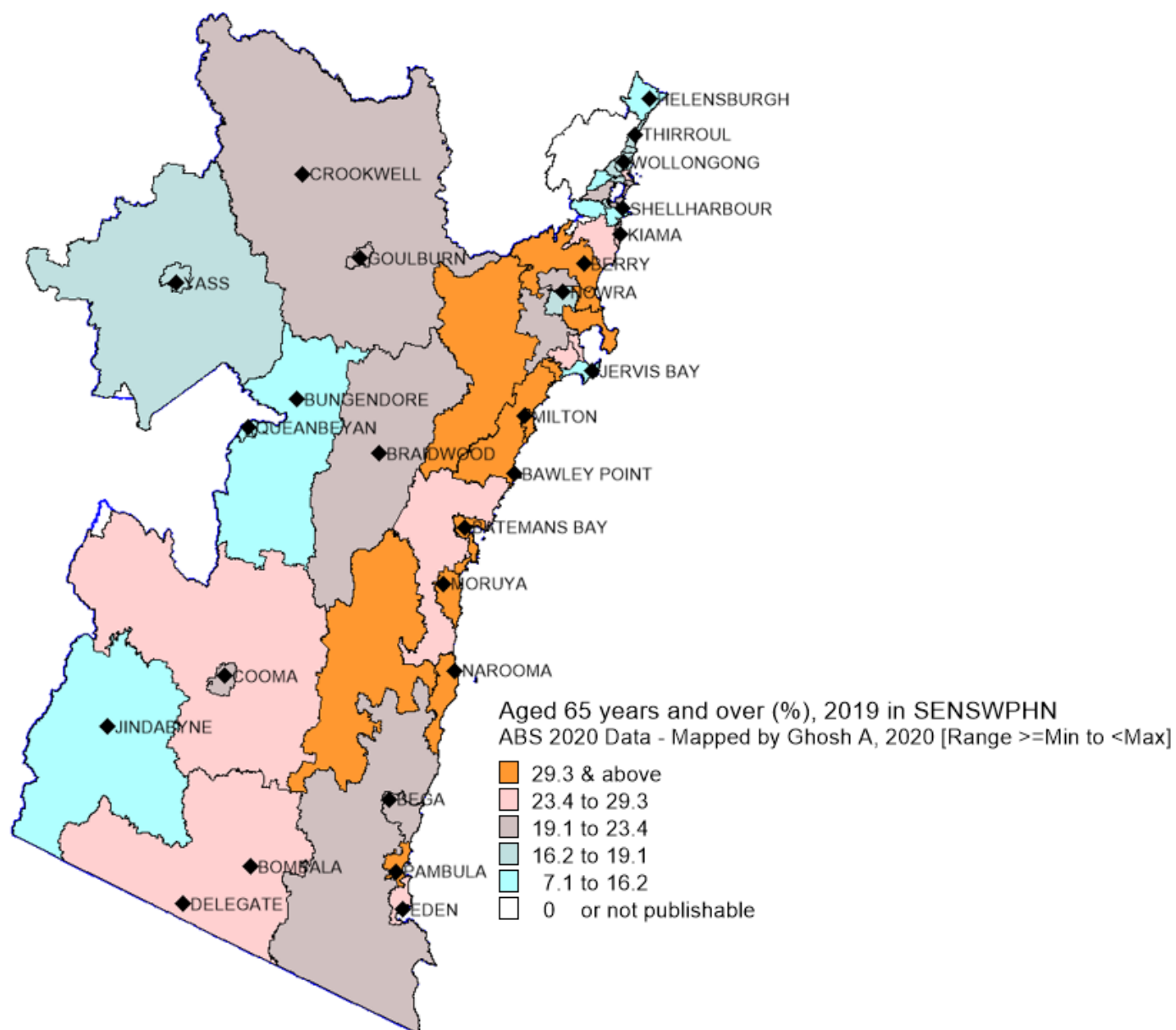


Figure 11: Population aged 65 years and over as a proportion of the resident population of smaller geographic areas of South Eastern NSW, 2019 [7]



3. SOCIAL DETERMINANTS OF HEALTH

3.1. Socio-economic disadvantage

A composite measure to estimate the socio-economic vulnerability of regions and areas is the Index of Relative Socio-Economic Disadvantage (IRSD) which is one of the key indices of the Socio-Economic Indexes for Areas (SEIFA). The SEIFA-IRSD measures socio-economic disadvantage in terms of access to material and social resources for people of a geographic area and their ability to participate in society. The SEIFA-IRSD is a weighted score of multiple variables^k that are indicators of disadvantage.

With the reference value for the whole of Australia set to 1000, values lower than 1000 indicate some levels of relative socio-economic disadvantage. Lower SEIFA-IRSD score means a higher degree of relative socio-economic disadvantage for the respective area.

Table 11: Index of Relative Socio-Economic Disadvantage (IRSD), 2016 [13]

| Regions | SEIFA-IRSD Score | National Rank (amongst 911 regions) | NSW State Rank (amongst 130 regions) |
|------------------------------|------------------|--|---|
| Bega Valley | 976 | 275 | 72 |
| Eurobodalla | 962 | 228 | 56 |
| Goulburn Mulwaree | 960 | 218 | 52 |
| Jervis Bay [#] | 801 | 48 | na |
| Kiama | 1064 | 503 | 117 |
| Queanbeyan-Palerang Regional | 1053 | 495 | 112 |
| Shellharbour | 976 | 271 | 69 |
| Shoalhaven | 964 | 234 | 59 |
| Snowy Monaro Regional | 1008 | 400 | 100 |
| Upper Lachlan Shire | 998 | 367 | 93 |
| Wollongong | 989 | 326 | 86 |
| Yass Valley | 1062 | 501 | 116 |
| SENSWPHN* | 991 | 18 amongst 31 PHNs | 6 amongst 10 PHNs |
| <i>Illawarra Shoalhaven*</i> | <i>985</i> | | |
| <i>Southern NSW*</i> | <i>1004</i> | | |

Note: [#] Jervis Bay score is based on smaller geographic area scores, while all other regions are LGA level scores. Jervis Bay being a Commonwealth Territory is not part of NSW state and hence its relative NSW state ranking is marked as na.

* PHN and LHD scores are a population-weighted average score of constituent smaller geographic areas^l

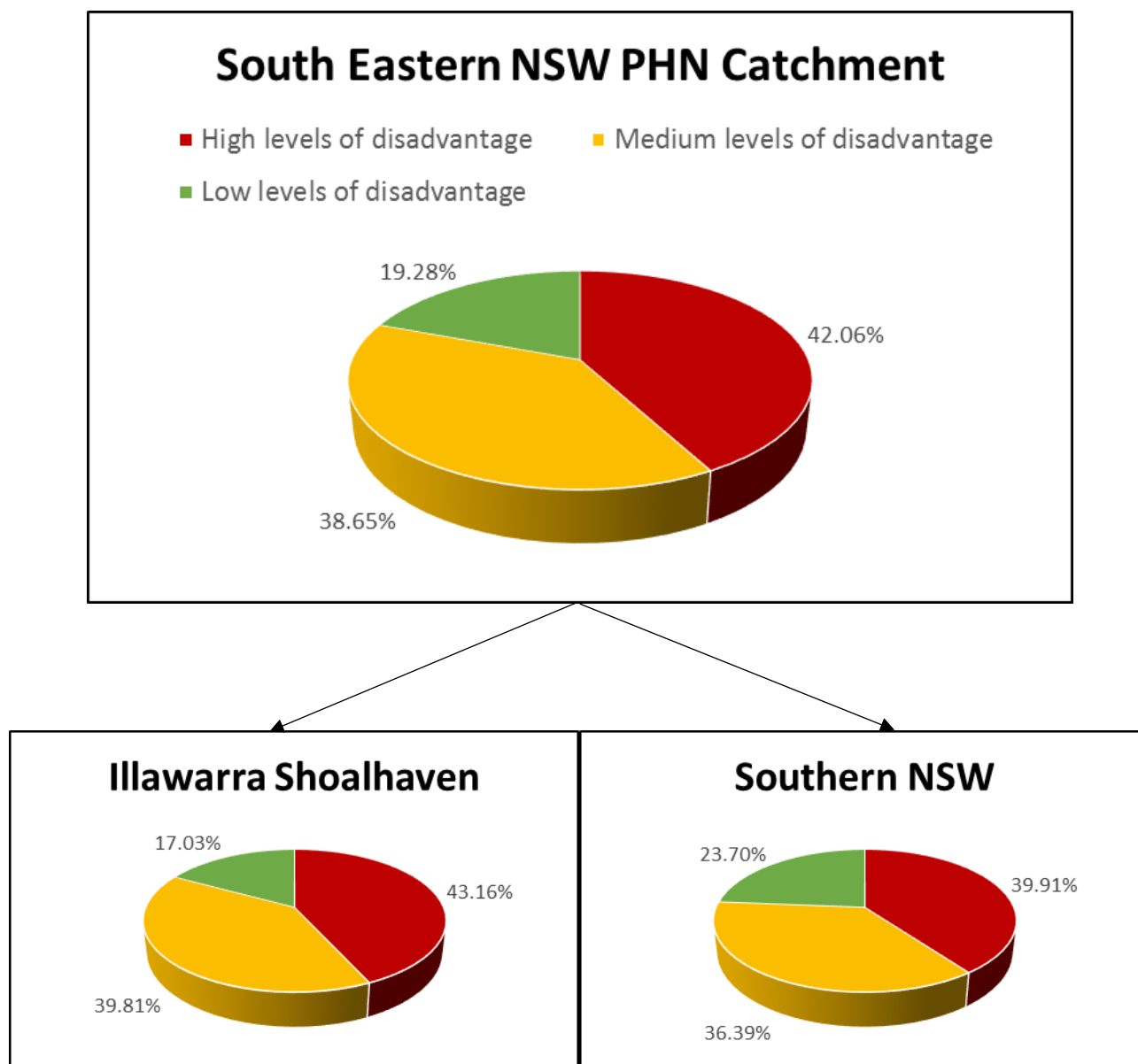
^k Variables included in the **Socio-Economic Indexes for Areas (SEIFA) - Index of Relative Socio-Economic Disadvantage (IRSD) 2016** are:

- % of people with stated household equivalised income between \$1 and \$25,999 per year;
- % of families with children under 15 years of age who live with jobless parents;
- % of occupied private dwellings with no internet connection;
- % of people aged 15 years and over whose highest level of education is Year 11 or lower;
- % of people (in the labour force) who are unemployed;
- % of employed people classified as Labourers;
- % of occupied private dwellings paying rent less than \$215 per week (excluding \$0 per week);
- % of one parent families with dependent offspring only;
- % of people under the age of 70 who have a long-term health condition or disability and need assistance with core activities;
- % of people aged 15 years and over who are separated or divorced;
- % of employed people classified as Machinery Operators and Drivers;
- % of employed people classified as low skill Community and Personal Service workers;
- % of occupied private dwellings with no cars;
- % of occupied private dwellings requiring one or more extra bedrooms;
- % of people aged 15 years and over who have no educational attainment; and
- % of people who do not speak English well.

^l Population weighted average scores for PHN uses the population distribution by SA2 areas and the SEIFA-IRSD score for constituent SA2 areas within the PHN.

Overall a substantial proportion of the Usual Resident Population (URP)^m figures of the SENSWPHN catchment is identified to have high levels of relative socio-economic disadvantage. Australian national percentiles of SEIFA-IRSD scores for smaller geographic areas (SA2 areas)^e that are included in the SENSWPHN catchment reveal over 42% of the population to be residents of areas that fall in the top 33 national percentiles of socio-economic disadvantage.

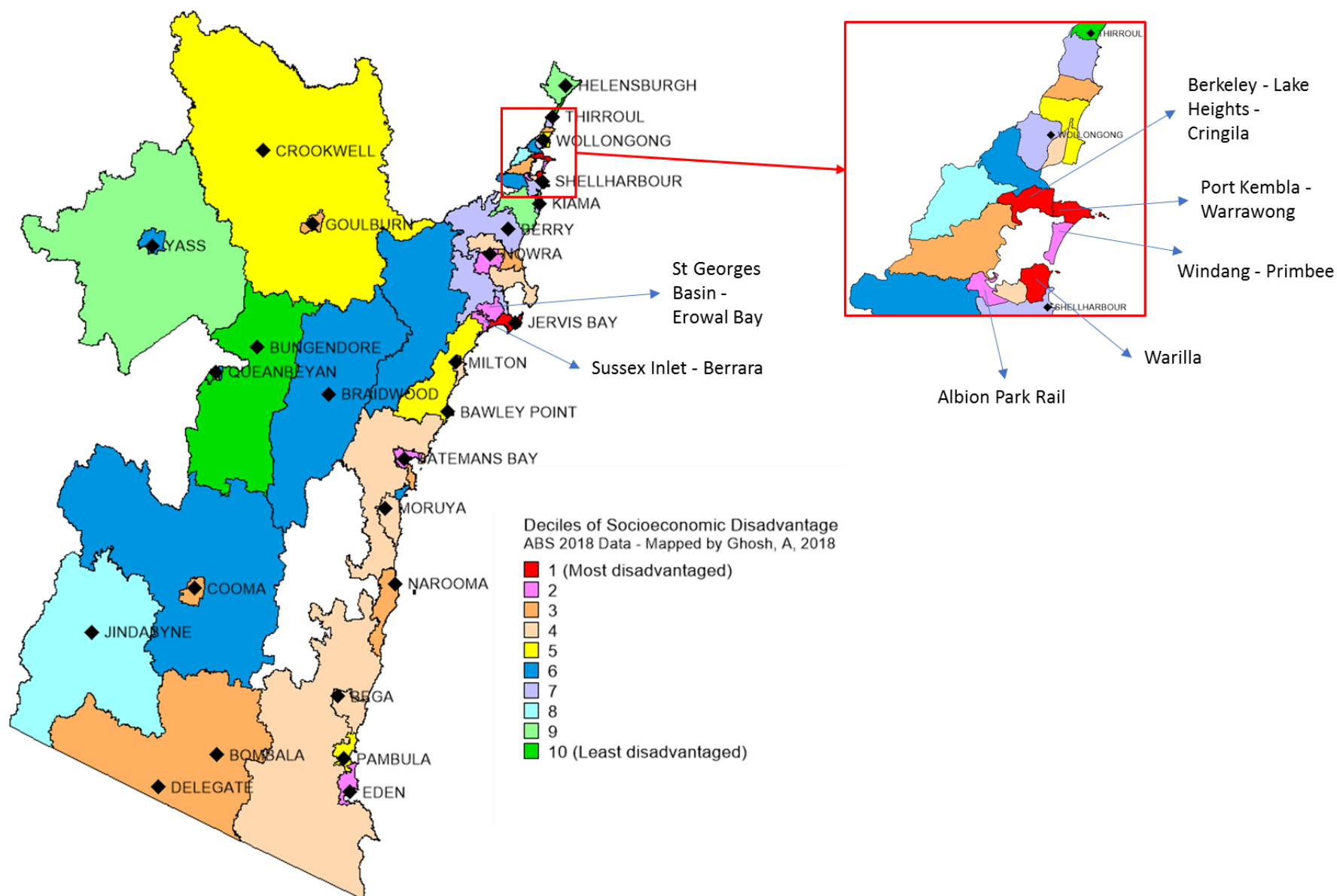
Figure 12: Population distribution of relative socio-economic disadvantage based on national percentiles of Index of Relative Socio-Economic Disadvantage (IRSD for smaller geographic areas of South Eastern NSW, 2016 [13]



^m The Census count for **Place of Usual Residence (PURP)** is a count of every person in Australia on Census Night, based on the area in which they usually live. URP figures form the basis of the Estimated Resident Population (ERP) which were illustrated earlier in the [Current population](#) section.

Figure 13: Index of Relative Socio-Economic Disadvantage (IRSD) for smaller geographic areas of South Eastern NSW, 2016 [13]

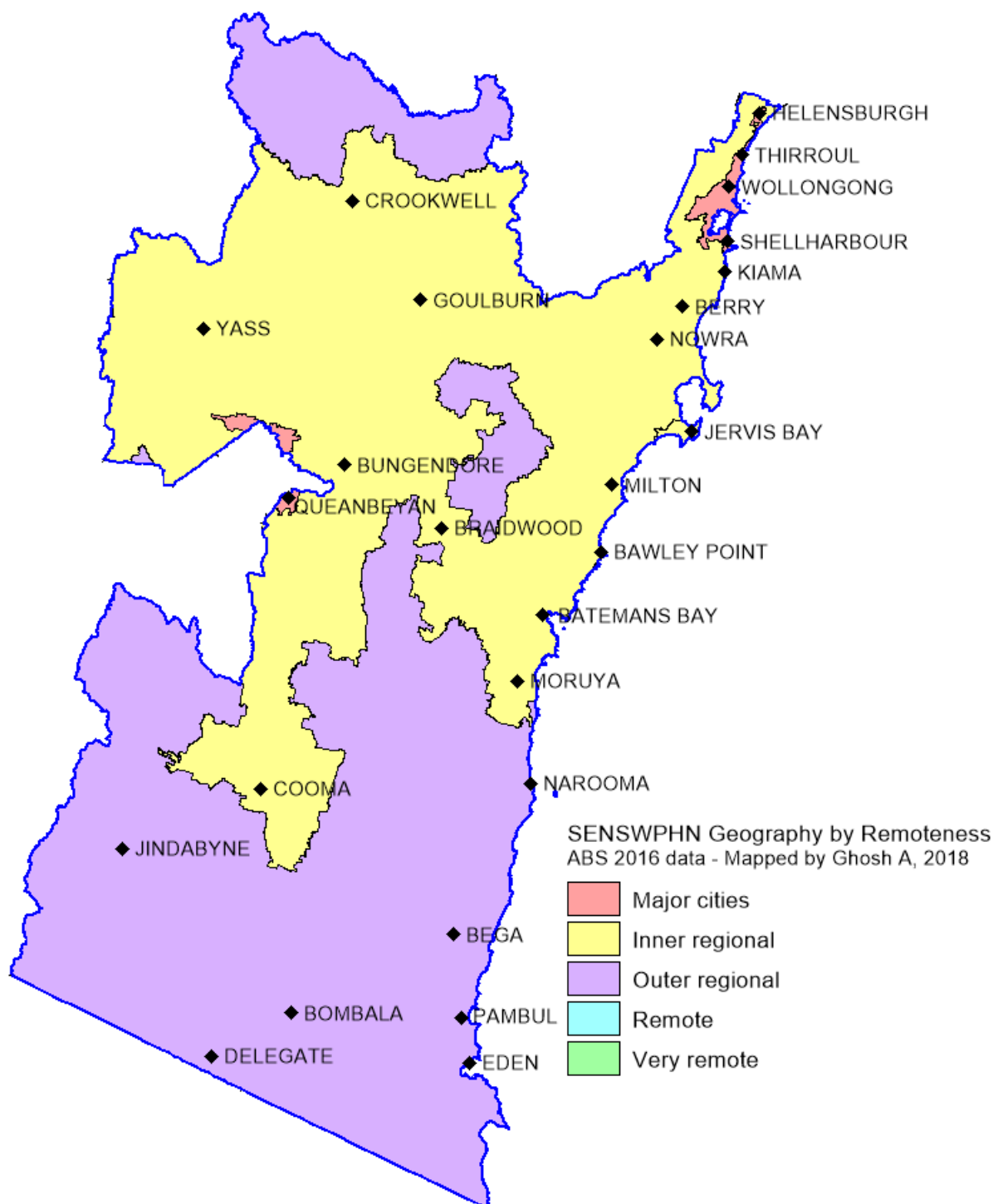
Note: Labels are used in addition to markers of key towns in the map below, to indicate smaller geographic areas that fall in the first 2 national deciles of disadvantage



3.2. Remoteness

The SENSWPHN catchment population distribution, as well as the geographic landmass, can be quantified according to the current Remoteness Areas as per the Australian Standard Geography Standard [14]. The population within Outer regional (RA3) areas, even though a minor proportion of the total SENSWPHN population, are exposed to greater levels of service inaccessibility, workforce shortage and other disadvantages due to geographical isolation. Geographically the RA3 area occupies quite a considerable proportion of the SENSWPHN catchment as shown in the figure below.

Figure 14: Remoteness area based geographic distribution, 2016 [14]



3.3. Unemployment

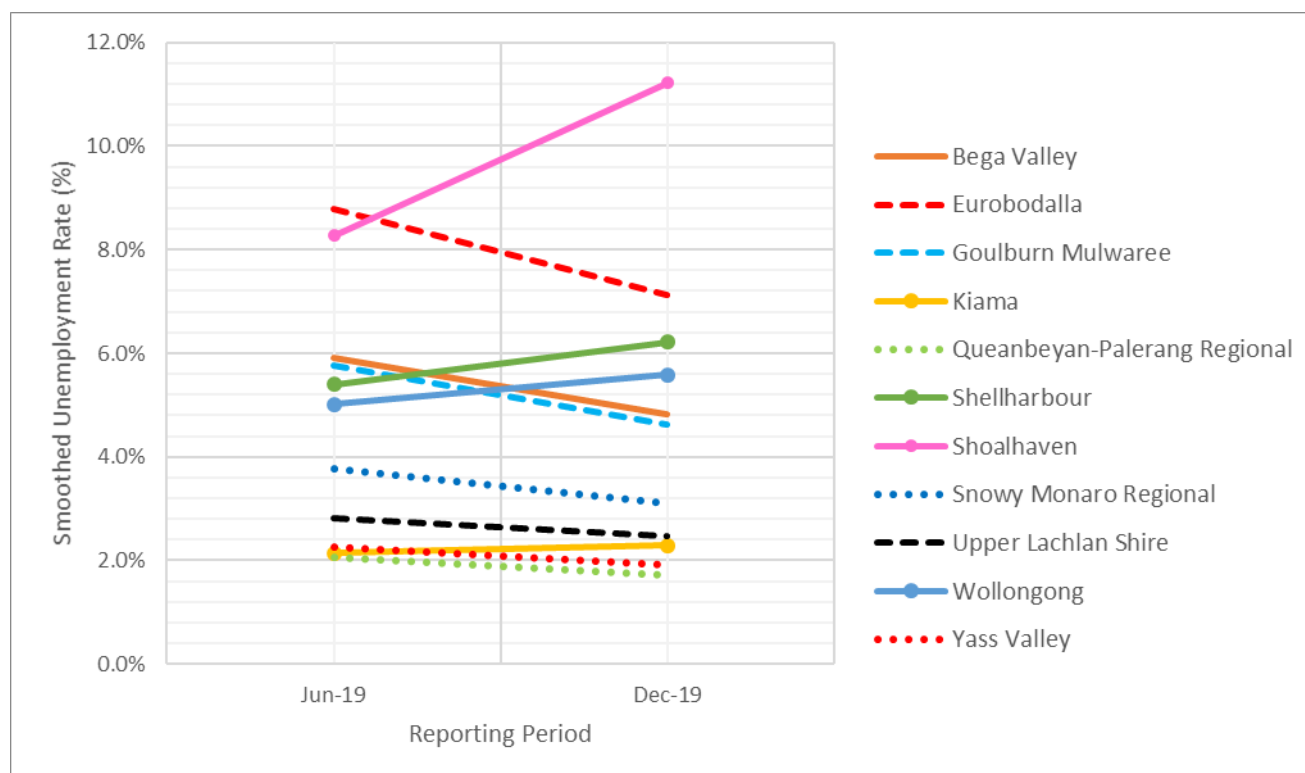
Using smoothed ratesⁿ of unemployment at the regional (smaller area levels), gives a very accurate understanding of unemployment. The SENSWPHN catchment has several pockets of very high unemployment rate according to recent figures and trends.

Table 12: Smoothedⁿ estimates of unemployment, 2019 [15]

| Regions | Smoothed unemployment rate (%) [*] | |
|------------------------------|---|--------------|
| | Jun-19 | Dec-19 |
| Bega Valley | 5.9% | 4.8% |
| Eurobodalla | 8.8% | 7.1% |
| Goulburn Mulwaree | 5.8% | 4.6% |
| Kiama | 2.1% | 2.3% |
| Queanbeyan-Palerang Regional | 2.1% | 1.7% |
| Shellharbour | 5.4% | 6.2% |
| Shoalhaven | 8.3% | 11.2% |
| Snowy Monaro Regional | 3.8% | 3.1% |
| Upper Lachlan Shire | 2.8% | 2.5% |
| Wollongong | 5.0% | 5.6% |
| Yass Valley | 2.3% | 1.9% |
| SENSWPHN | 5.1% | 5.6% |
| <i>Illawarra Shoalhaven</i> | 5.6% | 6.7% |
| <i>Southern NSW</i> | 4.4% | 3.6% |
| NSW | 4.4% | 4.5% |
| Australia | 5.1% | 5.2% |

* NSW state and Australian national figures are the aggregated summary based on the Local Government Area (LGA) estimates. These figures may differ albeit very slightly from state and national estimates produced and/or published elsewhere.

Figure 15: Trends in regional smoothedⁿ estimates of unemployment, 2019 [15]



ⁿ Structure Preserving Estimation (SPREE) methodology is used which enables the generation of small area unemployment estimates. The technique of smoothing is the averaging of unemployment figures over four quarters to dampen the variability inherent in the small area estimates.

3.4. Income support

In the SENSWPHN catchment, there are notable proportions of the resident population who are recipients of one of the several welfare and/or support payments provided by the Centrelink program administered by the Department of Human Services.

Table 13: Centrelink income support recipients^o, 2017 [11, 12]

| Regions | Age pensioner (% of 65 years & above aged persons) | Disability support pensioners (% of 16-64 years aged persons) | Female sole parent pensioners (% of 15-54 years aged females) | Long-term unemployment benefit recipients (% of 16-64 years aged persons) | Youth unemployment benefit recipients (% of 15-24 years aged persons) | Welfare- dependent families (with children) (% of all families) |
|------------------------------|---|--|---|---|---|---|
| Bega Valley | 68.5% | 10.8% | 5.1% | 7.0% | 5.7% | 10.0% |
| Eurobodalla | 70.0% | 13.2% | 6.9% | 8.7% | 8.1% | 10.9% |
| Goulburn Mulwaree | 68.7% | 7.5% | 5.9% | 6.2% | 4.4% | 10.5% |
| Kiama | 57.6% | 4.0% | 2.3% | 2.8% | 2.0% | 4.2% |
| Queanbeyan-Palerang Regional | 55.1% | 4.6% | 3.0% | 2.5% | 1.7% | 5.6% |
| Shellharbour | 77.9% | 7.6% | 5.6% | 5.8% | 4.4% | 10.9% |
| Shoalhaven | 70.8% | 11.2% | 6.3% | 7.7% | 6.1% | 11.1% |
| Snowy Monaro Regional | 62.7% | 6.1% | 3.6% | 4.2% | n.a. | 7.9% |
| Upper Lachlan Shire | 61.7% | 5.9% | 3.3% | 3.5% | 2.0% | 6.0% |
| Wollongong | 72.5% | 6.8% | 3.7% | 5.3% | 3.1% | 8.6% |
| Yass Valley | 48.7% | 4.7% | 2.6% | 2.4% | 1.6% | 5.3% |
| SENSWPHN | 69.4% | 7.7% | 4.5% | 5.5% | 3.9% | 9.1% |
| Illawarra Shoalhaven | 71.8% | 7.8% | 4.5% | 5.8% | 3.9% | 9.4% |
| Southern NSW | 64.5% | 7.6% | 4.3% | 5.0% | 3.9% | 8.3% |
| NSW | 63.2% | 5.3% | 3.4% | 4.5% | 2.9% | 8.8% |
| Australia | 63.6% | 5.3% | 3.6% | 5.2% | 3.4% | 9.0% |

^o These indicators include: -

- **Age Pension:** this is available from the Department of Human Services (DHS) for persons who have reached Age Pension age. The Age Pension age depends on a person's date of birth, as follows:
 - If born before 1/7/52, Age Pension age is 65; or
 - If born between 1/7/52 and 31/12/53, Age Pension age is 65.5; or
 - If born between 1/1/54 and 30/6/55, Age Pension age is 66; or
 - If born between 1/7/55 and 31/12/56, Age Pension age is 66.5; or
 - If born from 1/1/57 or later, Age Pension age is 67
 Despite these changes in the Age Pension age, the population used to calculate the proportion of the population receiving the Age Pension remains at 65 years for this data release;
- **Disability Support Pension:** includes people in receipt of a Disability Support Pension from the Department of Human Services or a Service Pension (Permanently Incapacitated) from the Department of Veterans' Affairs;
- **Female Sole Parent Pension:** People eligible for a Parenting Payment (single) paid by Centrelink comprise female and male sole parents with at least one child under 16 years of age (who meet certain qualifications, or whose child attracts a child disability allowance). Only female sole parent pensioners have been illustrated because females comprise the majority of sole parent pensioners;
- **Long Term Unemployment Benefit:** includes people receiving an 'unemployment benefit' - which includes the Newstart Allowance or Youth Allowance (other) paid by Department of Human Services - for more than 182 days (approximately 6 months) are shown as proportion of the eligible population (of persons aged 16 to 64 years). Youth Allowance (other) is largely comprised of unemployed people aged 16 to 21 looking for full-time work or undertaking approved activities, such as part-time study or training. It excludes Youth Allowance customers who are full-time students or undertaking an apprenticeship/ traineeship;
- **Youth Unemployment Benefit:** includes people receiving an 'unemployment benefit' - which includes the Newstart Allowance (people aged 16 to 24 years) or Youth Allowance (other)¹ paid by the Department of Human Services - are shown as proportion of the population aged 16 to 24 years; and
- **Welfare Dependent Families with Children:** this includes families with children under 16 years of age and with incomes under \$37,378 p.a. in receipt of the Family Tax Benefit (A) (whether receiving income support payments or not).

3.5. Households and housing

3.5.1. Household stresses

While the indicators based on household and private dwellings^p that suggest socio-economic vulnerability such as 'low annual household equivalised incomes' or 'low housing rent costs or overcrowding in private dwellings'^q or 'not having access to motor vehicles' or 'not having access to internet' are already included in the composite IRSD scores outlined in the [Socio-economic disadvantage](#) section of this report; some other key determinants of health specific to the households and housing arrangements are illustrated here.

The 2016 Census data reveals a substantial proportion of households in SENSWPHN catchment that are in the bottom 40% of the income distribution and a large proportion of them are spending more than 30% of income on mortgage repayments or rent.

Table 14: Household financial stress^r, 2016 [11, 12]

| Regions | Low income households with financial stress from rent or mortgage | | |
|------------------------------|---|----------------------------|-------------------------------------|
| | no. | % of low income households | % of all occupied private dwellings |
| Bega Valley | 1,465 | 20.4% | 11.1% |
| Eurobodalla | 1,934 | 22.5% | 12.9% |
| Goulburn Mulwaree | 1,288 | 24.9% | 11.8% |
| Kiama | 564 | 19.7% | 7.3% |
| Queanbeyan-Palerang Regional | 1,515 | 28.0% | 7.6% |
| Shellharbour | 2,938 | 26.9% | 12.4% |
| Shoalhaven | 4,789 | 22.4% | 12.5% |
| Snowy Monaro Regional | 634 | 19.0% | 8.4% |
| Upper Lachlan Shire | 224 | 16.0% | 7.7% |
| Wollongong | 9,399 | 28.5% | 12.7% |
| Yass Valley | 345 | 20.8% | 6.3% |
| SENSWPHN | 25,100 | 24.9% | 11.5% |
| Illawarra Shoalhaven | 17,690 | 26.0% | 12.3% |
| Southern NSW | 7,405 | 22.6% | 9.9% |
| NSW | 308,546 | 29.3% | 11.8% |
| Australia | 954,802 | 28.4% | 11.5% |

3.5.2. Housing arrangements

Several household private dwellings within the SENSWPHN catchment are rented from the Australian Government's housing authority. Social housing includes all rental housing owned and managed by government or non-government organisations (including non-profit) and social housing rents, in general, are set below market levels and determined by household income

^p A **household** is defined as one or more persons, at least one of whom is at least 15 years of age, usually resident in the same private dwelling. A private dwelling can be a house, flat or even a room. It can also be a caravan, houseboat, tent, or a house attached to an office, or rooms above a shop

^q An **occupied private dwelling** is a private dwelling occupied by one or more people.

^r High numbers of families are experiencing housing stress and are at increasing risk of homelessness. The indicator comprises of low income households, spending more than 30% of their income on rent or mortgage repayments, as a proportion of low income households and also as a proportion of occupied private dwellings. Low income households are households that fall in the bottom 40% of the income distribution (those with less than 80% of median equivalised income). Income is equivalised; equivalised household income per week can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household, it is equal to household income. For a household comprising more than one person, it is an indicator of the household income that would be needed by a lone person household to enjoy the same level of economic wellbeing. Income varies by State/ Territory: NSW, \$721; Vic, \$705; Qld, \$704; SA, \$631; WA, \$785; Tas, \$589; NT, \$1,004; ACT, \$1,093. The data exclude the population in the 8.9% of private dwellings for which rental stress data was not recorded (the proportion excluded was calculated based on the Australian data).

Table 15: Government housing authority dwellings, 2016 [10]

| Regions | Dwellings rented from the government housing authority | % of all occupied private dwellings |
|------------------------------|--|-------------------------------------|
| Bega Valley | 2,451 | 18.5% |
| Eurobodalla | 2,982 | 19.8% |
| Goulburn Mulwaree | 2,507 | 22.9% |
| Jervis Bay | 23 | 24.7% |
| Kiama | 870 | 11.3% |
| Queanbeyan-Palerang Regional | 2,623 | 13.1% |
| Shellharbour | 3,935 | 16.7% |
| Shoalhaven | 7,397 | 19.4% |
| Snowy Monaro Regional | 1,455 | 19.4% |
| Upper Lachlan Shire | 721 | 24.8% |
| Wollongong | 12,747 | 17.2% |
| Yass Valley | 745 | 13.5% |
| SENSWPHN | 38,456 | 17.6% |
| <i>Illawarra Shoalhaven</i> | <i>24,972</i> | <i>17.4%</i> |
| <i>Southern NSW</i> | <i>13,484</i> | <i>17.9%</i> |
| NSW | 381,707 | 14.7% |
| Australia | 1,172,431 | 14.1% |

3.5.3. Homelessness

Homelessness and poor housing and living conditions have been well-identified risk factors for poor health and well-being. Domestic violence, a shortage of affordable housing, unemployment, mental illness, family breakdown and drug and alcohol abuse all contribute to the level of homelessness in Australia [16].

The ABS [17] definition of 'Homelessness' is informed by an understanding of homelessness as 'home'lessness, not rooflessness. The statistical definition is that when a person does not have suitable accommodation alternatives, they are considered homeless if their current living arrangement:

- is in a dwelling that is inadequate;
- has no tenure, or if their initial tenure is short and not extendable; or
- does not allow them to have control of and access to space for social relations

The definition has been constructed from a conceptual framework centered around the following elements:

- adequacy of the dwelling;
- security of tenure in the dwelling; and
- control of, and access to space for social relations.

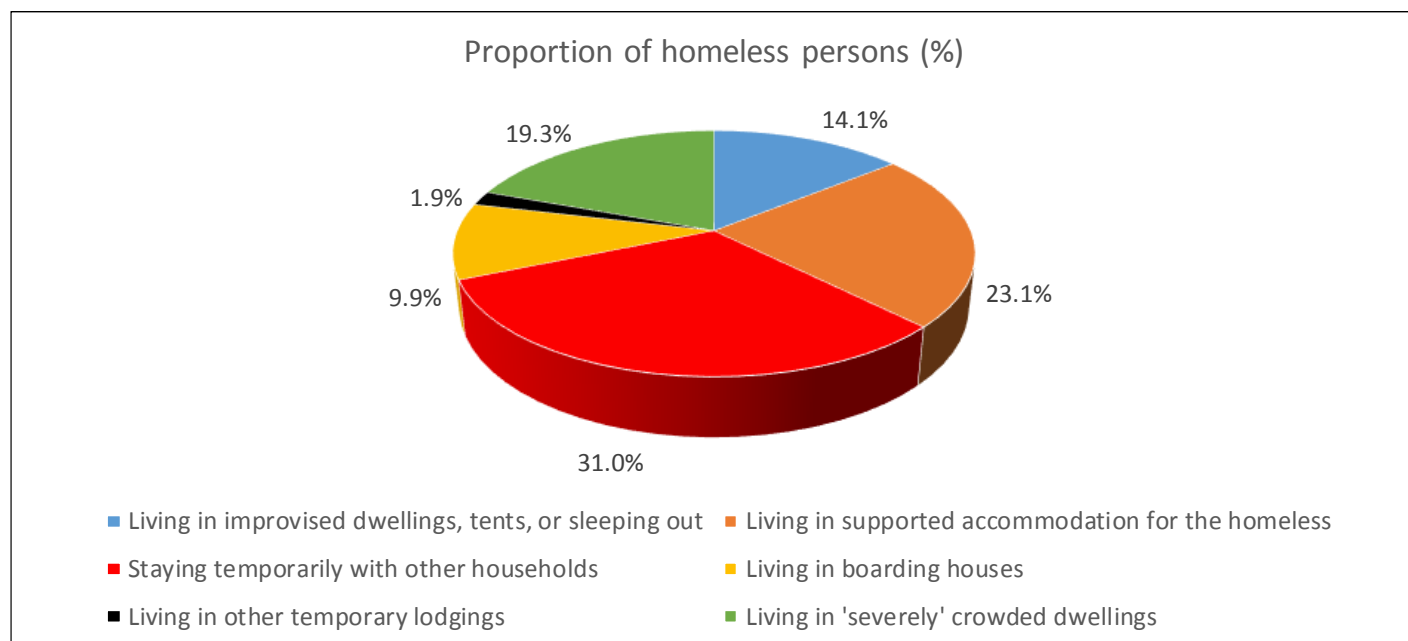
As per the latest estimates, there were 116,427 people enumerated in the Census who are classified as being homeless on Census night in Australia which is a considerable increase compared to 2011 national estimated number of 102,439 persons [17].

The SENSWPHN catchment was reported to have 1,919 persons enumerated as homeless.

Table 16: Homelessness, 2016 [17]

| Regions | Homeless persons | Rate per 1,000 resident population |
|------------------------------|------------------|------------------------------------|
| Bega Valley | 114 | 3.4 |
| Eurobodalla | 121 | 3.3 |
| Goulburn Mulwaree | 93 | 3.1 |
| Jervis Bay | 16 | 40.5 |
| Kiama | 20 | 0.9 |
| Queanbeyan-Palerang Regional | 121 | 2.2 |
| Shellharbour | 180 | 2.6 |
| Shoalhaven | 279 | 2.8 |
| Snowy Monaro Regional | 89 | 4.4 |
| Upper Lachlan Shire | 24 | 3.1 |
| Wollongong | 816 | 4.0 |
| Yass Valley | 46 | 2.8 |
| SENSWPHN | 1,919 | 3.2 |
| <i>Illawarra Shoalhaven</i> | <i>1,311</i> | <i>3.3</i> |
| <i>Southern NSW</i> | <i>608</i> | <i>3.0</i> |
| NSW | 37,692 | 5.0 |
| Australia | 116,427 | 5.0 |

Figure 16: Living arrangements of homeless persons in SENSWPHN, 2016 [17]



3.5.4. Social Isolation

Social isolation especially among the elderly is a major risk factor and is estimated to further complicate the burdens of morbidity and mortality among elderly persons. While social isolation and loneliness can only be accurately measured by large scale qualitative surveys or wide population screening; figures for households with lone persons^s and persons aged 65 years and over living alone within private households can be used as a proxy of social isolation among older persons living in the community.

Table 17: Living alone in the household: at risk of social isolation, 2016 [10]

| Regions | Persons living alone | % of Resident Population |
|------------------------------|----------------------|--------------------------|
| Bega Valley | 4,018 | 12.1% |
| Eurobodalla | 4,658 | 12.5% |
| Goulburn Mulwaree | 3,210 | 10.8% |
| Jervis Bay | 19 | 5.0% |
| Kiama | 1,666 | 7.8% |
| Queanbeyan-Palerang Regional | 5,165 | 9.2% |
| Shellharbour | 4,856 | 7.1% |
| Shoalhaven | 10,913 | 11.0% |
| Snowy Monaro Regional | 2,295 | 11.4% |
| Upper Lachlan Shire | 846 | 11.0% |
| Wollongong | 18,872 | 9.3% |
| Yass Valley | 1,101 | 6.8% |
| SENSWPHN | 57,616 | 9.7% |
| <i>Illawarra Shoalhaven</i> | 36,326 | 9.2% |
| <i>Southern NSW</i> | 21,293 | 10.6% |
| NSW | 620,780 | 8.3% |
| Australia | 2,023,541 | 8.6% |

Table 18: Persons aged 65 years and over living alone in the household: at risk of social isolation, 2016 [10]

| Regions | Persons aged 65 years & over and living alone | % of Resident Population aged 65 years & over |
|------------------------------|---|---|
| Bega Valley | 1,922 | 22.3% |
| Eurobodalla | 2,362 | 20.8% |
| Goulburn Mulwaree | 1,436 | 25.1% |
| Jervis Bay | 4 | 23.5% |
| Kiama | 938 | 18.6% |
| Queanbeyan-Palerang Regional | 1,480 | 21.7% |
| Shellharbour | 2,258 | 19.7% |
| Shoalhaven | 5,773 | 21.9% |
| Snowy Monaro Regional | 954 | 24.7% |
| Upper Lachlan Shire | 421 | 23.4% |
| Wollongong | 8,435 | 23.5% |
| Yass Valley | 488 | 18.9% |
| SENSWPHN | 26,506 | 22.1% |
| <i>Illawarra Shoalhaven</i> | 17,408 | 22.1% |
| <i>Southern NSW</i> | 9,063 | 22.2% |
| NSW | 266,686 | 21.9% |
| Australia | 822,022 | 22.4% |

^s A private dwelling, with only one person aged 15 years or over, is classified as a **lone person household**.

3.6. Facilitators of access to healthcare

Concession cards issued by the Department of Human Services are a prominent mechanism of accessing publicly funded services.

Table 19: Concession and health care cards holders^t, 2016 [11, 12]

| Regions | Health Care Card holders (% of 0-64 years aged persons) | Pensioner Concession Card holders (% of 15 years & above aged persons) | Seniors Health Card holders (% of 65 years & above aged persons) |
|------------------------------|---|--|--|
| Bega Valley | 8.3% | 32.8% | 9.7% |
| Eurobodalla | 9.8% | 38.6% | 9.5% |
| Goulburn Mulwaree | 6.9% | 27.0% | 8.4% |
| Kiama | 5.5% | 20.6% | 15.6% |
| Queanbeyan-Palerang Regional | 3.7% | 13.8% | 9.7% |
| Shellharbour | 7.2% | 27.9% | 6.3% |
| Shoalhaven | 8.9% | 34.8% | 8.7% |
| Snowy Monaro Regional | 6.2% | 21.6% | 11.0% |
| Upper Lachlan Shire | 5.6% | 22.8% | 14.1% |
| Wollongong | 7.2% | 25.0% | 9.5% |
| Yass Valley | 4.1% | 15.4% | 11.7% |
| SENSWPHN | 7.1% | 26.8% | 9.4% |
| <i>Illawarra Shoalhaven</i> | 7.5% | 27.7% | 9.2% |
| <i>Southern NSW</i> | 6.2% | 24.9% | 9.9% |
| NSW | 6.3% | 20.7% | 10.3% |
| Australia | 7.3% | 20.3% | 9.9% |

Additionally, access to private health insurance is also a known key indicator at a population level for access to a range of allied health and other professional health and medical services. In the absence of private health insurance

^t These indicators include: -

- **Health Care Card:** People eligible for a Health Care Card (HCC) issued by the Department of Human Services are those aged 0 to 64 years who do not hold a Pensioner Concession Card and receive one of the following payments: Carer Allowance; Carer Payment (child) (short term or episodic); Exceptional Circumstances Relief Payment; Family Tax Benefit A (maximum rate only); Mobility Allowance (if not receiving a Disability Support Pension); Newstart Allowance; Parenting Payment (partnered); Partner Allowance; Special benefit; Widow Allowance; or Youth Allowance (job seekers only). People may also be eligible for a HCC if they are a foster carer; ex-holder of a Carer Allowance (child) Health Care Card; or are a low income earner;
- **Pensioner Concession Card:** People eligible for a Pensioner Concession Card (PCC) issued by Department of Human Services comprise those aged 15 years and over who receive one of the following payments: Age Pension; Bereavement Allowance; Carer Payment (adult); Carer Payment (child); Disability Support Pension; Newstart Allowance and Youth Allowance (job seeker) if single and caring for a dependent child; or Parenting Payment (single). People aged 60 years and over may receive a PCC if they have been receiving income support payments for more than nine months and receive: Newstart Allowance; Parenting Payment (partnered); Partner Allowance; Sickness Allowance; Special Benefit; or Widow Allowance. People may also be eligible for a PCC if they have a partial capacity to work and are receiving any of the following payments: Newstart Allowance; Parenting Payment (partnered); and Youth Allowance (job seeker). The data excludes details of Commonwealth Seniors Health Card holders; and
- **Seniors Health Card:** The Commonwealth Seniors Health Card (SHC) entitles older Australians to access cheaper prescription medicines, Australian government funded medical services, and certain other concessions [1]. To qualify for the SHC, a person must have reached Age Pension age (65 years and 6 months from 1 July 2017) but not qualify for a payment from the Department of Human Services or the Department of Veterans' Affairs; meet an income test (have adjusted taxable income of less than \$54, 929 for singles or \$87, 884 for couples (combined) with special rules applying if a couple lives apart due to illness and/or have dependent children); and be an Australian resident or have a special category visa. Commonwealth Seniors Health Card holders may benefit from:
 - medicines listed on the Pharmaceutical Benefits Scheme (PBS) at the concessional rate and once they reach the PBS safety net, will usually be supplied with further PBS prescriptions without charge for the remainder of the calendar year;
 - bulk-billed GP appointments (at the discretion of the doctor);
 - reduced out-of-hospital medical expenses above a concessional threshold through the extended Medicare Safety Net;
 - discounted rail travel on Great Southern Rail services (includes the Indian Pacific, the Ghan, and the Overland); and
 - Seniors Supplement (replaced Seniors Concession Allowance and Telephone Allowance).

data from administrative data sets, [modelled estimates](#)^{dd} have been produced from the latest National Health Survey.

Table 20: Modelled estimated prevalence^{dd} (self-reported) of private health insurance coverage, 2014-15 [11, 12]

| Regions | Age-standardised rate per 100 persons |
|------------------------------|---|
| | Private health insurance coverage in persons aged 18 years and over |
| Bega Valley | 40.4% |
| Eurobodalla | 39.9% |
| Goulburn Mulwaree | 37.4% |
| Kiama | 65.1% |
| Queanbeyan-Palerang Regional | 60.7% |
| Shellharbour | 36.9% |
| Shoalhaven | 39.2% |
| Snowy Monaro Regional | 47.4% |
| Upper Lachlan Shire | 51.8% |
| Wollongong | 46.8% |
| Yass Valley | 65.3% |
| SENSWPHN | 45.6% |
| NSW | 51.5% |
| Australia | 52.1% |

While the indicators of 'private dwellings with no internet connection' and 'private dwellings with no motor vehicles' suggest socio-economic vulnerability and are already included in the composite IRSD scores outlined in the [Socio-economic disadvantage](#) section of this report; these indicators have an extensive impact on the ability to access health and social services especially in a large geographic catchment such as South Eastern NSW.

Table 21: Dwellings with no motor vehicle^u, 2016 [10]

| Regions | Dwellings with no motor vehicle | % of all occupied private dwellings |
|------------------------------|---------------------------------|-------------------------------------|
| Bega Valley | 589 | 4.5% |
| Eurobodalla | 756 | 5.0% |
| Goulburn Mulwaree | 800 | 7.3% |
| Jervis Bay | 7 | 7.5% |
| Kiama | 309 | 4.0% |
| Queanbeyan-Palerang Regional | 820 | 4.1% |
| Shellharbour | 1,257 | 5.3% |
| Shoalhaven | 1,870 | 4.9% |
| Snowy Monaro Regional | 355 | 4.7% |
| Upper Lachlan Shire | 72 | 2.5% |
| Wollongong | 6,752 | 9.1% |
| Yass Valley | 142 | 2.6% |
| SENSWPHN | 13,729 | 6.3% |
| <i>Illawarra Shoalhaven</i> | <i>10,195</i> | <i>7.1%</i> |
| <i>Southern NSW</i> | <i>3,534</i> | <i>4.7%</i> |
| NSW | 239,626 | 9.2% |
| Australia | 623,832 | 7.5% |

^u The numerator excludes the dwellings for which the number of motor vehicles was not stated; however, these records are included in the denominator.

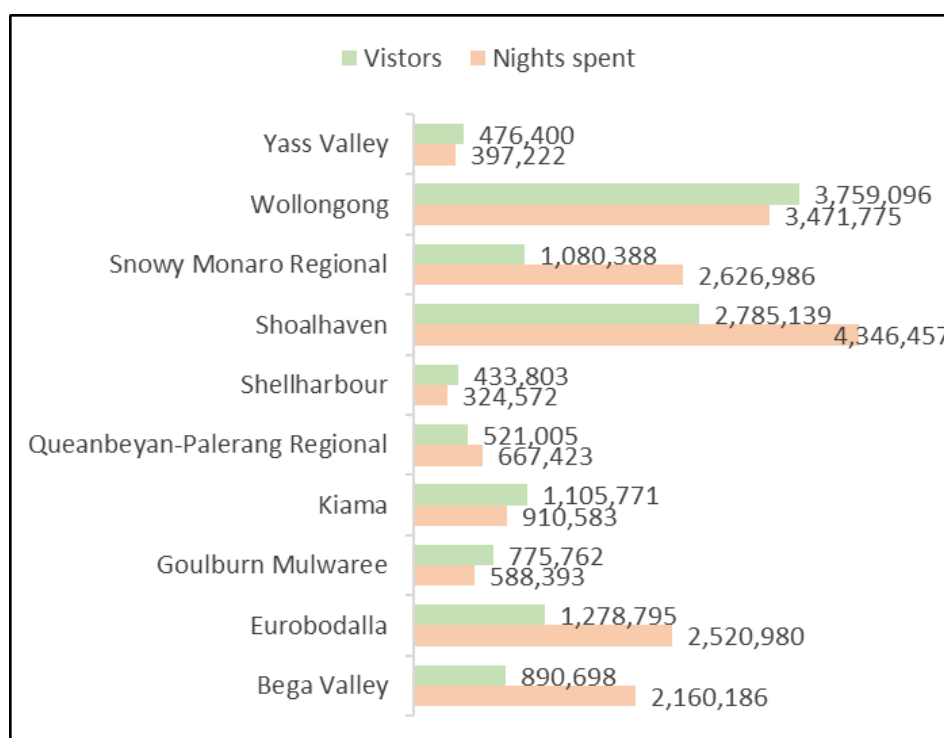
Table 22: Dwellings with no internet access^v, 2016 [10]

| Regions | Dwellings with no internet access | % of all occupied private dwellings |
|------------------------------|-----------------------------------|-------------------------------------|
| Bega Valley | 2,451 | 18.5% |
| Eurobodalla | 2,982 | 19.8% |
| Goulburn Mulwaree | 2,507 | 22.9% |
| Jervis Bay | 23 | 24.7% |
| Kiama | 870 | 11.3% |
| Queanbeyan-Palerang Regional | 2,623 | 13.1% |
| Shellharbour | 3,935 | 16.7% |
| Shoalhaven | 7,397 | 19.4% |
| Snowy Monaro Regional | 1,455 | 19.4% |
| Upper Lachlan Shire | 721 | 24.8% |
| Wollongong | 12,747 | 17.2% |
| Yass Valley | 745 | 13.5% |
| SENSWPHN | 38,456 | 17.6% |
| <i>Illawarra Shoalhaven</i> | <i>24,972</i> | <i>17.4%</i> |
| <i>Southern NSW</i> | <i>13,484</i> | <i>17.9%</i> |
| NSW | 381,707 | 14.7% |
| Australia | 1,172,431 | 14.1% |

3.7. Tourism

There is a high volume of local and international tourists that visit the South Eastern NSW catchment and hence add to the population demand for health and social services in almost all regions. This is especially significant during the predominant holiday periods during any given year. Figures based on a four-year (2015 to 2018) average reveal over 13 million tourist footfall figures are recorded with a total of over 18 million nights spent in the catchment.

Figure 17: Tourism figures based on a four-year average (2015 to 2018), 2018 [18]



^v The numerator excludes the dwellings for which Internet access was not stated; however, these records are included in the denominator. The indicator reports whether any member of the household accesses the Internet from the dwelling. This includes accessing the internet through a desktop/laptop computer, mobile or smart phone, tablet, music or video player, gaming console, smart TV or any other device. It also includes accessing through any type of connection for example ADSL, fibre, cable, wireless, satellite and mobile broadband (3G/4G).

3.8. Youth education

While indicators such as the *proportion of persons aged 15 years and over who have no educational attainment* and *persons aged 15 years and over whose highest level of education is Year 11 or lower* are already included variables in the composite IRSD scores outlined in the [Socio-economic disadvantage](#) section of this report; some other key determinants of health specific to the youth population's participation in education are illustrated here.

Table 23: Youth specific participation in education^w, 2016 (2018 for school leaver participation in higher education) [11, 12]

| Regions | % of persons learning or earning at ages 15 to 24 | % of persons participating full-time in secondary school education at age 16 | % of school leavers participating in higher education |
|------------------------------|---|--|---|
| Bega Valley | 81.3% | 78.9% | 11.5% |
| Eurobodalla | 78.1% | 81.0% | 21.4% |
| Goulburn Mulwaree | 79.4% | 76.7% | 14.4% |
| Kiama | 88.5% | 83.3% | 32.5% |
| Queanbeyan-Palerang Regional | 86.1% | 86.2% | 21.2% |
| Shellharbour | 84.4% | 82.9% | 22.0% |
| Shoalhaven | 78.1% | 79.7% | 15.6% |
| Snowy Monaro Regional | 83.7% | 79.4% | 15.0% |
| Upper Lachlan Shire | 80.6% | 72.9% | 16.2% |
| Wollongong | 86.7% | 84.8% | 31.2% |
| Yass Valley | 88.7% | 86.8% | 19.7% |
| SENSWPHN | 84.1% | 82.4% | 22.9% |
| <i>Illawarra Shoalhaven</i> | <i>84.7%</i> | <i>83.1%</i> | <i>25.6%</i> |
| <i>Southern NSW</i> | <i>82.9%</i> | <i>81.6%</i> | <i>17.7%</i> |
| <i>NSW</i> | <i>85.0%</i> | <i>84.1%</i> | <i>28.9%</i> |
| <i>Australia</i> | <i>84.3%</i> | <i>84.1%</i> | <i>22.2%</i> |

^w These indicators include: -

- **Learning or Earning at ages 15 to 24 years:** this comprises the number of 15 to 24 year old people who were engaged in school, work or further education/ training, expressed as a proportion of all those aged 15 to 24 years;
- **Full-time participation in secondary school education at age 16:** the data used in this analysis are from the 2016 Australian Bureau of Statistics (ABS) Population Census. As such they are not official estimates of participation at age 16 in full-time secondary education. However, they are useful in showing the extent of variations between areas, by socioeconomic status and by remoteness. The numerator excludes 5.0% of the population aged 16 whose participation in secondary school education, or full-time/part-time status, was not stated: however, these records are included in the denominator. Secondary school comprises either Government, Catholic, or other Non-Government schools. Note that percentages may be more than 100% due to the ABS's randomisation of both the numerator and denominator for confidentiality purposes; and
- **School leavers enrolled in higher education:** the data comprise school leavers who are identified as enrolled at an Australian university at the cut-off date of reporting. **School leavers** are students who attained a Year 12 qualification in the year prior to the cut-off date year in any State/ Territory through the completion of one or more Year 12 courses; may include (unless noted otherwise below) adult students, part time students and students doing one or more subjects to improve their overall score (repeating students). The Estimated Resident Population (ERP) is based on the number of 17-year old persons in 2017, as this is the age of the majority of Year 12 students at 30 June 2018.

3.9. Early childhood

Key indicators of lifelong well-being are early childhood environments and experiences. The Australian Early Childhood Development Census (AEDC)^{*} measures five domains of early childhood development all of which are closely linked to the predictors of good adult health, education, and social outcomes. The 2018 AEDC results reveal quite a substantial proportion of children to be developmentally vulnerable on multiple domains.

Table 24: Developmental vulnerability among school children by domains of childhood development, 2018 [19]

| Regions | Proportion of children developmentally vulnerable (%) | | | | |
|------------------------------|---|-------------------|--------------------|--|--|
| | Physical health and wellbeing | Social competence | Emotional maturity | Language and cognitive skills (school-based) | Communication skills and general knowledge |
| Bega Valley | 7.5% | 10.0% | 9.7% | 8.1% | 6.6% |
| Eurobodalla | 11.7% | 8.4% | 9.2% | 7.8% | 7.2% |
| Goulburn Mulwaree | 9.2% | 7.0% | 9.3% | 7.0% | 6.0% |
| Kiama | 2.5% | 3.7% | 0.8% | 2.1% | 2.1% |
| Queanbeyan-Palerang Regional | 7.5% | 8.3% | 8.7% | 6.0% | 6.7% |
| Shellharbour | 8.6% | 7.8% | 6.4% | 5.5% | 7.9% |
| Shoalhaven | 9.1% | 10.3% | 8.8% | 5.3% | 5.7% |
| Snowy Monaro Regional | 11.1% | 3.7% | 5.1% | 3.7% | 2.3% |
| Upper Lachlan Shire | 8.2% | 5.9% | 2.4% | 7.1% | 3.5% |
| Wollongong | 9.2% | 9.0% | 7.1% | 4.9% | 7.7% |
| Yass Valley | 11.5% | 8.8% | 7.0% | 7.0% | 7.9% |
| SENSWPHN | 8.8% | 8.5% | 7.4% | 5.5% | 6.8% |
| <i>Illawarra Shoalhaven</i> | 8.7% | 8.8% | 7.0% | 5.0% | 7.0% |
| <i>Southern NSW</i> | 9.2% | 7.9% | 8.3% | 6.7% | 6.3% |
| NSW | 8.5% | 9.2% | 6.8% | 5.2% | 8.0% |
| Australia | 9.6% | 9.8% | 8.4% | 6.6% | 8.2% |

Table 25: Developmental vulnerability among school children by the number of domains of childhood development, 2018 [19]

| Regions | Proportion of children developmentally vulnerable (%) | |
|------------------------------|---|------------------------|
| | On one or more domains | On two or more domains |
| Bega Valley | 20.3% | 10.3% |
| Eurobodalla | 23.2% | 11.4% |
| Goulburn Mulwaree | 20.7% | 8.9% |
| Kiama | 8.3% | 2.5% |
| Queanbeyan-Palerang Regional | 20.4% | 9.0% |
| Shellharbour | 18.6% | 10.4% |
| Shoalhaven | 20.7% | 10.3% |
| Snowy Monaro Regional | 16.1% | 5.5% |
| Upper Lachlan Shire | 14.1% | 4.7% |
| Wollongong | 18.9% | 10.2% |
| Yass Valley | 21.1% | 11.9% |
| SENSWPHN | 19.2% | 9.7% |
| <i>Illawarra Shoalhaven</i> | 18.7% | 9.9% |
| <i>Southern NSW</i> | 20.3% | 9.3% |
| NSW | 19.9% | 9.6% |
| Australia | 21.7% | 11.0% |

^{*} The Australian Early Childhood Development Census (AEDC) is held every three years, with the 2018 AEDC data collection being the fourth collection. The census involves teachers of children in their first year of full-time school completing a research tool, the Australian version of the Early Development Instrument. The AEDC domains have been shown to predict later health, wellbeing and academic success.

3.10. Children and families

Specific indicators of family dynamics that can influence the development, health and well-being of children are shown below

Table 26: Children and families with vulnerable circumstances, 2016 [11, 12]

| Regions | % of families with children under 15 years of age who are single parent families | % of families with children under 15 years of age where no parent is employed | % of children under 15 years of age living in families where no parent is employed |
|------------------------------|--|---|--|
| Bega Valley | 25.8% | 13.6% | 12.4% |
| Eurobodalla | 31.5% | 17.6% | 16.6% |
| Goulburn Mulwaree | 26.9% | 14.3% | 14.2% |
| Kiama | 16.1% | 6.4% | 5.2% |
| Queanbeyan-Palerang Regional | 17.8% | 7.0% | 6.4% |
| Shellharbour | 26.1% | 13.8% | 12.9% |
| Shoalhaven | 28.2% | 17.3% | 15.7% |
| Snowy Monaro Regional | 19.6% | 9.6% | 5.5% |
| Upper Lachlan Shire | 18.1% | 11.5% | 9.3% |
| Wollongong | 21.5% | 12.8% | 12.2% |
| Yass Valley | 14.6% | 6.1% | 5.4% |
| SENSWPHN | 23.2% | 12.8% | 11.7% |
| <i>Illawarra Shoalhaven</i> | <i>23.7%</i> | <i>13.7%</i> | <i>12.8%</i> |
| <i>Southern NSW</i> | <i>22.3%</i> | <i>10.9%</i> | <i>9.7%</i> |
| NSW | 19.9% | 12.0% | 11.5% |
| Australia | 20.4% | 11.9% | 11.5% |

3.11. Employment profile

While the socio-economic impacts of unemployment have already been illustrated in previous section of this report; the employed labour force population of the catchment has a very diverse industry of employment with the Health Care and Social Assistance industry being the highest category for the employed population of the catchment.

Table 27: Industry of employment for the population engaged in paid employment, 2016 [10]

| Industry | Percentage (%) of all persons in the labour force | | | | | | | | | | | | | | | |
|---|---|-------------|-------------------|-------|------------------------------|--------------|------------|-----------------------|---------------------|------------|-------------|----------|----------------------|--------------|-------|-----------|
| | Bega Valley | Eurobodalla | Goulburn Mulwaree | Kiama | Queanbeyan-Palerang Regional | Shellharbour | Shoalhaven | Snowy Monaro Regional | Upper Lachlan Shire | Wollongong | Yass Valley | SENSWPHN | Illawarra Shoalhaven | Southern NSW | NSW | Australia |
| Accommodation and Food Services | 10.8% | 11.0% | 7.9% | 8.7% | 5.4% | 7.2% | 9.7% | 13.8% | 5.3% | 7.5% | 6.9% | 8.2% | 8.0% | 8.4% | 7.2% | 7.0% |
| Administrative and Support Services | 3.3% | 4.1% | 3.1% | 2.6% | 2.8% | 3.5% | 4.2% | 3.3% | 2.5% | 3.4% | 2.6% | 3.4% | 3.6% | 3.2% | 3.5% | 3.5% |
| Agriculture, Forestry and Fishing | 7.1% | 2.9% | 3.8% | 1.9% | 1.7% | 0.5% | 2.1% | 10.0% | 26.1% | 0.3% | 7.7% | 2.4% | 0.8% | 5.4% | 2.2% | 2.5% |
| Arts and Recreation Services | 1.7% | 1.8% | 1.3% | 1.7% | 1.5% | 1.1% | 1.4% | 5.2% | 0.8% | 1.5% | 1.5% | 1.6% | 1.4% | 1.9% | 1.6% | 1.7% |
| Construction | 9.2% | 10.8% | 9.3% | 11.5% | 10.2% | 11.3% | 11.0% | 7.6% | 7.7% | 8.9% | 10.3% | 9.8% | 9.9% | 9.6% | 8.5% | 8.6% |
| Education and Training | 7.6% | 8.1% | 7.5% | 13.1% | 7.3% | 7.8% | 7.9% | 7.6% | 7.4% | 11.9% | 8.7% | 9.4% | 10.4% | 7.6% | 8.5% | 8.8% |
| Electricity, Gas, Water and Waste Services | 1.0% | 1.2% | 1.2% | 1.1% | 1.1% | 1.2% | 1.1% | 3.2% | 1.1% | 1.0% | 1.6% | 1.2% | 1.1% | 1.4% | 1.0% | 1.1% |
| Financial and Insurance Services | 1.4% | 1.1% | 1.4% | 2.5% | 1.3% | 3.0% | 1.4% | 1.0% | 0.9% | 3.9% | 1.4% | 2.4% | 3.1% | 1.3% | 5.0% | 3.6% |
| Health Care and Social Assistance | 14.6% | 14.8% | 15.2% | 14.5% | 9.7% | 14.7% | 14.9% | 8.2% | 11.1% | 15.0% | 9.9% | 13.8% | 14.9% | 11.8% | 12.7% | 12.8% |
| Information Media and Telecommunications | 0.9% | 1.3% | 0.9% | 0.8% | 1.4% | 0.8% | 0.8% | 0.9% | 0.9% | 1.2% | 1.4% | 1.1% | 1.0% | 1.2% | 2.2% | 1.7% |
| Manufacturing | 8.1% | 3.6% | 5.6% | 4.8% | 3.7% | 7.1% | 5.3% | 3.6% | 2.9% | 5.8% | 2.3% | 5.4% | 5.9% | 4.4% | 5.9% | 6.5% |
| Mining | 0.3% | 0.3% | 1.6% | 1.8% | 0.2% | 2.3% | 0.5% | 0.4% | 0.5% | 2.0% | 0.2% | 1.3% | 1.7% | 0.5% | 1.0% | 1.7% |
| Professional, Scientific and Technical Services | 4.3% | 4.0% | 4.0% | 5.7% | 6.8% | 3.6% | 4.5% | 3.9% | 4.4% | 5.8% | 8.0% | 5.2% | 5.1% | 5.3% | 8.2% | 7.4% |
| Public Administration and Safety | 5.4% | 7.9% | 11.0% | 9.1% | 25.7% | 7.1% | 10.3% | 9.0% | 9.9% | 7.3% | 19.2% | 10.5% | 8.0% | 15.0% | 6.1% | 6.8% |
| Rental, Hiring and Real Estate Services | 1.4% | 1.6% | 1.4% | 1.6% | 1.5% | 1.5% | 1.6% | 2.2% | 1.0% | 1.4% | 1.3% | 1.5% | 1.5% | 1.5% | 1.8% | 1.7% |
| Retail Trade | 11.7% | 13.9% | 10.9% | 8.1% | 8.2% | 12.4% | 11.9% | 9.3% | 6.1% | 9.6% | 6.6% | 10.3% | 10.6% | 9.8% | 9.8% | 10.0% |
| Transport, Postal and Warehousing | 3.4% | 3.5% | 5.1% | 3.6% | 3.5% | 5.3% | 3.4% | 3.3% | 4.3% | 4.6% | 2.7% | 4.1% | 4.4% | 3.6% | 4.8% | 4.7% |
| Wholesale Trade | 1.9% | 1.4% | 1.8% | 1.5% | 1.7% | 2.1% | 1.4% | 1.9% | 1.7% | 2.0% | 1.4% | 1.8% | 1.9% | 1.7% | 3.1% | 2.9% |
| Other Services | 3.5% | 4.1% | 4.2% | 3.1% | 3.7% | 4.5% | 3.8% | 3.2% | 3.3% | 4.0% | 3.6% | 3.9% | 4.0% | 3.7% | 3.7% | 3.8% |
| Inadequately described | 2.5% | 2.7% | 2.7% | 2.3% | 2.8% | 2.9% | 2.7% | 2.4% | 2.0% | 2.7% | 2.7% | 2.7% | 2.7% | 2.6% | 3.4% | 3.3% |

3.12. Crime

Some significant issues that impact on the social and emotional well-being of a population are often poorly analysed and considered in a health planning context. An attempt to view some of these major issues can be facilitated through an overview of crime statistics for the South Eastern NSW catchment as shown below. There are some pockets in the catchment with substantially high rates for Domestic Violence-related Offences and Possession and/or Use of Cannabis that are of concern.

Table 28: Crime rates, 2019 [20]

| Crime Type | Crude rate per 100,000 population | | | | | | | | | | | | |
|--|-----------------------------------|-------------|-------------------|-------|------------------------------|--------------|------------|-----------------------|---------------------|------------|-------------|---------------------|--------|
| | Bega Valley | Eurobodalla | Goulburn Mulwaree | Kiama | Queanbeyan-Palerang Regional | Shellharbour | Shoalhaven | Snowy Monaro Regional | Upper Lachlan Shire | Wollongong | Yass Valley | SENSWPHN (estimate) | NSW |
| Arson | 81.5 | 60.1 | 55.1 | 39.1 | 51.7 | 80.3 | 118.8 | 33.8 | na | 65.3 | 70.8 | 71.2 | 64.7 |
| Breach Apprehended Violence Order | 221.3 | 245.5 | 236.6 | 104.3 | 156.8 | 249.2 | 262.5 | 221.9 | 25.1 | 227.2 | 59.0 | 215.9 | 225.6 |
| Breach Bail Conditions | 145.6 | 263.8 | 489.4 | 43.5 | 358.6 | 610.5 | 528.9 | 279.7 | na | 633.6 | 100.3 | 469.1 | 597.3 |
| Break and Enter Dwelling | 212.5 | 595.5 | 246.3 | 156.5 | 381.9 | 321.2 | 320.0 | 183.3 | 125.6 | 298.1 | 123.9 | 304.0 | 318.8 |
| Break and Enter Non-Dwelling | 177.6 | 135.8 | 97.2 | 143.4 | 130.1 | 91.4 | 183.0 | 101.3 | 75.4 | 119.9 | 70.8 | 128.0 | 124.0 |
| Domestic Violence Related Assault | 297.0 | 347.4 | 366.3 | 100.0 | 243.5 | 328.1 | 369.8 | 414.8 | 100.5 | 317.5 | 171.1 | 308.4 | 390.4 |
| Fraud | 346.5 | 365.6 | 495.9 | 269.5 | 373.6 | 479.0 | 464.7 | 260.5 | 163.3 | 498.0 | 194.7 | 428.1 | 656.3 |
| Harassment, Threatening Behaviour and Private Nuisance | 334.8 | 647.7 | 272.3 | 169.5 | 295.2 | 382.1 | 532.7 | 419.6 | 138.2 | 382.7 | 159.3 | 387.2 | 440.8 |
| Liquor Offences | 104.8 | 120.1 | 256.1 | 86.9 | 48.4 | 18.0 | 132.2 | 395.5 | 125.6 | 124.5 | 218.3 | 120.1 | 143.9 |
| Malicious Damage To Property | 529.9 | 827.9 | 858.9 | 434.7 | 648.8 | 712.9 | 712.8 | 747.6 | 427.1 | 732.6 | 318.5 | 686.5 | 713.9 |
| Motor Vehicle Theft | 113.5 | 203.7 | 100.5 | 113.0 | 181.8 | 160.6 | 179.2 | 72.3 | 100.5 | 188.8 | 141.6 | 164.7 | 167.8 |
| Non-Domestic Violence Related Assault | 285.3 | 464.9 | 398.7 | 139.1 | 276.9 | 290.7 | 386.1 | 400.3 | 175.9 | 336.0 | 177.0 | 326.5 | 403.2 |
| Offensive Conduct | 64.1 | 67.9 | 152.3 | 26.1 | 21.7 | 16.6 | 52.7 | 144.7 | 12.6 | 62.9 | 29.5 | 55.9 | 55.6 |
| Offensive Language | 72.8 | 88.8 | 71.3 | na | 35.0 | 22.1 | 51.7 | 82.0 | na | 38.0 | 59.0 | 44.5 | 29.1 |
| Other Theft | 349.4 | 397.0 | 343.6 | 147.8 | 190.1 | 225.6 | 349.7 | 443.7 | 150.7 | 317.0 | 141.6 | 295.5 | 341.1 |
| Possession and/or Use of Cannabis | 133.9 | 279.5 | 317.6 | 43.5 | 120.1 | 153.7 | 243.4 | 284.6 | 87.9 | 209.2 | 194.7 | 197.7 | 220.7 |
| Prohibited and Regulated Weapons offences | 168.9 | 321.2 | 337.1 | 113.0 | 285.2 | 217.3 | 274.0 | 376.2 | 414.5 | 218.4 | 230.0 | 244.8 | 201.6 |
| Receiving Stolen Goods | 23.3 | 73.1 | 55.1 | 17.4 | 103.4 | 76.1 | 67.1 | 67.5 | 12.6 | 127.7 | 76.7 | 86.7 | 109.9 |
| Resist or Hinder Officer | 81.5 | 112.3 | 94.0 | 30.4 | 31.7 | 59.5 | 91.0 | 115.8 | na | 88.9 | 29.5 | 76.8 | 75.1 |
| Robbery | 8.7 | 20.9 | 16.2 | 4.3 | 11.7 | 22.1 | 24.0 | 9.6 | na | 28.2 | na | 20.3 | 32.0 |
| Sexual Offences | 165.9 | 195.9 | 291.7 | 73.9 | 146.8 | 210.4 | 205.0 | 183.3 | 201.0 | 182.3 | 177.0 | 185.3 | 182.0 |
| Steal from Dwelling | 221.3 | 274.2 | 327.4 | 134.7 | 260.2 | 229.8 | 236.7 | 125.4 | 175.9 | 237.0 | 106.2 | 229.8 | 234.9 |
| Steal from Motor Vehicle | 343.5 | 386.5 | 249.6 | 373.8 | 630.4 | 400.1 | 432.1 | 192.9 | 163.3 | 584.5 | 265.4 | 460.2 | 477.7 |
| Steal from Person | 8.7 | 2.6 | 3.2 | 8.7 | 15.0 | 23.5 | 10.5 | 9.6 | na | 20.8 | na | 14.4 | 47.8 |
| Steal from Retail Store | 119.4 | 412.7 | 379.2 | 69.5 | 268.5 | 433.3 | 378.5 | 101.3 | 12.6 | 464.2 | 53.1 | 353.7 | 336.8 |
| Transport Regulatory Offences | na | na | 16.2 | 482.5 | 11.7 | 285.2 | 51.7 | 4.8 | na | 2923.1 | 11.8 | 1060.6 | 1418.3 |
| Trespass | 84.4 | 193.3 | 155.6 | 69.5 | 120.1 | 192.4 | 143.7 | 197.8 | 263.8 | 144.4 | 135.7 | 146.4 | 135.5 |

3.13. Selected population and household summary measures

Table 29: Selected Census-based regional^y medians and averages^z, 2016 [21]

| Regions | Average household size | Average number of persons per bedroom | Median mortgage repayment (\$/monthly) | Median rent (\$/weekly) | Median total family income (\$/weekly) | Median total household income (\$/weekly) | Median total personal income (\$/weekly) |
|------------------------------|------------------------|---------------------------------------|--|-------------------------|--|---|--|
| Bega Valley | 2.2 | 0.8 | \$1,343 | \$250 | \$1,242 | \$986 | \$538 |
| Eurobodalla | 2.2 | 0.7 | \$1,400 | \$255 | \$1,184 | \$939 | \$512 |
| Goulburn Mulwaree | 2.4 | 0.8 | \$1,517 | \$260 | \$1,505 | \$1,196 | \$625 |
| Kiama | 2.5 | 0.8 | \$2,000 | \$395 | \$1,820 | \$1,509 | \$683 |
| Queanbeyan-Palerang Regional | 2.6 | 0.8 | \$2,100 | \$300 | \$2,303 | \$1,882 | \$933 |
| Shellharbour | 2.7 | 0.8 | \$1,846 | \$340 | \$1,562 | \$1,343 | \$579 |
| Shoalhaven | 2.3 | 0.7 | \$1,517 | \$280 | \$1,226 | \$992 | \$511 |
| Snowy Monaro Regional | 2.3 | 0.8 | \$1,300 | \$220 | \$1,569 | \$1,200 | \$675 |
| Jervis Bay | 3.2 | 0.9 | \$0 | \$128 | \$1,424 | \$1,542 | \$629 |
| Upper Lachlan Shire | 2.4 | 0.7 | \$1,400 | \$190 | \$1,498 | \$1,161 | \$609 |
| Wollongong | 2.6 | 0.9 | \$1,950 | \$320 | \$1,710 | \$1,339 | \$584 |
| Yass Valley | 2.7 | 0.8 | \$2,000 | \$300 | \$2,214 | \$1,879 | \$869 |
| NSW | 2.6 | 0.9 | \$1,986 | \$380 | \$1,780 | \$1,486 | \$664 |
| Australia | 2.6 | 0.9 | \$1,755 | \$335 | \$1,734 | \$1,438 | \$662 |

^y Not available or reported at the PHN level.

^z Indicators drawn from 2016 Census of Population and Housing – Unpublished data. These include: -

- **Median Total Personal Income (weekly)** is applicable to persons aged 15 years and over and records the personal income level collected as ranges in the Census;
- **Median Total Family Income (weekly)** is applicable to families in family households and is the sum of the Total Personal Income (weekly) of each family member aged 15 years and over present in the household on Census night who states their income. It excludes families where at least one member aged 15 years and over did not state an income and families where at least one member aged 15 years and over was temporarily absent on Census Night;
- **Median Total Household Income (weekly)** is applicable to occupied private dwellings and is the sum of the Total Personal Incomes (weekly) of each resident present in the household on Census night. It excludes households where at least one member aged 15 years and over did not state an income and households where at least one member aged 15 years and over was temporarily absent on Census Night. It excludes 'Visitors only' and 'Other non-classifiable' households;
- **Median Mortgage Repayment (monthly)** is applicable to occupied private dwellings being purchased and includes dwellings being purchased under a shared equity scheme. It records the mortgage repayments being paid by a household to purchase the dwelling in which they were enumerated on Census night (also applicable to caravans). It excludes 'Visitors only' and 'Other non-classifiable' households;
- **Median Rent (weekly)** is applicable to occupied private dwellings being rented and records the individual dollar amounts of rent paid by households on a weekly basis for the dwelling in which they were enumerated on Census night. This includes caravans etc. in caravan parks. It excludes 'Visitors only' and 'Other non-classifiable' households;
- **Average Number of Persons Per Bedroom** is applicable to occupied private dwellings including caravans in caravan parks. It excludes 'Visitors only' and 'Other non-classifiable' households; and
- **Average Household Size** is applicable to number of persons usually resident in occupied private dwellings. It includes partners, children, and co-tenants (in group households) who were temporarily absent on Census Night. A maximum of three temporary absentees can be counted in each household. It excludes 'Visitors only' and 'Other non-classifiable' households.

Table 30: Selected Census-based regional^{aa} medians and averages^{bb} of comparison between the Aboriginal^a population and the non-Indigenous population, 2016 [21]

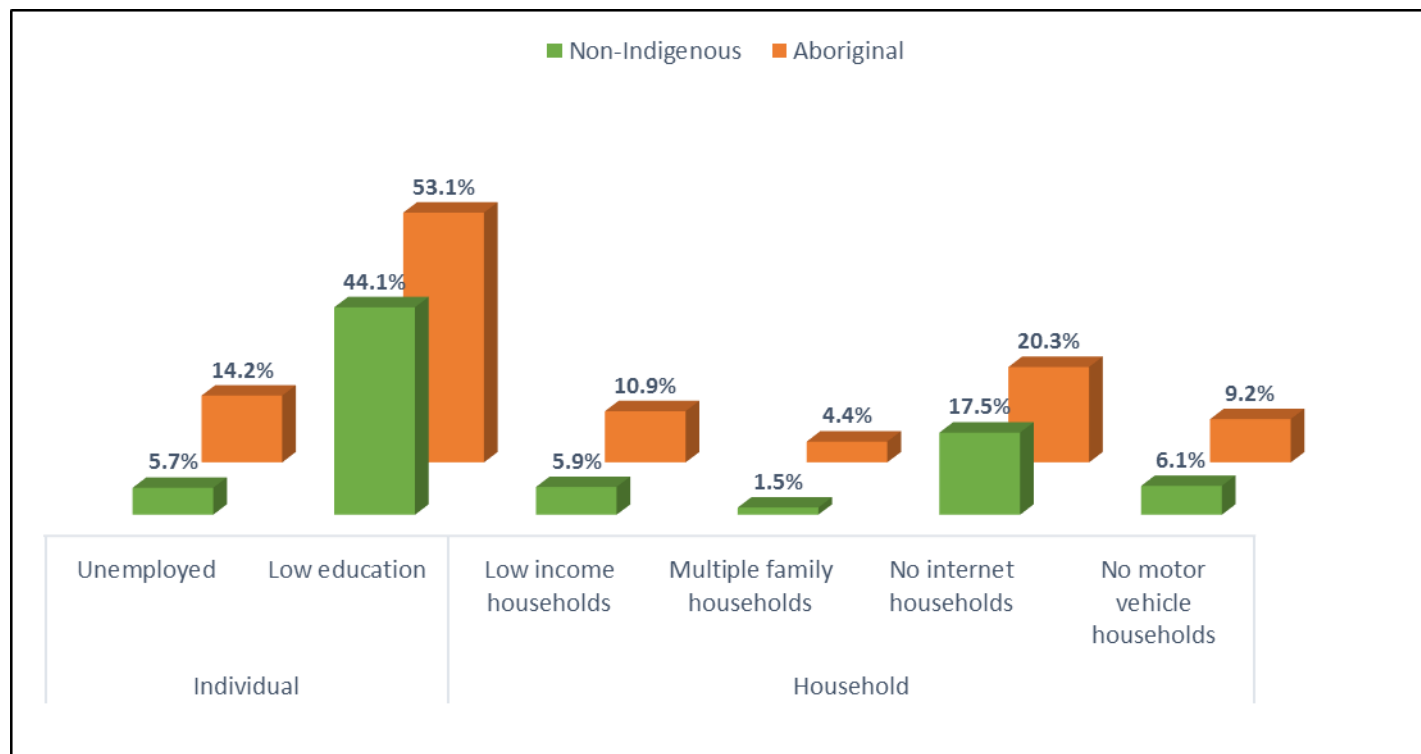
| Regions | Average household size | | Average number of persons per bedroom | | Median total household income weekly | | Median total personal income weekly | |
|------------------------------|------------------------|----------------|---------------------------------------|----------------|--------------------------------------|----------------|-------------------------------------|----------------|
| | Aboriginal | Non-Indigenous | Aboriginal | Non-Indigenous | Aboriginal | Non-Indigenous | Aboriginal | Non-Indigenous |
| Bega Valley | 3.1 | 2.2 | 1 | 0.7 | \$944 | \$987 | \$427 | \$542 |
| Eurobodalla | 3.1 | 2.1 | 1 | 0.7 | \$943 | \$939 | \$404 | \$520 |
| Goulburn Mulwaree | 3.1 | 2.4 | 0.9 | 0.7 | \$1,202 | \$1,196 | \$483 | \$630 |
| Kiama | 3.3 | 2.5 | 1 | 0.8 | \$1,882 | \$1,495 | \$631 | \$684 |
| Queanbeyan-Palerang Regional | 3 | 2.5 | 1 | 0.8 | \$1,552 | \$1,895 | \$659 | \$941 |
| Shellharbour | 3.4 | 2.7 | 1 | 0.8 | \$1,385 | \$1,341 | \$465 | \$584 |
| Shoalhaven | 3.1 | 2.3 | 1 | 0.7 | \$1,068 | \$988 | \$436 | \$517 |
| Snowy Monaro Regional | 2.7 | 2.3 | 0.9 | 0.8 | \$1,237 | \$1,198 | \$589 | \$677 |
| Jervis Bay | 3.9 | 2.8 | 1.2 | 0.7 | \$1,208 | \$2,218 | \$390 | \$1,017 |
| Upper Lachlan Shire | 3 | 2.4 | 0.9 | 0.7 | \$1,281 | \$1,157 | \$624 | \$609 |
| Wollongong | 3.1 | 2.5 | 1 | 0.8 | \$1,266 | \$1,342 | \$472 | \$587 |
| Yass Valley | 3.1 | 2.7 | 1 | 0.8 | \$1,687 | \$1,886 | \$570 | \$876 |
| NSW | 3.1 | 2.6 | 1 | 0.9 | \$1,214 | \$1,498 | \$472 | \$669 |
| Australia | 3.2 | 2.6 | 1 | 0.8 | \$1,203 | \$1,446 | \$441 | \$668 |

^{aa} Not available or reported at the PHN level.^{bb} Indicators drawn from 2016 Census of Population and Housing – Unpublished data. These include: -

- **Median Total Personal Income (weekly)** is applicable to persons aged 15 years and over and records the personal income level collected as ranges in the Census;
- **Median Total Household Income (weekly)** is applicable to occupied private dwellings and is the sum of the Total Personal Incomes (weekly) of each resident present in the household on Census night. It excludes households where at least one member aged 15 years and over did not state an income and households where at least one member aged 15 years and over was temporarily absent on Census Night. It excludes 'Visitors only' and 'Other non-classifiable' households;
- **Average Number of Persons Per Bedroom** is applicable to occupied private dwellings including caravans in caravan parks. It excludes 'Visitors only' and 'Other non-classifiable' households; and
- **Average Household Size** is applicable to number of persons usually resident in occupied private dwellings. It includes partners, children, and co-tenants (in group households) who were temporarily absent on Census Night. A maximum of three temporary absentees can be counted in each household. It excludes 'Visitors only' and 'Other non-classifiable' households.

A review of some key socio-economic indicators^{cc} sourced from the 2016 Census specific to the SENSWPHN catchment reveals the relatively and notably higher level of disadvantage for Aboriginal persons compared to the non-Indigenous population.

Figure 18: Selected socio-economic indicator comparison between Aboriginal⁹ population and the non-Indigenous population in SENSWPHN, 2016 [10]



^{cc} Indicators drawn from 2016 Census of Population and Housing – Unpublished data. These include: -

- **Disabled:** individual has need for assistance with core activities;
- **Unemployed:** individual is currently unemployed looking for part-time or full-time work;
- **Low education:** individual's response to highest year of schooling was either Year 10 / equivalent or Year 9 / equivalent or Year 8 or below or did not go to school;
- **Low income households:** equivalised total household income of below \$300 per week or nil income;
- **Multiple family household:** more than three families are identified in a household;
- **No internet households:** internet not accessed from dwelling; and
- **No motor vehicle households:** no registered motor vehicles owned or used by members of the household.

4. EPIDEMIOLOGY

4.1. Recent estimates of morbidity and risk factor prevalence

It is noteworthy that an enormous amount of empirical literature reveals the wide gaps in the timeliness, generalisability and comprehensiveness of chronic disease and associated risk factor prevalence data for them to be useful for robust population health planning and service development especially at the regional level [22, 23]. Chronic condition and health risk factor prevalence estimates at the granular level are only available as synthetically modelled estimates^{dd} only derived from national data are arguably old/out-dated and/or are non-validated self-reported information drawn from national surveys that have limited generalisability for several regions and areas of the SENSWPHN catchment.

Some selected conditions have some national quantification and monitoring in place, albeit with some limitations of generalisability, such as the [National Diabetes Services Scheme \(NDSS\)](#) which maintains a registrant database for Australians who are diagnosed with diabetes^{ee} but is limited to only those persons who chose to join the register therefore relies on voluntary registration of the persons with the condition and is hence not a universal surveillance system. Additionally, similar registers do not exist for any other major chronic condition and where they do exist, those are unable to provide data in a timely manner.

While a local chronic disease and risk factor monitoring system is underway for the South Eastern NSW catchment, more recent estimates of several health risk factors sourced from the NSW Adult Population Health Survey [24] have been illustrated below at the LHD level and the overall catchment level with NSW state comparisons. Additionally, the aforementioned gaps in the evidence for morbidity and risk factor estimates are even more pronounced for selected vulnerable population groups such as Aboriginal and/or Torres Strait Islander persons. An overview of NSW state-level data from the Adult Population Health Survey has been illustrated below to provide some insights into the disparities between Aboriginal^e and non-Indigenous populations within NSW. At the regional level synthetically modelled estimates^{dd} from the national health survey [11, 12] provide a crude proxy estimate of disease morbidity in the SENSWPHN catchment albeit somewhat out-dated and with questionable representativeness for smaller areas of the catchment.

Table 31: Prevalence (self-reported) estimates of selected health risk factors for persons aged 16 years and over, 2019 [24]

| Health Risks | Illawarra Shoalhaven | Southern NSW | SENSWPHN | NSW |
|---|----------------------|--------------|----------|-------|
| Immediate risk alcohol drinking | 28.5% | 29.9% | 29.0% | 26.7% |
| Alcohol consumption at levels posing long-term risk to health | 38.6% | 32.4% | 36.5% | 32.8% |
| Current smoking | 16.1% | 18.7% | 17.0% | 15.5% |
| Obese | 31.7% | 29.2% | 30.8% | 22.4% |
| Overweight | 31.9% | 35.3% | 33.0% | 32.8% |
| Adults that are either overweight or obese | 63.5% | 64.5% | 63.8% | 55.2% |
| Insufficient physical activity | 43.6% | 41.6% | 43.0% | 38.5% |
| High or very high psychological distress | 18.7% | 18.3% | 18.5% | 17.7% |
| Recommended daily consumption of vegetables | 9.3% | 3.5% | 7.3% | 6.3% |
| Recommended daily consumption of fruits | 43.4% | 43.2% | 43.4% | 40.6% |
| Positive self rated health | 76.2% | 78.3% | 76.9% | 79.8% |

^{dd} **Modelled estimates** do not represent data collected in administrative or other data sets. As such, they should be used with caution, and treated as indicative of the likely social dimensions present in an area with these demographic and socioeconomic characteristics. When used in conjunction with local area knowledge and taking into consideration the prediction reliability, modelled estimates can provide useful information that can assist with decision making for small geographic regions. In the absence of accurate, localised information about the health indicator, such predictions can usefully contribute to policy and program development, service planning and other decision-making processes that require an indication of the geographic distribution of the health indicator.

^{ee} Regional registration figures for Diabetes can be viewed on the [NDSS Diabetes Map](#).

*Table 32: Prevalence (self-reported) estimates comparison between the Aboriginal⁹ population and the non-Indigenous population of **NSW** for selected health risk factors for persons aged 16 years and over in, 2019 [24]*

| Health Risks | Aboriginal | Non-Indigenous |
|---|--------------|----------------|
| Immediate risk alcohol drinking | 30.9% | 26.6% |
| Alcohol consumption at levels posing long-term risk to health | 48.7% | 32.5% |
| Current smoking | 19.4% | 11.3% |
| Obese | 36.2% | 22.1% |
| Overweight | 31.5% | 33.0% |
| Adults that are either overweight or obese | 67.8% | 55.0% |
| Insufficient physical activity | 36.2% | 38.4% |
| High or very high psychological distress | 31.3% | 18.7% |
| Recommended daily consumption of vegetables | 26.4% | 10.1% |
| Recommended daily consumption of fruits | 33.2% | 40.9% |
| Positive self rated health | 72.7% | 79.9% |

Note: For positive risk factors like 'Recommended daily consumption of fruits' and 'Recommended daily consumption of vegetables' low figures denote high levels of need and therefore the lowest regional figure is highlighted in red bold font. For other harmful risk factors, high figures denote high levels of need and therefore the highest regional figure is highlighted in red bold font.

Table 33: Prevalence (self-reported) estimates of selected chronic conditions for persons aged 16 years and over, 2019 [24]

| Conditions | Illawarra Shoalhaven | Southern NSW | SENSWPHN | NSW |
|------------|----------------------|--------------|----------|-------|
| Diabetes | 12.5% | 9.0% | 11.3% | 11.3% |
| Asthma | 10.5% | 21.1% | 14.1% | 11.5% |

*Table 34: Prevalence (self-reported) estimates comparison between the Aboriginal⁹ population and the non-Indigenous population of **NSW** for chronic conditions for persons aged 16 years and over in, 2019 [24]*

| Conditions | Aboriginal | Non-Indigenous |
|------------|--------------|----------------|
| Diabetes | 13.7% | 11.2% |
| Asthma | 19.4% | 11.3% |

4.2. Granular estimates^{ff} of morbidity and risk factor prevalence

4.2.1. Overall health status

A considerable proportion of the population of the SENSWPHN catchment self-report fair or poor status of their own health.

Table 35: Modelled estimated prevalence^{dd} (self-reported) of fair or poor health status, 2017-18 [11, 12]

| Regions | Age-standardised rate per 100 persons |
|------------------------------|---------------------------------------|
| | Fair or poor health |
| Bega Valley | 16.1 |
| Eurobodalla | 17.0 |
| Goulburn Mulwaree | 13.3 |
| Kiama | 11.5 |
| Queanbeyan-Palerang Regional | 11.6 |
| Shellharbour | 15.5 |
| Shoalhaven | 16.5 |
| Snowy Monaro Regional | 14.8 |
| Upper Lachlan Shire | 10.3 |
| Wollongong | 15.0 |
| Yass Valley | 9.9 |
| SENSWPHN | 14.9 |
| NSW | 14.1 |
| Australia | 14.7 |

4.2.2. Behavioural risk factors

The SENSWPHN catchment population has high rates of several behavioural risk factors.

Table 36: Modelled estimated prevalence^{dd} (self-reported) of behavioral risk factors, 2017-18 [11, 12]

| Regions | Age-standardised rate per 100 persons | | | |
|------------------------------|---------------------------------------|-----------------------|----------------------------------|------------------|
| | Inadequate exercise | Adequate fruit intake | Harmful use of alcohol (persons) | Smoker (persons) |
| Bega Valley | 64.4 | 46.7 | 26.8 | 18.0 |
| Eurobodalla | 61.0 | 46.8 | 21.4 | 18.9 |
| Goulburn Mulwaree | 69.4 | 48.8 | 15.5 | 17.8 |
| Kiama | 56.4 | 51.0 | 19.8 | 10.7 |
| Queanbeyan-Palerang Regional | 63.9 | 49.2 | 17.3 | 12.6 |
| Shellharbour | 65.3 | 49.8 | 16.8 | 18.1 |
| Shoalhaven | 65.4 | 47.0 | 18.1 | 18.0 |
| Snowy Monaro Regional | 65.8 | 49.8 | 24.9 | 16.3 |
| Upper Lachlan Shire | 73.3 | 52.7 | 18.0 | 15.1 |
| Wollongong | 62.3 | 52.4 | 16.2 | 15.8 |
| Yass Valley | 70.3 | 52.7 | 17.3 | 13.0 |
| SENSWPHN | 63.9 | 49.9 | 18.1 | 16.2 |
| NSW | 65.3 | 52.5 | 15.5 | 14.4 |
| Australia | 66.1 | 51.3 | 16.1 | 15.1 |

Note: For positive risk factors like 'Adequate fruit intake' low figures denote high levels of need and therefore the lowest regional figure is highlighted in red bold font. For other harmful risk factors, high figures denote high levels of need and therefore the highest regional figure is highlighted in red bold font

^{ff} **Age-standardisation** is a method of adjusting a crude rate to eliminate the effect of differences in population age structures when comparing crude rates for different periods of time, different geographic areas and/or different population sub-groups (e.g., between one year and the next and/or States and Territories, Indigenous and non-Indigenous populations). Indirect method of age-standardisation has been used to for all estimates of morbidity and risk factor prevalence.

4.2.3. Biomedical risk factors

The SENSWPHN catchment population has high rates of several biomedical risk factors.

Table 37: Modelled estimated prevalence^{dd} (measured) of selected biomedical risk factors, 2017-18 [11, 12]

| Regions | Age-standardised rate per 100 persons | | |
|------------------------------|---------------------------------------|-----------------|----------------------|
| | High blood pressure | Obese (persons) | Overweight (persons) |
| Bega Valley | 23.2 | 34.6 | 34.9 |
| Eurobodalla | 23.4 | 35.7 | 35.0 |
| Goulburn Mulwaree | 23.9 | 31.6 | 34.5 |
| Kiama | 23.3 | 30.7 | 34.8 |
| Queanbeyan-Palerang Regional | 23.5 | 37.0 | 35.0 |
| Shellharbour | 23.9 | 37.2 | 34.3 |
| Shoalhaven | 23.6 | 37.1 | 33.7 |
| Snowy Monaro Regional | 23.1 | 38.9 | 35.9 |
| Upper Lachlan Shire | 22.9 | 33.2 | 35.0 |
| Wollongong | 23.7 | 33.4 | 34.6 |
| Yass Valley | 23.3 | 31.6 | 35.0 |
| SENSWPHN | 23.6 | 35.0 | 34.6 |
| NSW | 23.1 | 30.9 | 35.0 |
| Australia | 22.8 | 31.3 | 35.6 |

Table 38: Modelled estimated prevalence^{dd} (self-reported for smoking and measured for obesity) of selected risk factors by sex, 2017-18 [11, 12]

Analysing some risk factors by sex shows a higher level of male predisposition for lifestyle risk factors.

| Regions | Age-standardised rate per 100 persons | | | | | |
|------------------------------|---------------------------------------|---------------|------------------|----------------|----------------------------------|--------------------------------|
| | Obese (females) | Obese (males) | Smoker (females) | Smoker (males) | Harmful use of alcohol (females) | Harmful use of alcohol (males) |
| Bega Valley | 33.3 | 36.1 | 13.9 | 22.4 | 15.5 | 38.2 |
| Eurobodalla | 34.5 | 37.1 | 14.9 | 23.3 | 11.9 | 31.0 |
| Goulburn Mulwaree | 30.8 | 32.5 | 14.6 | 21.1 | 8.0 | 23.1 |
| Kiama | 29.8 | 31.7 | 8.6 | 13.0 | 10.5 | 29.4 |
| Queanbeyan-Palerang Regional | 35.8 | 38.3 | 9.9 | 15.5 | 9.4 | 25.1 |
| Shellharbour | 36.2 | 38.3 | 15.3 | 21.1 | 8.9 | 25.2 |
| Shoalhaven | 35.9 | 38.5 | 14.6 | 21.7 | 9.6 | 26.7 |
| Snowy Monaro Regional | 37.7 | 40.2 | 12.6 | 20.0 | 14.4 | 34.8 |
| Upper Lachlan Shire | 31.8 | 34.8 | 11.7 | 18.6 | 9.1 | 26.3 |
| Wollongong | 32.5 | 34.5 | 12.9 | 18.8 | 8.7 | 23.9 |
| Yass Valley | 30.3 | 33.1 | 10.2 | 16.1 | 9.3 | 25.4 |
| SENSWPHN | 33.9 | 36.2 | 13.2 | 19.5 | 9.8 | 26.5 |
| NSW | 29.9 | 32.1 | 11.7 | 17.2 | 8.5 | 22.7 |
| Australia | 30.2 | 32.4 | 12.1 | 18.2 | 8.8 | 23.7 |

4.2.4. Morbidity

While acknowledging the several limitations of disease prevalence information at granular geographic levels as mentioned above in the [Recent estimates of morbidity and risk factor prevalence](#) section; the best available modelled synthetic point estimates of major conditions are presented below and show some significant pockets of very high levels of chronic disease morbidity.

Table 39: Modelled estimated prevalence^{dd} (self-reported) of selected chronic conditions, 2017-18 [11, 12]

| Regions | Age-standardised rate per 100 persons | | | | | |
|------------------------------|---------------------------------------|------------|------------|------------------------------------|-------------|--------------|
| | Asthma | COPD | Diabetes | Heart, Stroke and Vascular disease | Arthritis | Osteoporosis |
| Bega Valley | 14.0 | 2.2 | 4.8 | 4.5 | 16.0 | 3.3 |
| Eurobodalla | 13.8 | 1.9 | 4.9 | 4.7 | 16.3 | 4.0 |
| Goulburn Mulwaree | 12.6 | 2.6 | 4.8 | 5.2 | 19.7 | 4.7 |
| Kiama | 9.9 | 1.8 | 4.2 | 5.1 | 19.2 | 4.6 |
| Queanbeyan-Palerang Regional | 10.5 | 2.2 | 3.9 | 4.9 | 16.1 | 4.1 |
| Shellharbour | 13.5 | 2.8 | 5.0 | 5.4 | 18.4 | 4.3 |
| Shoalhaven | 12.7 | 2.4 | 5.1 | 5.4 | 18.4 | 4.7 |
| Snowy Monaro Regional | 11.9 | 2.4 | 3.9 | 4.4 | 16.0 | 3.1 |
| Upper Lachlan Shire | 10.8 | 2.4 | 4.4 | 5.4 | 17.5 | 3.5 |
| Wollongong | 12.5 | 2.6 | 4.9 | 5.0 | 18.2 | 4.2 |
| Yass Valley | 10.6 | 2.4 | 3.8 | 5.2 | 18.3 | 4.0 |
| SENSWPHN | 12.4 | 2.4 | 4.8 | 5.1 | 17.8 | 4.2 |
| NSW | 10.6 | 2.2 | 5.2 | 4.9 | 15.5 | 4.2 |
| Australia | 11.2 | 2.5 | 4.9 | 4.8 | 15.0 | 3.8 |

Table 40: Modelled estimated prevalence^{dd} (self-reported) of selected chronic mental health issues, 2017-18 [11, 12]

| Regions | Age-standardised rate per 100 persons | |
|------------------------------|--|--|
| | High or very high psychological distress (persons) | Mental and behavioural problem (persons) |
| Bega Valley | 12.8 | 21.2 |
| Eurobodalla | 13.5 | 22.6 |
| Goulburn Mulwaree | 12.0 | 22.9 |
| Kiama | 9.9 | 19.7 |
| Queanbeyan-Palerang Regional | 11.3 | 20.5 |
| Shellharbour | 14.6 | 22.7 |
| Shoalhaven | 14.3 | 22.2 |
| Snowy Monaro Regional | 11.8 | 20.7 |
| Upper Lachlan Shire | 10.5 | 21.0 |
| Wollongong | 13.4 | 21.3 |
| Yass Valley | 10.5 | 20.3 |
| SENSWPHN | 13.1 | 21.6 |
| NSW | 12.4 | 18.8 |
| Australia | 12.9 | 20.1 |

Table 41: Modelled estimated prevalence^{dd} (self-reported) of selected chronic mental health issues by sex, 2017-18 [11, 12]

| Regions | Age-standardised rate per 100 persons | | | |
|------------------------------|--|--|--|--|
| | High or very high psychological distress (females) | High or very high psychological distress (males) | Mental and behavioural problem (females) | Mental and behavioural problem (males) |
| Bega Valley | 14.1 | 11.4 | 23.3 | 19.3 |
| Eurobodalla | 14.7 | 12.2 | 24.4 | 20.9 |
| Goulburn Mulwaree | 13.5 | 10.6 | 25.3 | 20.7 |
| Kiama | 11.0 | 8.7 | 21.8 | 17.7 |
| Queanbeyan-Palerang Regional | 12.7 | 10.0 | 22.5 | 18.6 |
| Shellharbour | 16.4 | 12.7 | 25.2 | 20.2 |
| Shoalhaven | 15.9 | 12.6 | 24.1 | 20.4 |
| Snowy Monaro Regional | 13.0 | 10.7 | 22.8 | 19.1 |
| Upper Lachlan Shire | 11.7 | 9.4 | 22.7 | 19.7 |
| Wollongong | 14.9 | 12.0 | 23.7 | 19.1 |
| Yass Valley | 11.8 | 9.3 | 22.2 | 18.5 |
| SENSWPHN | 14.6 | 11.6 | 23.8 | 19.5 |
| NSW | 14.0 | 10.8 | 20.9 | 16.9 |
| Australia | 14.5 | 11.3 | 22.3 | 17.8 |

A significant long-term mental health condition that has a substantial burden in the SENSWPHN catchment is dementia (including Alzheimer's disease). While the actual prevalence of the condition is very poorly quantified in Australia, most recent estimates [25] suggest that as of the year 2018, an estimated 14,113 persons in the SENSWPHN catchment had dementia. This figure is projected to grow by 30.5% to 18,419 persons by the year 2028 and furthermore rise by 95% by the year 2058 to 27,505 persons with dementia within the SENSWPHN catchment.

4.3. Mortality

Overall the SENSWPHN catchment has higher than NSW state and Australian national rates of death from 'all causes' including most of the major causes of death.

Table 42: Major causes of death and associated death rates in SENSWPHN, 2014-18 [26]

| Top Causes of Death in SENSWPHN | Age-standardised death rate per 100,000 population | | |
|---|--|---------------------------|---------------------------------|
| | SENSWPHN | NSW | Australia |
| Coronary heart disease | 65.6 | 61.4 | 62.5 |
| Dementia including Alzheimer disease | 41.5 | 40.2 | 40.7 |
| Cerebrovascular disease | 37.8 | 36.5 | 33.8 |
| Lung cancer | 33.2 | 29.4 | 29.4 |
| Chronic obstructive pulmonary disease | 29.7 | 24.6 | 24.3 |
| Colorectal cancer | 20.3 | 18.3 | 18.4 |
| Diabetes | 18.2 | 15.9 | 15.7 |
| Heart failure and complications and ill-defined heart disease | 11.9 | 11.8 | 10.8 |
| Prostate cancer | 11.9 | 10.3 | 10.8 |
| Cancer of unknown or ill-defined primary site | 10.9 | 10.6 | 9.8 |
| Influenza and pneumonia | 10 | 9.6 | 10.5 |
| Pancreatic cancer | 10.8 | 10 | 10 |
| Breast cancer | 11 | 10.5 | 10.5 |
| Cardiac arrhythmias | 8.5 | 7.7 | 7.3 |
| Hypertensive disease | 8.3 | 8.7 | 7.1 |
| Suicide | 13.2 | 10.8 | 12.3 |
| Liver disease | 8.3 | not in top causes for NSW | not in top causes for Australia |
| Kidney failure | 6.4 | 6.7 | 7 |

A couple of significant indicators to assess mortality are:

- Premature deaths that occur at a younger age i.e. deaths among people aged under 75 years.
- '*Potentially Avoidable Deaths*' for a region is a measure of health system performance and is defined^{gg} as deaths among people aged under 75 years that are avoidable in the context of the present health care system. It includes deaths from specific conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care^{hh}.

Overall the SENSWPHN catchment had higher than NSW state and Australian national mortality rates for both premature deaths as well as potentially avoidable deaths for the most recent year that was analysed. It should be noted that mortality analysis is based on the usual residence of the deceased person, regardless of where the death occurred and/or was registered.

Table 43: Moralityⁱⁱ burdenⁱⁱ of premature deaths and potentially avoidable deaths^{kk}, 2014-18 [26]

| Regions | Age-standardised death rate per 100,000 | | Potentially avoidable deaths as % of premature deaths |
|------------------------------|---|------------------------------------|---|
| | Premature deaths (aged under 75) | Potentially avoidable deaths (PAD) | |
| Bega Valley | 232.1 | 132.3 | 53.8% |
| Eurobodalla | 278.9 | 134.9 | 45.3% |
| Goulburn Mulwaree | 242.0 | 111.1 | 46.8% |
| Kiama | 106.2 | | 31.4% |
| Queanbeyan-Palerang Regional | 166.7 | 90.7 | 53.4% |
| Shellharbour | 203.9 | 103.6 | 49.1% |
| Shoalhaven | 243.0 | 118.4 | 45.7% |
| Snowy Monaro Regional | 191.8 | 123.5 | 64.0% |
| Upper Lachlan Shire | 189.9 | | 62.6% |
| Wollongong | 206.3 | 103.3 | 48.7% |
| Yass Valley | 188.4 | 102.8 | 52.9% |
| SENSWPHN | 210.7 | 107.0 | 48.8% |
| NSW | 201.4 | 99.3 | 48.3% |
| Australia | 198.9 | 100.3 | 49.3% |

^{gg} Australian Institute of Health and Welfare (AIHW), National Healthcare Agreement: National Healthcare Agreement: PI 16-Potentially avoidable deaths, 2019, Standard 03/06/2019. Sourced from the AIHW metadata online registry (METeOR item 698908).

^{hh} **Potentially Avoidable Deaths** include - elected invasive infections, Viral pneumonia and influenza, HIV/AIDS, Colorectal, Skin, Breast, Cervix, Prostate, Kidney, Thyroid, Hodgkin's disease, Acute lymphoid leukaemia/Acute lymphoblastic leukaemia, Diabetes, Rheumatic and other valvular heart disease, Hypertensive heart and renal disease, Ischaemic heart disease, Cerebrovascular diseases, Heart failure, Pulmonary embolism, Renal failure, COPD, Asthma, Peptic ulcer disease, Complications of the perinatal period, Complications of pregnancy, labour or the puerperium, Falls, Fires, burns, Suicide and self-inflicted injuries, Misadventures to patients during surgical and medical care, Medical devices associated with adverse incidents in diagnostic and therapeutic use, Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure, Transport accidents, Exposure to inanimate mechanical forces, Exposure to animate mechanical forces, Accidental drowning and submersion, Other accidental threats to breathing, Exposure to electric current, radiation and extreme ambient air temperature and pressure, Contact with heat and hot substances, Contact with venomous animals and plants, Exposure to forces of nature, Accidental poisoning by and exposure to noxious substances, Overexertion, travel and privation, Accidental exposure to other and unspecified factors, Assault, Event of undetermined intent, Legal interventions and operations of war, Drugs, medicaments and biological substances causing adverse effects in therapeutic use, Sequelae of external causes of morbidity and mortality.

ⁱⁱ Geographic regional allocation of death is based on area of usual residence of the person.

^{jj} **Age-standardised rates** are standardised to a specific standard age structure to facilitate comparison between populations and over time. Age-standardised rates are directly standardised to the Australian estimated resident population at 30 June 2001. Rates are expressed as deaths per 100,000 persons for each geographic region.

^{kk} Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these include where the population in any region or area is less than 30, or where there are fewer than 20 cause-specific deaths (excluding those with missing age at death) in any region or area, by sex.

Table 44: Crude death rates for top 18 causes of death^{II} in SENSWPHN, 2014-18 [26]

| Regions | Crude death rate per 100,000 population | | | | | | | | | | | | | | | | | |
|------------------------------|---|--------------------------------------|-------------------------|-------------|---------------------------------------|-------------------|-------------|---|-----------------|---|-------------------------|-------------------|---------------|---------------------|----------------------|-------------|---------------|----------------|
| | Coronary heart disease | Dementia including Alzheimer disease | Cerebrovascular disease | Lung cancer | Chronic obstructive pulmonary disease | Colorectal cancer | Diabetes | Heart failure and complications and ill-defined heart disease | Prostate cancer | Cancer of unknown or ill-defined primary site | Influenza and pneumonia | Pancreatic cancer | Breast cancer | Cardiac arrhythmias | Hypertensive disease | Suicide | Liver disease | Kidney failure |
| Bega Valley | 130.4 | 83.3 | 71.5 | 57.3 | 56.7 | 38 | 28 | 24 | 27.1 | 18.1 | 20.9 | 17.7 | 21.5 | 15.90 | 16.5 | 21 | 14.1 | na |
| Eurobodalla | 151 | 95.5 | 93.9 | 78.2 | 67.3 | 49.2 | 47.2 | 24.8 | 31.5 | 22.7 | 30.8 | 23.7 | 21.8 | 18.9 | 17.3 | na | 16.3 | 18.4 |
| Goulburn Mulwaree | 121.4 | 85.7 | 57.7 | 53.5 | 70.1 | 32.5 | 24.6 | 25.9 | 15.7 | 21.8 | 21.3 | 12.8 | 13.1 | 20.5 | 16.5 | na | 13.6 | 15.60 |
| Kiama | 81.3 | 75.8 | 61.3 | 42.5 | 28.9 | 25.3 | 20.8 | 20.8 | 14.5 | 18.1 | 22.6 | 17.2 | 19.9 | 15.4 | na | 12.7 | na | na |
| Queanbeyan-Palerang Regional | 65.8 | 19.9 | 23.7 | 22.9 | 25 | 21.5 | 13.6 | 8.1 | 11.4 | 10.7 | 9.9 | 11.8 | 10.1 | na | 6.2 | 13.5 | 7.10 | na |
| Shellharbour | 83.2 | 62.8 | 40 | 44 | 43.7 | 22.1 | 28.1 | 12.8 | 12.5 | 13.6 | 9.9 | 15.3 | 14.2 | na | 12.20 | 9.90 | 9.7 | 9.1 |
| Shoalhaven | 131.5 | 77.7 | 95.8 | 69.7 | 58 | 37.8 | 36.2 | 32.8 | 26.4 | 21.5 | 20.1 | 16.9 | 18.7 | 20.3 | 22.6 | 15.7 | na | na |
| Snowy Monaro Regional | 92.5 | 37.9 | 59.5 | 34.8 | 46.4 | 30.7 | 31.2 | 25.4 | 19.8 | 15.9 | na | 11.1 | 16.90 | 19.5 | 11.7 | 13.9 | 15.80 | na |
| Upper Lachlan Shire | 81.7 | 34.6 | 26.3 | 45 | 39.2 | 24.3 | 21.8 | 11.2 | 22.00 | 12.8 | 9.2 | 12.4 | na | 21.8 | 14.1 | 13.9 | 14.80 | na |
| Wollongong | 94.8 | 74.6 | 55.1 | 43.4 | 39.6 | 25.7 | 25.9 | 15.3 | 14.8 | 14.8 | 14.4 | 15.8 | 14.7 | 11.5 | 10.8 | 10.5 | 10.4 | 10.3 |
| Yass Valley | 72.3 | 64.8 | 38.6 | 32.9 | 29 | 26.2 | 16.1 | 13.90 | 20 | 8.9 | 12.3 | 11.9 | na | 19.7 | 13.7 | 16.5 | na | 10.10 |
| SENSWPHN | 102.2 | 68.9 | 60.1 | 48.8 | 45.5 | 29.5 | 27.7 | 19.3 | 18.3 | 16.3 | 16.1 | 15.7 | 15.6 | 13.8 | 13.5 | 12.9 | 10.7 | 10.2 |
| NSW | 81.6 | 57.1 | 49.4 | 35.7 | 31.5 | 22.6 | 20.4 | 16.5 | 13.3 | 13.4 | 13.2 | 12.3 | 12.6 | 10.7 | 12 | 11 | na | 9.2 |
| Australia | 78.8 | 54 | 43.1 | 34.6 | 29.8 | 22 | 19.2 | 14.1 | 13.3 | 11.8 | 13.8 | 11.8 | 12.2 | 9.6 | 9.3 | 12.5 | na | 9 |

^{II} na indicates the respective cause of death was not among the top causes of mortality in the respective region

4.4. Disability

Through the national census variable of *Core Activity Need for Assistance*^{mm} the number of people with a profound or severe disability can be estimated. The SENSWPHN catchment and several constituent regions have high proportions of persons identified with a severe disability within the community.

Table 45: Population with profound or severe disability, 2016 [10]

| Regions | Persons with profound or severe disability | % of Resident Population |
|------------------------------|--|--------------------------|
| Bega Valley | 2,003 | 6.0% |
| Eurobodalla | 2,880 | 7.7% |
| Goulburn Mulwaree | 1,907 | 6.4% |
| Jervis Bay | 22 | 5.6% |
| Kiama | 977 | 4.6% |
| Queanbeyan-Palerang Regional | 2,159 | 3.9% |
| Shellharbour | 4,589 | 6.7% |
| Shoalhaven | 7,651 | 7.7% |
| Snowy Monaro Regional | 878 | 4.3% |
| Upper Lachlan Shire | 451 | 5.9% |
| Wollongong | 13,083 | 6.4% |
| Yass Valley | 688 | 4.3% |
| SENSWPHN | 37,298 | 6.3% |
| <i>Illawarra Shoalhaven</i> | 26,322 | 6.7% |
| <i>Southern NSW</i> | 10,966 | 5.5% |
| NSW | 402,049 | 5.4% |
| Australia | 1,202,944 | 5.1% |

The burden of disability is also significantly higher within the older person cohort with some pockets of the SENSWPHN catchment having very high proportions of persons aged 65 years and over with a profound or severe disability.

Table 46: Persons aged 65 years and over with profound or severe disability, 2016 [10]

| Regions | Persons aged 65 years & over with profound or severe disability | % of Resident Population aged 65 years & over |
|------------------------------|---|---|
| Bega Valley | 1,069 | 12.4% |
| Eurobodalla | 1,681 | 14.8% |
| Goulburn Mulwaree | 1,040 | 18.1% |
| Kiama | 621 | 12.3% |
| Queanbeyan-Palerang Regional | 980 | 14.3% |
| Shellharbour | 2,371 | 20.7% |
| Shoalhaven | 4,254 | 16.1% |
| Snowy Monaro Regional | 460 | 11.8% |
| Upper Lachlan Shire | 260 | 14.5% |
| Wollongong | 7,456 | 20.7% |
| Yass Valley | 351 | 13.3% |
| SENSWPHN | 20,531 | 17.2% |
| <i>Illawarra Shoalhaven</i> | 14,705 | 18.7% |
| <i>Southern NSW</i> | 5,841 | 14.3% |
| NSW | 220,724 | 18.1% |
| Australia | 640,298 | 17.4% |

^{mm} **Core Activity Need for Assistance** is defined as needing help or assistance in one or more of the three core activity areas of self-care, mobility and communication, because of a long-term health condition (lasting six months or more), a disability (lasting six months or more), or old age.

Additionally, there is a substantial cohort of the SENSWPHN population aged 15 years and over, who spend time providing unpaid care, help or assistance to family members or others because of a disability and other long-term illness. This cohort of 'unpaid carers' is a noteworthy segment of the population who may have higher needs of support such as respite care services among others social and emotional needs.

Table 47: Population providing unpaid assistanceⁿⁿ to disabled or chronically ill persons, 2016 [10]

| Regions | Persons providing unpaid assistance to a person with a disability | % of Resident Population |
|------------------------------|---|--------------------------|
| Bega Valley | 3,516 | 12.6% |
| Eurobodalla | 4,271 | 13.4% |
| Goulburn Mulwaree | 3,001 | 12.4% |
| Jervis Bay | 33 | 10.5% |
| Kiama | 2,378 | 13.3% |
| Queanbeyan-Palerang Regional | 5,018 | 11.1% |
| Shellharbour | 7,516 | 13.7% |
| Shoalhaven | 11,166 | 13.4% |
| Snowy Monaro Regional | 1,921 | 11.5% |
| Upper Lachlan Shire | 862 | 13.6% |
| Wollongong | 22,175 | 13.3% |
| Yass Valley | 1,587 | 12.5% |
| SENSWPHN | 63,454 | 13.0% |
| <i>Illawarra Shoalhaven</i> | <i>43,268</i> | <i>13.4%</i> |
| <i>Southern NSW</i> | <i>20,176</i> | <i>12.2%</i> |
| NSW | 709,417 | 11.6% |
| Australia | 2,145,201 | 11.3% |

ⁿⁿ **Unpaid Assistance to a Person with a Disability** consists of unpaid help or supervision given in the previous two weeks to another person to assist them with daily activities because of a disability, a long-term health condition or problems related to old age. A long-term illness is one that has lasted or is likely to last for six months or more. The care could have been provided to family members or other people, but excludes care given through an organisation or club. Unpaid caring can include, but is not limited to:

- bathing, dressing, toileting and feeding someone;
- helping someone to move around;
- helping someone to understand or be understood by others;
- providing emotional support to someone and helping them to maintain friendships and social activities;
- helping with or supervising medication or dressing wounds;
- cleaning, laundry, cooking, managing diets and preparing meals;
- performing housework, light household repairs or maintenance;
- managing household finances; and
- driving or accompanying someone to appointments and activities.

Care provided by recipients of Carer Allowance or Carer Payment is included as unpaid care.

4.5. Preventive health

4.5.1. Cancer screening

The three population-based national cancer screening programs that are currently undertaken in Australia are BreastScreen Australia^{oo}, the National Bowel Cancer Screening Program (NBCSP)^{pp} and the National Cervical Screening Program (NCSP)^{qq}. The SENSWPHN catchment has higher than NSW state and Australian national figures of participation rates for all these programs, but there are some area level pockets of low participation.

Table 48: Participation figures for all national cancer screening programs, 2018-19 [27]

| Areas Version 1 | National Cancer Screening Program Participation (%) | | |
|----------------------|---|---|---|
| | Bowel Screening for 50–74 year old persons | Breast Screening for 50–74 year old females | Cervical Screening for 25–74 year old females |
| Dapto - Port Kembla | 39.6% | 50.8% | 41.1% |
| Goulburn - Mulwaree | 43.2% | 61.6% | 37.5% |
| Kiama - Shellharbour | 44.8% | 57.8% | 45.3% |
| Queanbeyan | 42.9% | 61.4% | 44.8% |
| Shoalhaven | 46.7% | 57.8% | 47.2% |
| Snowy Mountains | 44.8% | 65.1% | 43.1% |
| South Coast | 49.2% | 64.3% | 48.8% |
| Wollongong | 43.8% | 54.2% | 50.3% |
| Young - Yass | 42.6% | 62.2% | 41.9% |
| SENSWPHN | 44.8% | 58.3% | 45.9% |
| NSW | 40.8% | 54.4% | 44.1% |
| Australia | 43.8% | 54.8% | 46.3% |

4.5.2. Childhood immunisation

While the overall childhood immunisation rates for the SENSWPHN catchment are higher than NSW state and Australian national averages; pockets in the southern half of the catchment show some notably low rates for all age groups.

Table 49: Fully immunised proportions for children, December 2019^{rr} [28]

| Areas Version 1 | Fully immunised (%) figures for children aged | | |
|----------------------|---|---------------|---------------|
| | 12-<15 Months | 24-<27 Months | 60-<63 Months |
| Dapto - Port Kembla | 93.8% | 92.2% | 96.7% |
| Kiama - Shellharbour | 96.6% | 94.4% | 97.5% |
| Queanbeyan | 96.0% | 94.6% | 96.1% |
| Snowy Mountains | 96.3% | 94.6% | 96.7% |
| South Coast | 93.1% | 92.5% | 93.4% |
| Shoalhaven | 94.4% | 92.1% | 96.7% |
| Wollongong | 95.5% | 92.4% | 95.9% |
| Goulburn - Yass | 95.5% | 92.6% | 95.7% |
| SENSWPHN | 95.1% | 92.9% | 96.2% |
| NSW | 94.2% | 91.3% | 94.7% |
| AUS | 94.3% | 91.6% | 94.8% |

^{oo} to reduce illness and death from breast cancer by actively recruiting and screening women aged 50-74 for early detection of the disease. In NSW it is administered by BreastScreen NSW.

^{pp} to reduce illness and death from bowel cancer by offering people over the age of 50 a free screening test to complete in the privacy of their own home.

^{qq} to reduce illness and death from cervical cancer, in a cost-effective manner, through a more organised approach to cervical screening. From 1 December 2017 NCSP will change from a biennial Pap Smear test to a HPV (human papillomavirus) test once every five years for women aged 25 to 74 undertake.

^{rr} December quarter data is presented in this table as an annualised (rolling four quarters) figure. So figures include the total combined figures for December, September, June and March quarters for the given calendar year.

4.6. Maternal health

It is quite well established that good outcomes and positive experiences in the health journey of women during pregnancy, childbirth and the postnatal period are pivotal for long term population health and well-being. The SENSWPHN catchment has relatively poor figures in some of the key indicators such as risk factors and medical conditions related to maternal health.

Table 50: Prevalence of selected maternal health indicators, 2017-19^{ss} [29]

| Regions | Spatially adjusted percentage (%) | | |
|------------------------------|--|--|--------------------------------|
| | First antenatal visit done before 14 weeks | First antenatal visit done before 20 weeks | Smoked at all during pregnancy |
| Bega Valley | 62.2% | 81.7% | 16.0% |
| Eurobodalla | 55.2% | 81.3% | 21.1% |
| Goulburn Mulwaree | 67.5% | 85.8% | 17.7% |
| Kiama | 68.3% | 92.2% | 5.1% |
| Queanbeyan-Palerang Regional | 44.3% | 66.5% | 10.0% |
| Shellharbour | 70.0% | 92.0% | 13.8% |
| Shoalhaven | 59.5% | 84.3% | 17.0% |
| Snowy Monaro Regional | 78.2% | 90.4% | 12.4% |
| Upper Lachlan Shire | 66.6% | 84.3% | 15.6% |
| Wollongong | 72.1% | 92.0% | 9.9% |
| Yass Valley | 55.1% | 82.8% | 9.7% |
| SENSWPHN* | 76.9% | 91.9% | 12.8% |
| <i>Illawarra Shoalhaven*</i> | 81.1% | 94.5% | 12.1% |
| <i>Southern NSW*</i> | 63.9% | 83.9% | 15.2% |
| <i>NSW*</i> | 79.6% | 92.8% | 8.8% |

Note: For positive risk factors like 'First antenatal visit done before 14 weeks' and 'First antenatal visit done before 20 weeks' low figures denote high levels of need and therefore the lowest regional figure is highlighted in red bold font. For the other harmful risk factor of 'Smoking at all during pregnancy', high figures denote high levels of need and therefore the highest regional figure is highlighted in red bold font.

* While region level figures are for 2017-19, the figures for PHN, LHD and State are for 2019

Table 51: Prevalence of other^{tt} maternal health indicators, 2019 [29]

| Maternal Health Indicators | Illawarra Shoalhaven | Southern NSW | SENSWPHN | NSW |
|--|----------------------|--------------|----------|------|
| Low birth weight in all births | 6.3% | 3.0% | 5.5% | 6.3% |
| Preterm births | 7.8% | 2.8% | 6.6% | 7.4% |
| Maternal age of 19 years and under (teenage mothers) | 2.1% | 3.6% | 2.5% | 1.7% |

Table 52: Prevalence of selected maternal medical conditions, 2019 [29]

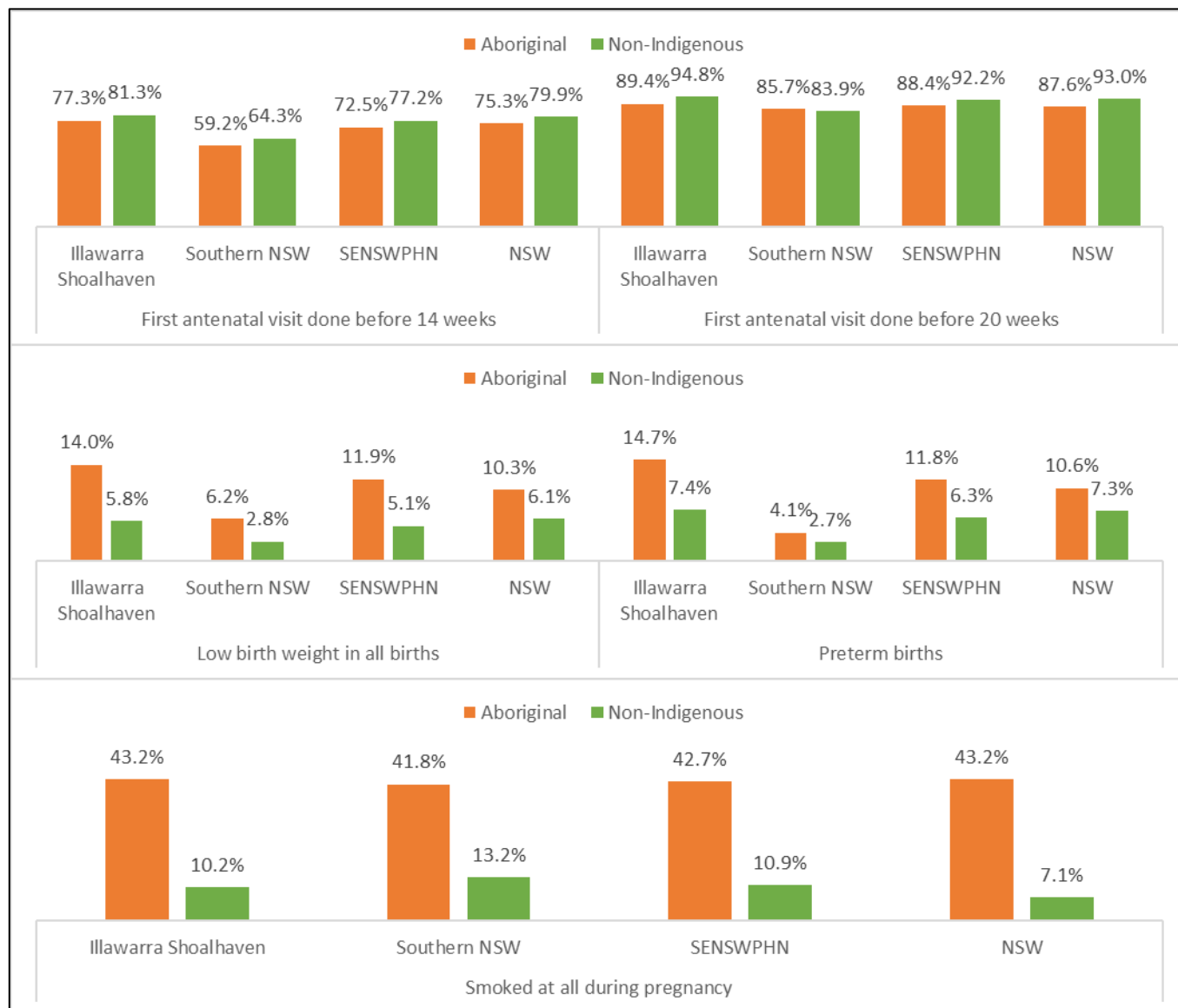
| Maternal Medical Conditions | Illawarra Shoalhaven | Southern NSW | SENSWPHN | NSW |
|--------------------------------|----------------------|--------------|----------|-------|
| Chronic hypertension | 0.9% | 1.0% | 0.9% | 0.9% |
| Gestational diabetes mellitus | 15.5% | 9.6% | 14.1% | 13.9% |
| Gestational hypertension | 2.9% | 3.4% | 3.0% | 2.6% |
| Pre-eclampsia | 1.5% | 1.6% | 1.5% | 1.5% |
| Pre-existing diabetes mellitus | 0.8% | 0.3% | 0.6% | 0.9% |

^{ss} While region level figures are for the defined period of years as specified in the table heading; the figures for PHN, LHD and State are for the latest calendar year in the aforementioned period of years.

^{tt} Some metrics are not available to be reported at the regional level (regions or areas) and can only be assessed at the aggregated level of Health Administrative Boundaries also known as Local Health Districts (LHDs).

There is an alarmingly wide gap in the prevalence of some key maternal health risk factors for Aboriginal[®] mothers especially when compared to the non-Indigenous mothers in the population.

Figure 19: Comparison of prevalence of selected maternal health indicators between Aboriginal[®] and non-Indigenous persons, 2019 [29]



5. PRIMARY CARE and RELATED INSIGHTS

5.1. Workforce distribution^{uu} of selected health professionals^{vv}

5.1.1. General Practitioner (GP) workforce

Acknowledging that a General Practitioner (GP)^{ww} is the most pivotal role for the primary care sector, an insight of the GP workforce for the SENSWPHN catchment is an essential piece of information. An analysis of the latest headcount and Full-Time Equivalent (FTE)^{xx} figures for the catchment shows quite a level of regional inequity in the existing workforce distribution within the SENSWPHN catchment.

Table 53: General Practitioner (GP) workforce, 2019 [30]

| Regions | Headcount | Full-Time Equivalent per 100,000 Population |
|------------------------------|---------------|---|
| Bega Valley | 40 | 116.9 |
| Eurobodalla | 53 | 144.0 |
| Goulburn Mulwaree | 41 | 126.9 |
| Kiama | 29 | 116.3 |
| Queanbeyan-Palerang Regional | 59 | 91.7 |
| Shellharbour | 72 | 95.2 |
| Shoalhaven | 148 | 130.2 |
| Snowy Monaro Regional | 31 | 153.9 |
| Upper Lachlan Shire | 22 | 281.7 |
| Wollongong | 266 | 115.3 |
| Yass Valley | 23 | 128.2 |
| SENSWPHN | 784 | 119.3 |
| <i>Illawarra Shoalhaven</i> | <i>515</i> | <i>115.5</i> |
| <i>Southern NSW</i> | <i>269</i> | <i>126.8</i> |
| <i>NSW</i> | <i>9,639</i> | <i>112.2</i> |
| <i>Australia</i> | <i>31,102</i> | <i>114.4</i> |

5.1.2. Primary care nurse workforce

General practice nurses^{yy} play a very significant role in delivering best-practice care within high performing general practices [31]. The latest headcount and FTE figures of practice nurses in the SENSWPHN catchment highlight a lot of regional inequity in the existing workforce distribution.

^{uu} Regional distribution is based on **Principal place of practice**. For a registered practitioner, this is the address declared by the practitioner is the address

- at which the practitioner is predominantly practicing the profession; or
- of the practitioner's principal place of residence, if the practitioner is not practising the profession or is not practising the profession predominantly at one address.

^{vv} Only selected Australian Health Practitioner Regulation Agency (AHPRA) registered practitioner professions were analysed based on volume of releasable/publishable data and alignment with COORDINARE's existing health and strategic priorities. Regions with headcount and/or FTE figures of less than or equal to three, were suppressed by the data custodian to preserve the confidentiality and anonymity of the practitioners in the respective region. The selected professions illustrated in the report either had no region affected by privacy-maintaining small cell suppression or just one region with headcount and/or FTE figures less than or equal to three. In the latter circumstance the figures for the respective region was marked as na

^{ww} **General Practitioners (GPs)** were defined specifically for this particular analysis by the author of the report. The definition used here counts all AHPRA registered practitioners as per the data collated by NHWDS

- with their nominated profession identified as 'Medical Practitioner';
- who had a workforce status of being 'Employed in Australia working in their registered profession';
- with their job role (main) identified as 'Clinician'; and
- job area identified as 'General practitioner (GP)'.

^{xx} **Full-time equivalent (FTE)** measures the number of standard-hour workloads worked by employed health practitioners. FTE number is calculated based on the total hours worked in a 'standard working week' which is assumed to be 38-40 hours depending on the type of health professional.

^{yy} **General practice nurses** were defined specifically for this particular analysis by the author of the report. The definition used here counts all AHPRA registered practitioners as per the data collated by NHWDS

- with their nominated profession identified as 'Nurse and/or Midwife';
- who had a workforce status of being 'Employed in Australia working in their registered profession';
- with their job role (main) identified as 'Clinician'; and
- job setting identified as 'General practitioner (GP) practice'.

Table 54: General practice nurse workforce, 2019 [30]

| Regions | Headcount | Full-Time Equivalent per 100,000 Population |
|------------------------------|-----------|---|
| Bega Valley | 29 | 60.0 |
| Eurobodalla | 31 | 60.3 |
| Goulburn Mulwaree | 18 | 47.2 |
| Kiama | 16 | 43.6 |
| Queanbeyan-Palerang Regional | 22 | 33.7 |
| Shellharbour | 29 | 30.6 |
| Shoalhaven | 82 | 65.0 |
| Snowy Monaro Regional | 11 | 38.0 |
| Upper Lachlan Shire | 9 | 91.8 |
| Wollongong | 115 | 42.2 |
| Yass Valley | 4 | 25.2 |
| SENSWPHN | 366 | 46.2 |
| <i>Illawarra Shoalhaven</i> | 242 | 46.0 |
| <i>Southern NSW</i> | 124 | 46.8 |
| NSW | 3,354 | 32.2 |
| Australia | 12,718 | 38.6 |

5.1.3. Psychologist workforce

Within the mental health and suicide prevention context, the psychologist^{zz} workforce (including both registered psychologists and clinical psychologists) is key from a planning and service commissioning^{aaa} context. It should be noted that this includes psychologists working in all kinds of private and public settings. Substantial regional inequity can be observed from the analysis of psychologist workforce distribution in the SENSWPHN catchment.

Table 55: Psychologist workforce, 2019 [30]

| Regions | Headcount | Full-Time Equivalent per 100,000 Population |
|------------------------------|-----------|---|
| Bega Valley | 34 | 76.3 |
| Eurobodalla | 33 | 59.3 |
| Goulburn Mulwaree | 31 | 85.8 |
| Kiama | 19 | 63.7 |
| Queanbeyan-Palerang Regional | 41 | 54.2 |
| Shellharbour | 47 | 56.5 |
| Shoalhaven | 100 | 80.8 |
| Snowy Monaro Regional | 11 | 49.5 |
| Upper Lachlan Shire | 15 | 151.4 |
| Wollongong | 317 | 121.2 |
| Yass Valley | 9 | 42.1 |
| SENSWPHN | 657 | 86.2 |
| <i>Illawarra Shoalhaven</i> | 483 | 96.5 |
| <i>Southern NSW</i> | 174 | 65.6 |
| NSW | 8,244 | 85.6 |
| Australia | 25,273 | 84.3 |

^{zz} **Psychologists** were defined specifically for this particular analysis by the author of the report. The definition used here counts all AHPRA registered practitioners as per the data collated by NHWDS.

- with their nominated profession identified as 'Psychologist';
- who had a workforce status of being 'Employed in Australia working in their registered profession'; and
- with their job role (main) identified as 'Clinician'.

^{aaa} **Commissioning** is an iterative cycle involving the development and implementation of services based on planning, procurement, monitoring, and evaluation.

5.2. Primary care service usage

In Australia, Medicare is the universally applicable scheme that gives Australian residents access to healthcare services (outside of a hospital) facilitated by items and inclusions that are listed on a Medicare Benefits Schedule (MBS). It makes free or subsidised treatment by health professionals such as doctors, specialists, optometrists, dentists and other allied health practitioners available to Australian residents along with free treatment and accommodation as a public (Medicare) patient in a public hospital and also 75% of the MBS fee for services and procedures for a private patient in a public or private hospital (not including hospital accommodation and items such as theatre fees and medicines).

Analysis of the utilisation of items/item groups under Medicare has been done in the three major categories as shown below with each category corresponding to specific MBS item groups and/or individual items under specific sub-categories. The major categories are: -

- General Practitioner services;
- Allied Health services; and
- Other Health services, which further includes the sub-categories of: -
 - Nursing and Aboriginal Health Worker services;
 - Diagnostic Imaging services; and
 - Specialist services

All analysis is based on the residential location of the client receiving the service as per the client's Medicare enrolment postcode, not where they received the health care service.

5.2.1. General Practitioner (GP) services

As the cornerstone of the primary care system, GPs deliver a wide range of services to prevent, diagnose, treat, and monitor both acute and chronic health conditions and access to effective GP care may prevent conditions worsening and requiring the use of Emergency Departments (ED) or hospitalisation. 4,111,929 GP attendances (total) services were delivered with \$210,019,304 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2018-19. All key GP service categories^{bbb} have been analysed and illustrated in this report.

^{bbb} GP service categories include: -

- **GP attendances (total)** include Enhanced Primary Care, After-hours GP attendances, Practice Incentive Program (PIP) services, and 'Other' GP services. These services are Medicare-subsidised patient/doctor encounters, such as visits and consultations, for which the patient has not been referred by another doctor. These services can be provided by a GP or other medical practitioner. Excludes services provided by practice nurses and Aboriginal and Torres Strait Islander health practitioners on a GP's behalf
- **GP subtotal - Enhanced Primary Care** includes Health Assessments, Chronic Disease Management Plans, Multidisciplinary Case Conferences, Domiciliary and Residential Medication Management Reviews, and Mental Health Services (including preparation or review of mental health treatment plans, extended consultations related to a mental health issue but excluding focussed psychological strategies and family group therapy). These services are designed to provide a structured approach for GPs to care for people with chronic conditions and complex care needs, and to improve coordination of care for people who require multidisciplinary, team-based care
- **GP subtotal - After-hours** include urgent and non-urgent after-hours GP care. GP attendances provided on a public holiday, a Sunday, before 8am or after 1pm on a Saturday (after 12pm for urgent care or at a place other than a consulting room), or before 8am or after 8pm on a weekday (after 7pm for urgent care or at a place other than a consulting room)
- **GP subtotal - Other** includes GP Short (Level A), GP Standard (Level B), GP Long (Level C), GP Prolonged (Level D), Other non-referred medical practitioner, GP Focussed Psychological Strategies and Family Group Therapy, GP Prolonged - Imminent danger of death, GP Acupuncture, GP Pregnancy support counselling and GP Telehealth (patient-end support) services. These are non-referred attendances by a GP or other medical practitioner. It does not include after-hours GP enhanced primary care and PIP services
- **GP subtotal - PIP** includes services provided as part of the Practice Incentive Program namely cervical smear, diabetes mellitus annual cycle of care and asthma cycle of care PIP services

Table 56: General Practitioner (GP) MBS service uptake^{ccc}, 2018-19 [32]

| Service | Percentage of the resident population who received at-least one service | | | | | | | | | | |
|---|---|---------------------|----------------------|--------------|--------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| GP After-hours (non-urgent) | 24.9% | 19.2% | 16.9% | 11.1% | 8.1% | | 6.6% | 17.9% | 10.2% | 14.6% | 21.6% |
| GP After-hours (urgent) | 3.7% | 0.4% | 2.5% | 0.4% | 0.6% | | 0.4% | 2.8% | 1.0% | 1.7% | 3.3% |
| GP subtotal - After-hours | 27.1% | 19.4% | 18.5% | 11.4% | 8.5% | 5.6% | 6.9% | 19.6% | 11.0% | 15.6% | 23.5% |
| GP Chronic Disease Management Plan | 18.8% | 17.7% | 20.0% | 7.6% | 20.3% | 9.1% | 21.9% | 16.2% | 18.8% | 17.5% | 15.0% |
| GP Health Assessment | 5.1% | 3.7% | 4.6% | 2.7% | 7.2% | 1.6% | 7.6% | 4.8% | 4.2% | 5.1% | 4.2% |
| GP Mental Health | 10.9% | 8.5% | 11.6% | 7.4% | 11.2% | 4.9% | 9.1% | 10.8% | 7.5% | 10.0% | 8.8% |
| GP Multidisciplinary Case Conference | 0.3% | 0.1% | 0.1% | 0.1% | 0.6% | 0.1% | 0.4% | 0.2% | 0.2% | 0.3% | 0.2% |
| Medication Management Review (domiciliary) | 0.6% | 0.3% | 0.5% | 0.1% | 0.7% | | 0.4% | 0.5% | 0.7% | 0.5% | 0.3% |
| Medication Management Review (residential) | 0.4% | 0.3% | 0.3% | 0.2% | 0.4% | | 0.4% | 0.4% | 0.3% | 0.4% | 0.3% |
| GP subtotal - Enhanced Primary Care | 29.2% | 25.8% | 30.5% | 15.6% | 31.2% | 14.3% | 32.0% | 26.1% | 25.7% | 27.2% | 23.6% |
| GP Acupuncture | 0.1% | 0.0% | 0.1% | 0.0% | | | 0.1% | 0.5% | 0.0% | 0.2% | 0.3% |
| GP Focussed Psychological Strategies and Family Group Therapy | 0.0% | | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% | 0.1% | 0.1% | 0.1% |
| GP Long (Level C) | 43.3% | 40.9% | 43.6% | 31.7% | 43.6% | 34.3% | 39.6% | 36.9% | 50.3% | 40.1% | 37.2% |
| GP Pregnancy Support Counselling | 0.1% | | 0.0% | 0.0% | 0.1% | | 0.1% | 0.1% | | 0.1% | 0.1% |
| GP Prolonged - Imminent danger of death | 0.1% | | 0.0% | 0.0% | 0.1% | | | 0.1% | 0.1% | 0.1% | 0.1% |
| GP Prolonged (Level D) | 4.9% | 5.4% | 5.0% | 4.2% | 5.1% | | 6.3% | 4.8% | 9.7% | 5.2% | 5.1% |
| GP Short (Level A) | 12.3% | 9.9% | 15.5% | 9.7% | 16.4% | 17.5% | 20.5% | 12.7% | 14.5% | 14.2% | 10.8% |
| GP Standard (Level B) | 88.1% | 81.7% | 87.4% | 77.5% | 85.5% | 78.3% | 85.6% | 81.3% | 79.3% | 83.8% | 81.5% |
| GP Telehealth (patient-end support) | | 0.2% | 0.0% | | 0.3% | 0.6% | 0.9% | | 0.6% | 0.2% | 0.1% |
| Other Non-referred Medical Practitioner attendances | 5.5% | 4.3% | 14.8% | 7.6% | 2.0% | | | 7.4% | 7.1% | 6.6% | 8.5% |
| GP subtotal - Other | | 85.6% | 92.1% | | | 82.8% | 90.4% | | 87.7% | 87.8% | 85.9% |
| Asthma Cycle of Care PIP | 0.3% | 0.3% | 0.4% | 0.2% | 0.5% | | 0.4% | 0.4% | 0.2% | 0.4% | 0.3% |
| Cervical Smear PIP | 0.4% | 0.3% | 0.3% | 0.2% | 0.2% | 0.2% | 0.3% | 0.2% | 0.3% | 0.3% | 0.3% |
| Diabetes Mellitus Annual Cycle of Care PIP | 1.9% | 1.3% | 1.5% | 0.7% | 2.5% | | 2.2% | 1.0% | 1.6% | 1.6% | 1.1% |
| GP subtotal - PIP | | 1.9% | 2.2% | | | 1.3% | 2.8% | | 2.2% | 2.2% | 1.6% |
| GP attendances (total) | 92.8% | 87.0% | 93.5% | 82.8% | 89.8% | 83.4% | 91.9% | 86.3% | 88.7% | 89.1% | 87.8% |

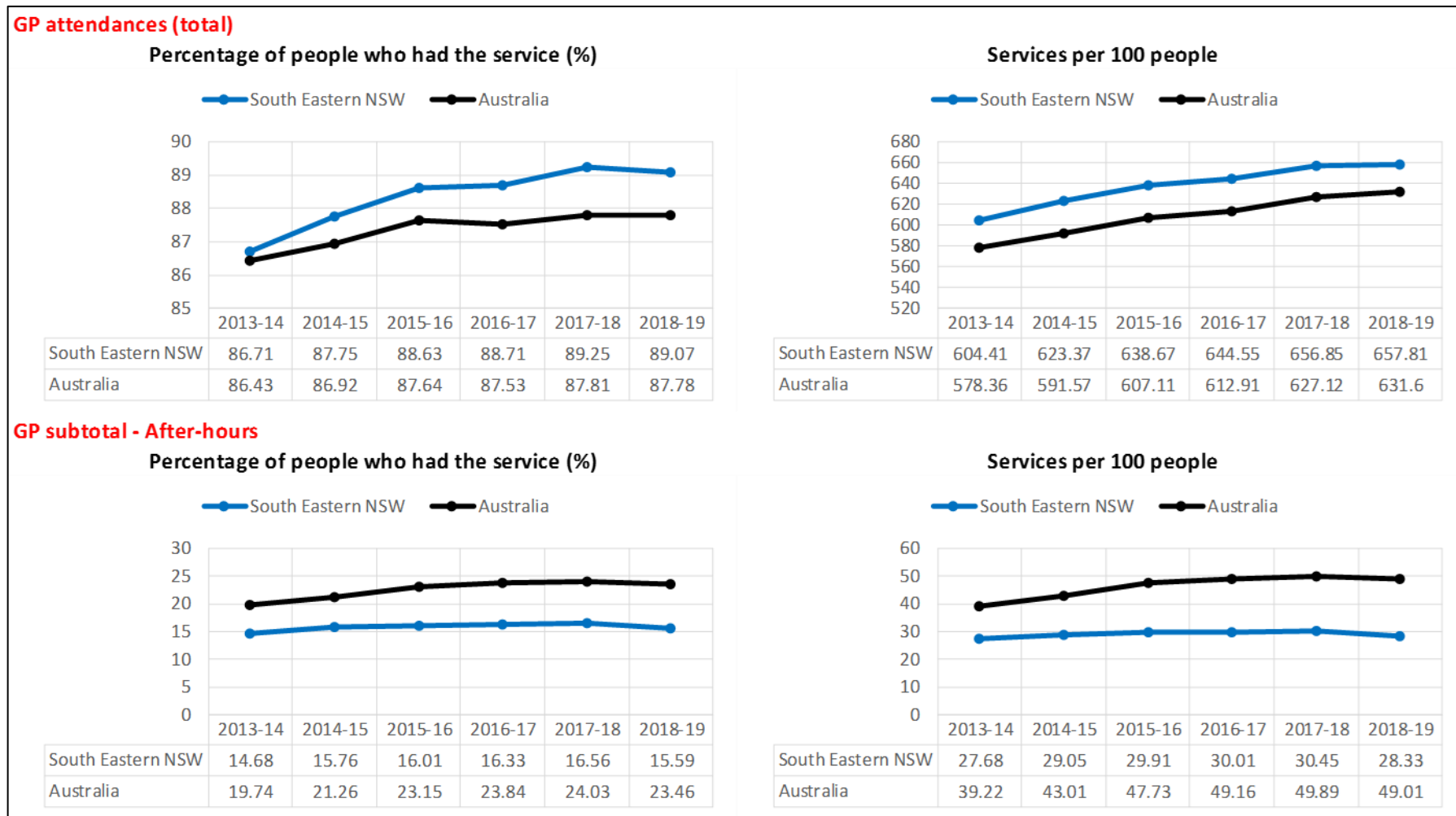
^{ccc} Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these could be several including but not limited to - there were fewer than six patients or fewer than six providers in the area; the number of attendances/services was greater than 0 but less than 20 for an area; the total population of an area was fewer than 1,000 etc.

Table 57: General Practitioner (GP) MBS service delivery^{ddd}, 2018-19 [32]

| Service | Services delivered per 100 people of the resident population | | | | | | | | | | |
|---|--|---------------------|----------------------|---------------|---------------|-----------------|---------------|--------------|---------------|---------------|---------------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| GP After-hours (non-urgent) | 47.48 | 34.94 | 28.39 | 16.36 | 12.58 | | 14.12 | 34.43 | 16.18 | 26.13 | 44.23 |
| GP After-hours (urgent) | 4.76 | 0.5 | 3.11 | 0.52 | 0.73 | | 0.51 | 3.8 | 1.23 | 2.2 | 4.78 |
| GP subtotal - After-hours | 52.24 | 35.44 | 31.5 | 16.87 | 13.31 | 8.71 | 14.63 | 38.23 | 17.41 | 28.33 | 49.01 |
| GP Chronic Disease Management Plan | 46.9 | 43.52 | 51.41 | 18.09 | 59.05 | 18.95 | 60.81 | 40.25 | 46.19 | 45.66 | 37.59 |
| GP Health Assessment | 5.25 | 3.76 | 4.69 | 2.77 | 7.3 | 1.58 | 7.67 | 4.85 | 4.38 | 5.2 | 4.31 |
| GP Mental Health | 18.12 | 13.27 | 20.25 | 11.38 | 20.21 | 7.35 | 15.29 | 19.55 | 12.16 | 17.32 | 14.62 |
| GP Multidisciplinary Case Conference | 0.3 | 0.17 | 0.18 | 0.1 | 0.75 | 0.15 | 0.5 | 0.26 | 0.26 | 0.34 | 0.32 |
| Medication Management Review (domiciliary) | 0.64 | 0.3 | 0.45 | 0.13 | 0.68 | | 0.37 | 0.48 | 0.74 | 0.47 | 0.29 |
| Medication Management Review (residential) | 0.36 | 0.29 | 0.31 | 0.22 | 0.42 | | 0.42 | 0.37 | 0.32 | 0.35 | 0.29 |
| GP subtotal - Enhanced Primary Care | 71.57 | 61.32 | 77.29 | 32.68 | 88.42 | 28.18 | 85.06 | 65.78 | 64.04 | 69.34 | 57.45 |
| GP Acupuncture | 0.71 | 0.09 | 0.26 | 0.15 | | | 0.28 | 2.31 | 0.28 | 1.02 | 1.91 |
| GP Focussed Psychological Strategies and Family Group Therapy | 0.07 | | 0.06 | 0.06 | 0.1 | 0 | 0.06 | 0.19 | 0.13 | 0.11 | 0.17 |
| GP Long (Level C) | 98.6 | 90.1 | 97.53 | 66.2 | 103.35 | 76.4 | 82.28 | 80.23 | 144.45 | 89.57 | 81.06 |
| GP Pregnancy Support Counselling | 0.08 | | 0.03 | 0.05 | 0.06 | | 0.15 | 0.12 | | 0.08 | 0.09 |
| GP Prolonged - Imminent danger of death | 0.09 | | 0.04 | 0.04 | 0.1 | | | 0.13 | 0.15 | 0.08 | 0.07 |
| GP Prolonged (Level D) | 6.75 | 7.71 | 7.03 | 6.3 | 7.02 | | 8.98 | 7.14 | 15.69 | 7.41 | 7.68 |
| GP Short (Level A) | 18.12 | 13.66 | 24.2 | 12.38 | 22.5 | 29.03 | 30.48 | 18 | 29.55 | 20.54 | 15.92 |
| GP Standard (Level B) | 513.57 | 385.85 | 461.29 | 327.93 | 450.61 | 330.64 | 380.48 | 426.17 | 335.49 | 424.49 | 397.45 |
| GP Telehealth (patient-end support) | | 0.37 | 0.02 | | 0.82 | 1.09 | 1.63 | | 1.16 | 0.4 | 0.21 |
| Other Non-referred Medical Practitioner attendances | 10.56 | 6.87 | 34.47 | 15.26 | 3.49 | | | 18.47 | 19.23 | 14.28 | 19.04 |
| GP subtotal - Other | | 504.92 | 624.93 | | | 454.51 | 510.42 | | 546.16 | 557.97 | 523.59 |
| Asthma Cycle of Care PIP | 0.3 | 0.31 | 0.4 | 0.24 | 0.45 | | 0.38 | 0.39 | 0.23 | 0.36 | 0.25 |
| Cervical Smear PIP | 0.35 | 0.31 | 0.31 | 0.23 | 0.18 | 0.24 | 0.28 | 0.21 | 0.3 | 0.25 | 0.26 |
| Diabetes Mellitus Annual Cycle of Care PIP | 1.87 | 1.27 | 1.48 | 0.68 | 2.47 | | 2.2 | 1.03 | 1.63 | 1.56 | 1.07 |
| GP subtotal - PIP | | 1.89 | 2.19 | | | 1.33 | 2.86 | | 2.16 | 2.18 | 1.58 |
| GP attendances (total) | 774.89 | 603.56 | 735.91 | 479.12 | 694.44 | 492.72 | 612.98 | 658.4 | 629.77 | 657.81 | 631.6 |

^{ddd} Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these could be several including but not limited to - there were fewer than six patients or fewer than six providers in the area; the number of attendances/services was greater than 0 but less than 20 for an area; the total population of an area was fewer than 1,000 etc.

Figure 20: Trends in overall General Practitioner (GP) MBS service provision [32]

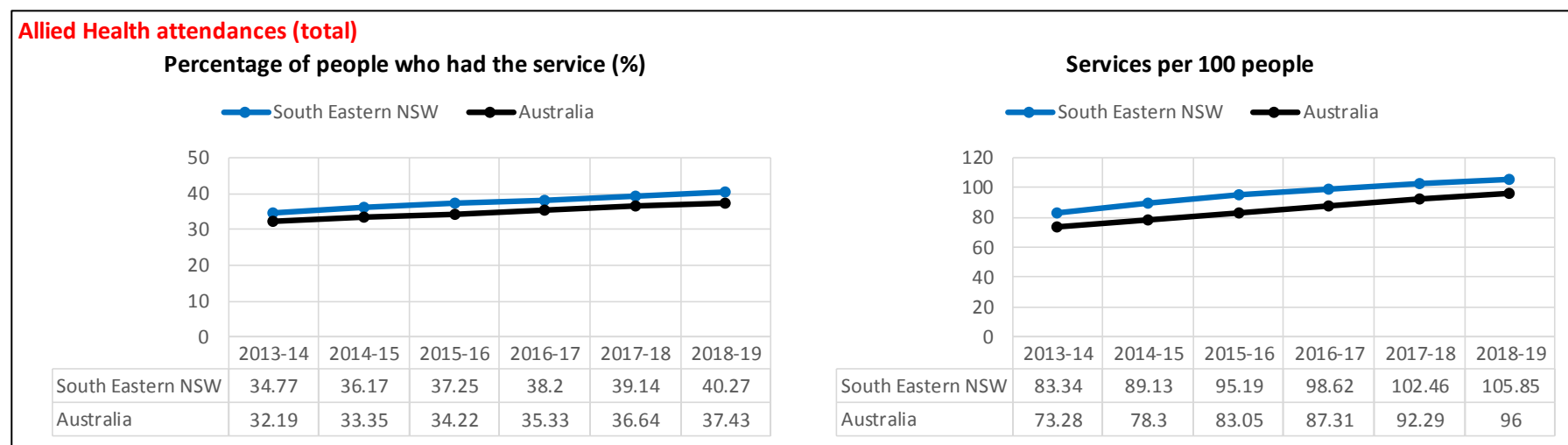


Note: Only the major category and a local priority sub-category has been illustrated for overall trend comparisons

5.2.2. Allied health services

Allied health professionals provide a broad range of diagnostic, technical, therapeutic and direct health services to improve health and well-being, some of which are subsidised through Medicare. 661,666 Allied Health attendances (total) services were delivered with \$40,976,219 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2018-19. All key Allied health service categories^{eee} have been analysed and illustrated in this report.

Figure 21: Trends in overall Allied health service provision [32]



^{eee} Allied health service categories include: -

- **Allied health attendances (total)** includes Medicare-subsidised primary health services provided by a broad range of health professionals who are not doctors, nurses or dentists, comprising all services provided in the Optometry, Mental Health Care, Physical Health Care, and 'Other' allied health subtotals. These services are generally only available to patients with chronic, mental, developmental, and/or complex health conditions with a referral from a GP or specialist medical practitioner
- **Allied health subtotal - Optometry** includes services provided by eligible optometrists for the assessment of vision and diagnosis and treatment of other eye conditions. In general, asymptomatic patients aged less than 65 years are eligible for a Medicare-subsidised optometry service every 3 years, while asymptomatic patients aged 65 or over are eligible every year. Some patients may be eligible for more frequent Medicare-subsidised services (e.g. patients with progressive disorders or significant changes in visual function). Prior to 1 January, 2015 asymptomatic patients aged less than 65 years were eligible every 2 years. From 1 September 2015, includes patient-end telehealth support services, where optometrists can provide clinical support to their patient during video consultations with ophthalmologists. Does not include the purchase of glasses or contact lenses; cosmetic surgery; tests for fitness to undertake sporting, leisure or vocational activities; or attendances on behalf of teaching institutions on patients of supervised students of optometry
- **Allied health subtotal - Mental Health Care** includes assessment, treatment, and management of patients with mental disorders by clinical psychologists, other psychologists and other allied mental health workers. It does not include psychiatry services. Note: From 1 November 2017, patients living in telehealth eligible areas (regional, rural and remote Australia) were able to claim telehealth psychological services
- **Allied health subtotal - Physical Health Care** includes physiotherapy, exercise physiology, chiropractic and osteopathy services provided to a person who has a chronic condition and complex care needs, and/or is of Aboriginal or Torres Strait Islander descent
- **Allied health subtotal - Other** includes podiatry, dietetics, occupational therapy, speech pathology, diabetes education, audiology and other allied health services provided to a person who has a chronic, developmental, and/or complex health condition and/or is of Aboriginal or Torres Strait Islander descent

Table 58: Allied health MBS service uptake^{fff}, 2018-19 [32]

| Service | Percentage of the resident population who received at-least one service | | | | | | | | | | |
|--|---|---------------------|----------------------|--------------|--------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| Clinical Psychologist | 1.9% | 2.2% | 2.1% | 2.2% | 2.4% | 0.6% | 1.7% | 2.7% | 1.6% | 2.2% | 2.2% |
| Other Allied Mental Health | 0.4% | 0.1% | 0.2% | 0.1% | 0.4% | | 0.6% | 0.3% | 0.3% | 0.3% | 0.4% |
| Other Psychologist | 4.3% | 1.9% | 4.5% | 2.2% | 3.4% | | 2.8% | 3.8% | 1.9% | 3.4% | 2.9% |
| Allied Health subtotal - Mental Health Care | 6.4% | 4.1% | 6.5% | 4.3% | 5.9% | 2.4% | 4.9% | 6.4% | 3.6% | 5.6% | 5.3% |
| Allied Health subtotal - Optometry | 33.7% | 31.6% | 33.2% | 27.8% | 35.8% | 24.8% | 34.3% | 32.2% | 31.2% | 32.6% | 29.8% |
| Audiology | | | | | 0.0% | | 0.0% | | 0.0% | 0.1% | 0.1% |
| Diabetes Education | | | 0.1% | 0.3% | | | | 0.1% | | 0.2% | 0.3% |
| Dietetics | 1.5% | 1.7% | 1.3% | 0.5% | 1.1% | | 0.8% | 1.2% | 2.4% | 1.1% | 1.1% |
| Occupational Therapy | 0.2% | 0.1% | 0.2% | 0.0% | 0.2% | | | 0.2% | | 0.1% | 0.1% |
| Other Allied Health | | | | | | | | | | 0.0% | 0.1% |
| Podiatry | 7.7% | 5.2% | 6.3% | 2.0% | 7.8% | | 5.2% | 5.6% | 2.6% | 5.7% | 4.5% |
| Speech Pathology | 0.2% | 0.1% | 0.3% | 0.1% | 0.1% | | 0.0% | 0.2% | 0.0% | 0.2% | 0.2% |
| Allied Health subtotal - Other | 9.2% | 6.6% | 7.9% | 2.7% | 9.1% | 2.0% | 6.2% | 7.0% | 5.0% | 7.0% | 5.8% |
| Chiropractic Services | 0.6% | 0.3% | 0.6% | 0.1% | 1.0% | | 0.5% | 0.4% | 0.4% | 0.5% | 0.6% |
| Exercise physiology | 1.2% | 0.5% | 0.9% | 0.4% | 0.9% | | 1.1% | 0.9% | 0.2% | 0.8% | 0.7% |
| Osteopathy | 0.6% | 0.2% | 0.5% | 0.1% | 0.6% | | 0.6% | 0.6% | 0.1% | 0.5% | 0.3% |
| Physiotherapy | 3.9% | 2.3% | 3.8% | 1.3% | 3.7% | 1.5% | 3.5% | 3.4% | 2.7% | 3.2% | 3.4% |
| Allied Health subtotal - Physical Health Care | 5.8% | 3.3% | 5.6% | 1.7% | 5.7% | 2.1% | 5.4% | 5.0% | 3.3% | 4.8% | 4.7% |
| Allied Health attendances (total) | 43.1% | 37.4% | 42.4% | 32.2% | 43.9% | 28.6% | 41.7% | 40.6% | 37.0% | 40.3% | 37.4% |

^{fff} Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these could be several including but not limited to - there were fewer than six patients or fewer than six providers in the area; the number of attendances/services was greater than 0 but less than 20 for an area; the total population of an area was fewer than 1,000 etc.

Table 59: Allied health MBS service delivery^{ggg}, 2018-19 [32]

| Service | Services delivered per 100 people of the resident population | | | | | | | | | | |
|--|--|---------------------|----------------------|--------------|---------------|-----------------|---------------|---------------|--------------|---------------|--------------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| Clinical Psychologist | 9.06 | 9.67 | 9.19 | 9.4 | 9.2 | 2.57 | 8.12 | 12.84 | 6.28 | 9.69 | 9.69 |
| Other Allied Mental Health | 1.47 | 0.35 | 0.65 | 0.5 | 1.56 | | 2.15 | 1.23 | 1.19 | 1.17 | 1.84 |
| Other Psychologist | 17.47 | 8.27 | 17.76 | 8.5 | 13.5 | | 11.72 | 15.83 | 7.32 | 13.77 | 12.13 |
| Allied Health subtotal - Mental Health Care | 28 | 18.29 | 27.6 | 18.41 | 24.25 | 9.78 | 21.99 | 29.89 | 14.8 | 24.63 | 23.67 |
| Allied Health subtotal - Optometry | 47.94 | 41.03 | 45.45 | 36.05 | 54.08 | 30.7 | 47.14 | 43.24 | 43.36 | 44.95 | 39.39 |
| Audiology | | | | | 0.1 | | 0.04 | | 0.06 | 0.28 | 0.13 |
| Diabetes Education | | | 0.09 | 0.43 | | | | 0.16 | | 0.32 | 0.42 |
| Dietetics | 2.37 | 2.28 | 2.32 | 0.74 | 1.5 | | 1.55 | 1.97 | 5.67 | 1.88 | 1.84 |
| Occupational Therapy | 0.44 | 0.14 | 0.54 | 0.09 | 0.43 | | | 0.49 | | 0.34 | 0.4 |
| Other Allied Health | | | | | | | | | | 0.01 | 0.07 |
| Podiatry | 25.39 | 14.7 | 21.08 | 5.33 | 22.89 | | 14.46 | 19.05 | 7.49 | 17.82 | 13.83 |
| Speech Pathology | 0.78 | 0.27 | 1.06 | 0.19 | 0.43 | | 0.07 | 0.73 | 0.12 | 0.54 | 0.77 |
| Allied Health subtotal - Other | 29.51 | 17.61 | 25.39 | 6.98 | 26.08 | 5.71 | 16.89 | 23.02 | 13.52 | 21.19 | 17.46 |
| Chiropractic Services | 1.78 | 1.08 | 2.09 | 0.31 | 3.2 | | 1.84 | 1.44 | 1.26 | 1.75 | 1.9 |
| Exercise physiology | 2.81 | 1.76 | 2.31 | 1.01 | 1.87 | | 2.86 | 2.29 | 0.37 | 2.12 | 1.71 |
| Osteopathy | 2.02 | 0.75 | 1.76 | 0.17 | 1.94 | | 1.9 | 1.86 | 0.36 | 1.56 | 0.89 |
| Physiotherapy | 11.55 | 6.41 | 12.53 | 3.89 | 10.06 | 4.56 | 9.76 | 10.63 | 8.11 | 9.65 | 10.99 |
| Allied Health subtotal - Physical Health Care | 18.17 | 10 | 18.68 | 5.38 | 17.07 | 7.09 | 16.35 | 16.23 | 10.09 | 15.07 | 15.49 |
| Allied Health attendances (total) | 123.62 | 86.93 | 117.12 | 66.81 | 121.48 | 53.27 | 102.38 | 112.38 | 81.77 | 105.85 | 96 |

^{ggg} Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these could be several including but not limited to - there were fewer than six patients or fewer than six providers in the area; the number of attendances/services was greater than 0 but less than 20 for an area; the total population of an area was fewer than 1,000 etc.

5.2.3. Other health services

84,816 Nursing and Aboriginal Health Workers (total) services were delivered with \$1,368,158 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2018-19. Additionally, 690,534 Specialist attendances (total) services were delivered with \$57,619,020 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2018-19. Furthermore, 716,430 Diagnostic Imaging (total) services were delivered with \$106,249,577 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2018-19. All key other health service categories^{hhh} have been analysed and illustrated in this report.

Table 60: Other health services MBS service uptakeⁱⁱⁱ, 2018-19 [32]

| Service | Percentage of the resident population who received at-least one service | | | | | | | | | | |
|--|---|---------------------|----------------------|--------------|--------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| Midwifery | | | 0.0% | 0.0% | 0.0% | | 0.1% | 0.0% | | 0.0% | 0.1% |
| Nurse practitioners | | | 0.5% | 0.8% | 0.9% | | 0.3% | 0.3% | | 0.5% | 1.0% |
| Practice Nurse/Aboriginal Health Worker | 7.2% | 4.8% | 7.2% | 2.5% | 8.5% | | 9.3% | 5.8% | 4.3% | 6.5% | 6.2% |
| Nursing and Aboriginal Health Workers (total) | 7.5% | 5.5% | 7.6% | 3.4% | 9.4% | 4.4% | 9.7% | 6.1% | 4.7% | 7.0% | 7.1% |
| Early Intervention Services for Children | 0.1% | | 0.1% | | 0.1% | | 0.0% | 0.1% | | 0.1% | 0.1% |
| Psychiatry | 2.3% | 1.4% | 2.2% | 0.9% | 1.6% | 1.0% | 1.3% | 2.2% | 1.5% | 1.8% | 1.6% |
| Specialist attendances (total) | 36.3% | 34.3% | 37.9% | 26.0% | 39.3% | 25.8% | 35.0% | 35.4% | 32.6% | 35.1% | 31.1% |
| Diagnostic Imaging (total) | 43.9% | 38.1% | 44.0% | 32.5% | 42.8% | 36.1% | 40.1% | 39.7% | 40.7% | 40.5% | 38.5% |

^{hhh} Other health service categories include: -

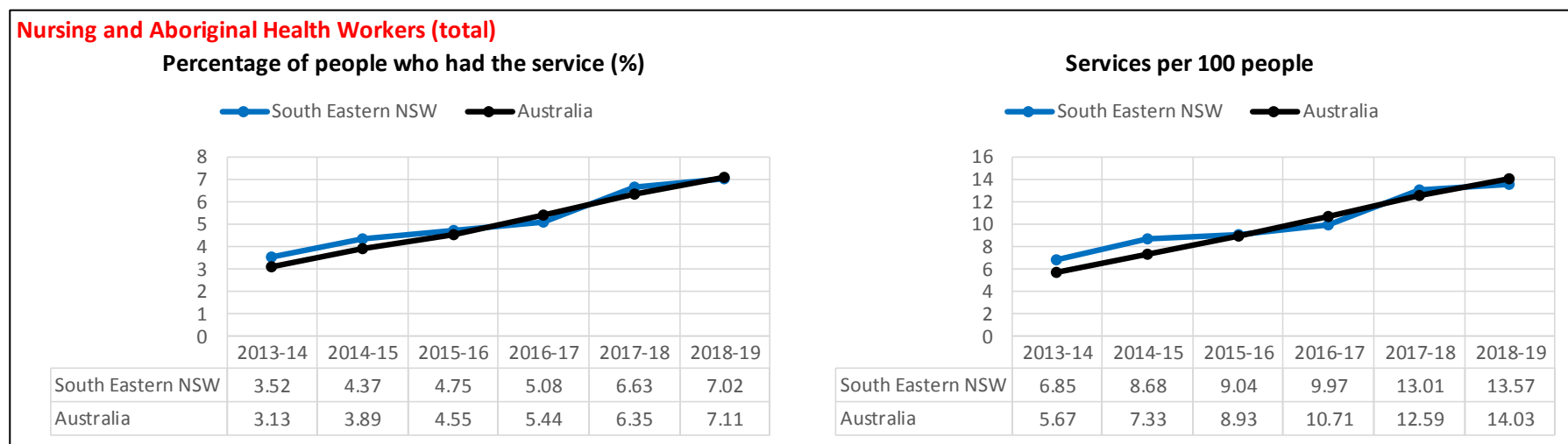
- **Nursing and Aboriginal Health Workers (total)** include services provided by Practice Nurses, Aboriginal Health Workers, Midwives, and Nurse Practitioners
- **Diagnostic Imaging services (total)** include Medicare-subsidised diagnostic imaging procedures such as X-rays, computerised tomography scans, ultrasound scans, magnetic resonance imaging scans, and nuclear medicine scans
- **Specialist attendances (total)** include psychiatry services and early intervention services for children, as well as other specialist attendances not reported separately in this report. Specialist attendances are Medicare-subsidised referred patient/doctor encounters, such as visits, consultations, and attendances by video conference, involving medical practitioners who have been recognised as specialists or consultant physicians for Medicare benefits purposes.

ⁱⁱⁱ Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these could be several including but not limited to - there were fewer than six patients or fewer than six providers in the area; the number of attendances/services was greater than 0 but less than 20 for an area; the total population of an area was fewer than 1,000 etc.

Table 61: Other health services MBS service deliveryⁱⁱⁱ, 2018-19 [32]

| Service | Services delivered per 100 people of the resident population | | | | | | | | | | |
|--|--|---------------------|----------------------|--------------|---------------|-----------------|---------------|---------------|---------------|---------------|---------------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| Midwifery | | | 0.16 | 0.21 | 0.29 | | 0.87 | 0.21 | | 0.27 | 0.39 |
| Nurse practitioners | | | 0.7 | 1.9 | 1.57 | | 1.3 | 0.78 | | 1.1 | 2.28 |
| Practice Nurse/Aboriginal Health Worker | 13.86 | 8.2 | 14.02 | 4.2 | 15.16 | | 18.98 | 10.55 | 7.36 | 12.2 | 11.36 |
| Nursing and Aboriginal Health Workers (total) | 14.64 | 9.97 | 14.88 | 6.3 | 17.01 | 8.94 | 21.15 | 11.53 | 8.04 | 13.57 | 14.03 |
| Early Intervention Services for Children | 0.09 | | 0.06 | | 0.06 | | 0.03 | 0.05 | | 0.05 | 0.05 |
| Psychiatry | 9.36 | 4.96 | 8.88 | 3.65 | 6.28 | 3.16 | 4.62 | 9.97 | 4.97 | 7.18 | 7.54 |
| Specialist attendances (total) | 123.59 | 100.58 | 126.14 | 68.1 | 130.11 | 62.31 | 94.26 | 117.83 | 85.85 | 110.47 | 95.43 |
| Diagnostic Imaging (total) | 134.08 | 98.26 | 132.87 | 77.43 | 128.61 | 85.51 | 100.03 | 115.35 | 110.71 | 114.61 | 102.79 |

Figure 22: Trends in overall Nursing and Aboriginal Health Workers service provision [32]



ⁱⁱⁱ Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Reasons for these could be several including but not limited to - there were fewer than six patients or fewer than six providers in the area; the number of attendances/services was greater than 0 but less than 20 for an area; the total population of an area was fewer than 1,000 etc.

Figure 23: Trends in overall Specialist service provision [32]

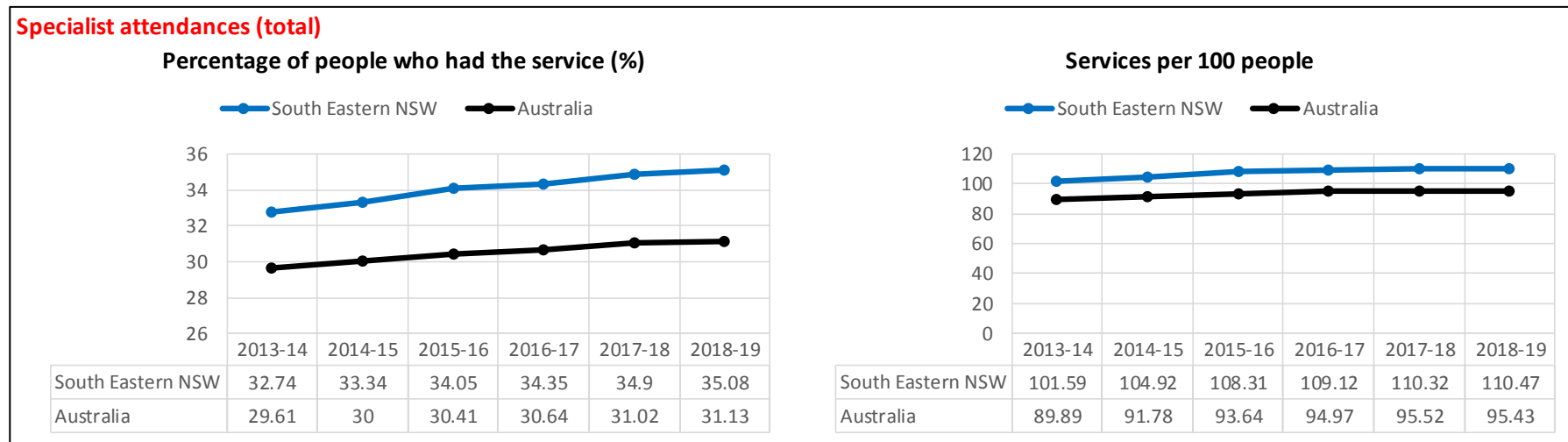
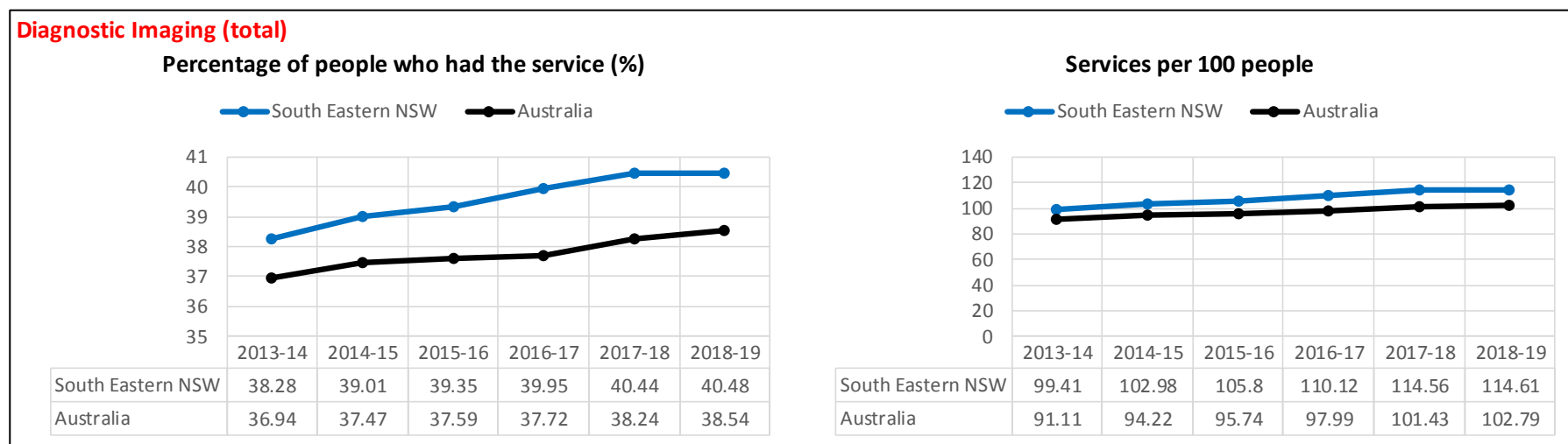


Figure 24: Trends in overall Diagnostic Imaging service provision [32]



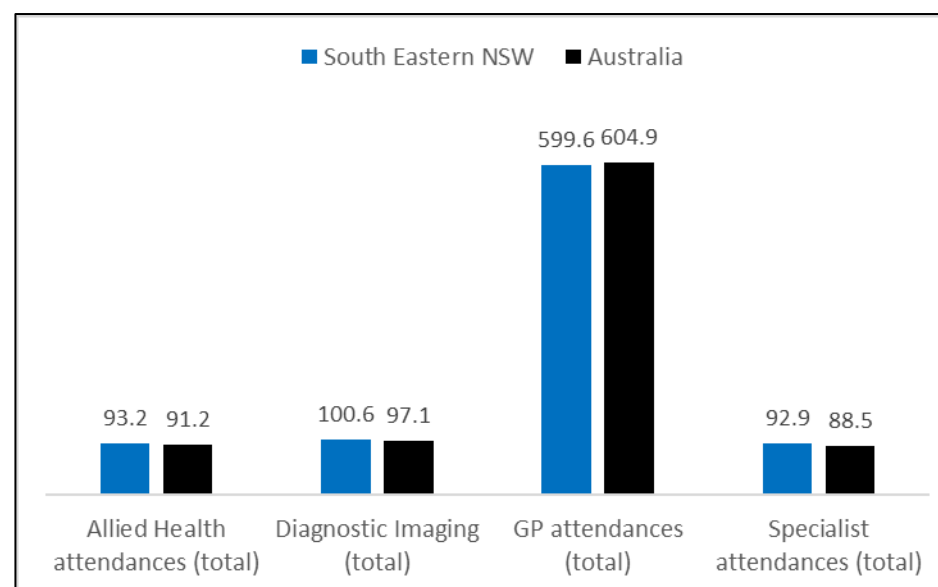
5.2.4. Demographic attribute-specific insights

Overall for all MBS service categories, more females accessed services than males. Additionally, for all service categories, the proportional share of total services delivered was the greatest for persons aged 65 years and over among all other age groups.

Table 62: Services delivered to persons aged 65 years and over as a proportion of total MBS services delivered to all persons of the resident population, 2018-19 [32]

| Service | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
|---|---------------------|---------------------|----------------------|------------|------------|-----------------|-------------|------------|--------------|--------------|-----------|
| Nursing and Aboriginal Health Workers (total) | 51.4% | 56.7% | 56.7% | 55.1% | 67.9% | | 59.2% | 58.4% | 35.4% | 59.3% | 18.4% |
| Allied Health attendances (total) | 39.2% | 43.2% | 38.7% | 25.8% | 48.2% | 39.1% | 48.6% | 36.2% | 37.3% | 40.4% | 33.3% |
| Diagnostic Imaging (total) | 36.2% | 41.1% | 37.8% | 28.6% | 48.2% | 37.8% | 47.5% | 36.7% | 38.3% | 39.7% | 33.1% |
| GP attendances (total) | 32.6% | 34.9% | 32.8% | 25.1% | 44.7% | 36.1% | 46.0% | 32.2% | 35.0% | 35.7% | 29.7% |
| Specialist attendances (total) | 44.4% | 47.3% | 45.6% | 31.8% | 53.7% | 44.1% | 54.4% | 43.4% | 43.2% | 46.5% | 40.5% |

Figure 25: Age-standardised rates^{kkk} of overall total services delivered per 100 people, 2018-19 [32]



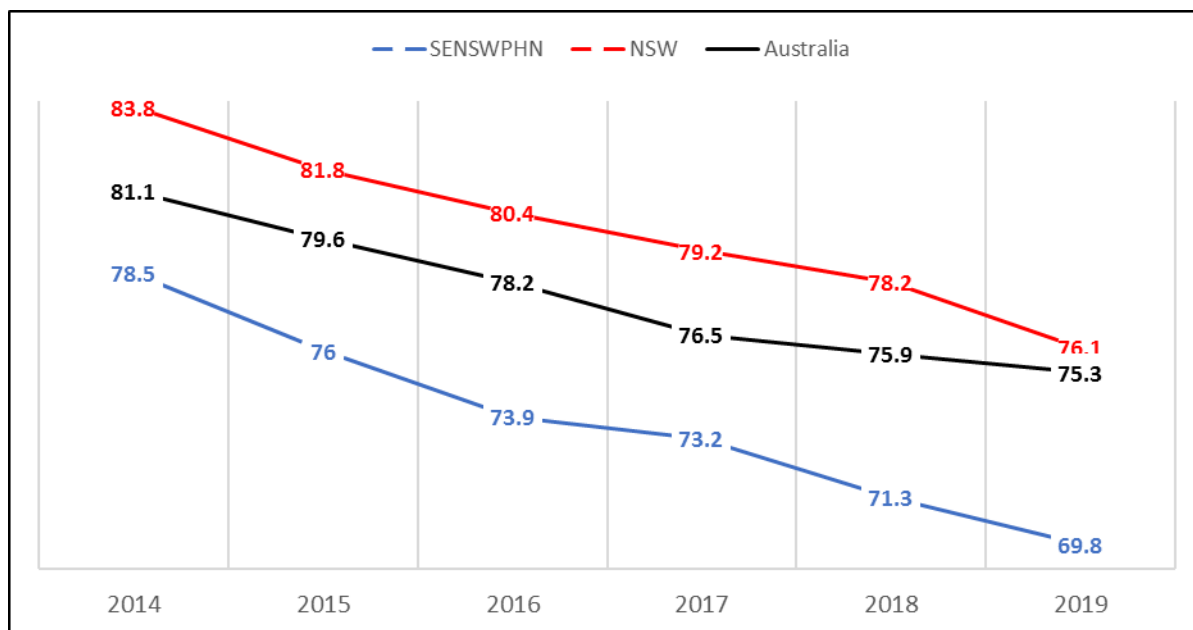
^{kkk} Age-standardised rates are hypothetical rates that would have been observed if the populations studied had the same age distribution. Age standardisation can improve the comparability of rates between areas and over time by accounting for variation in the age of populations. Age-standardised rates are directly standardised to the Australian ERP as at 30 June 2001.

5.3. Aged care sector summary

As per 2019 estimates [33] the SENSWPHN catchment had:

- 80 Residential Aged Care Facility (RACF) services; 77 home care services and 139 home care outlets
- The occupancy rate for residential aged care in the SENSWPHN catchment was 89.6%
- 69.8 places in residential care per 1,000 persons aged 70 years and over; which was lower than the NSW state average of 76.1 per 1,000 and also lower than the Australian national average of 75.3 per 1,000. It is noteworthy that the figures for the SENSWPHN catchment have been consistently lower than NSW state and Australian national rates. It is also concerning that the figures are trending downwards which is reflective of the supply not matching with the increasing demand in the catchment

Figure 26: Trends in overall places of residential aged care per 1,000 persons aged 70 years and over [33]



- 41.9 per 1,000 people aged 65 years and over (or aged 50-64 years for Aboriginal and/or Torres Strait Islander persons) utilised residential aged care services; which was lower than the NSW state average of 46.3 per 1,000 and also lower than the Australian national average of 45.6 per 1,000
- 47.2% of people using permanent residential aged care in the catchment had a diagnosis of dementia
- Among persons who used home support services
 - 86.5% of did not have a carer;
 - 29.4% had some form of disability; and
 - 46.2% lived alone.

As per 2018-19 figures, a total of 114,108 occasions of MBS funded/subsidised GP services were delivered to 7,926 persons within residential aged care facilities in the SENSWPHN catchment [32]. This equated to 14.4 GP attendance per residential aged-care patients^{III} for the catchment which was the fifth-lowest figure among all 31 PHNs for and was substantially lower than the Australian national average figure of 17.8 GP attendance per residential aged-care patient.

^{III} **Residential aged-care patients** refers to the number of patients who received at least one Medicare-subsidised GP attendance in a residential aged care facility, not the number of people who live in residential aged care facilities. Residents of Residential Aged Care Facilities may access other forms of GP care, as for some service types it is not possible to distinguish between these patients and other patients who are not permanent residents of a Residential Aged Care Facility.

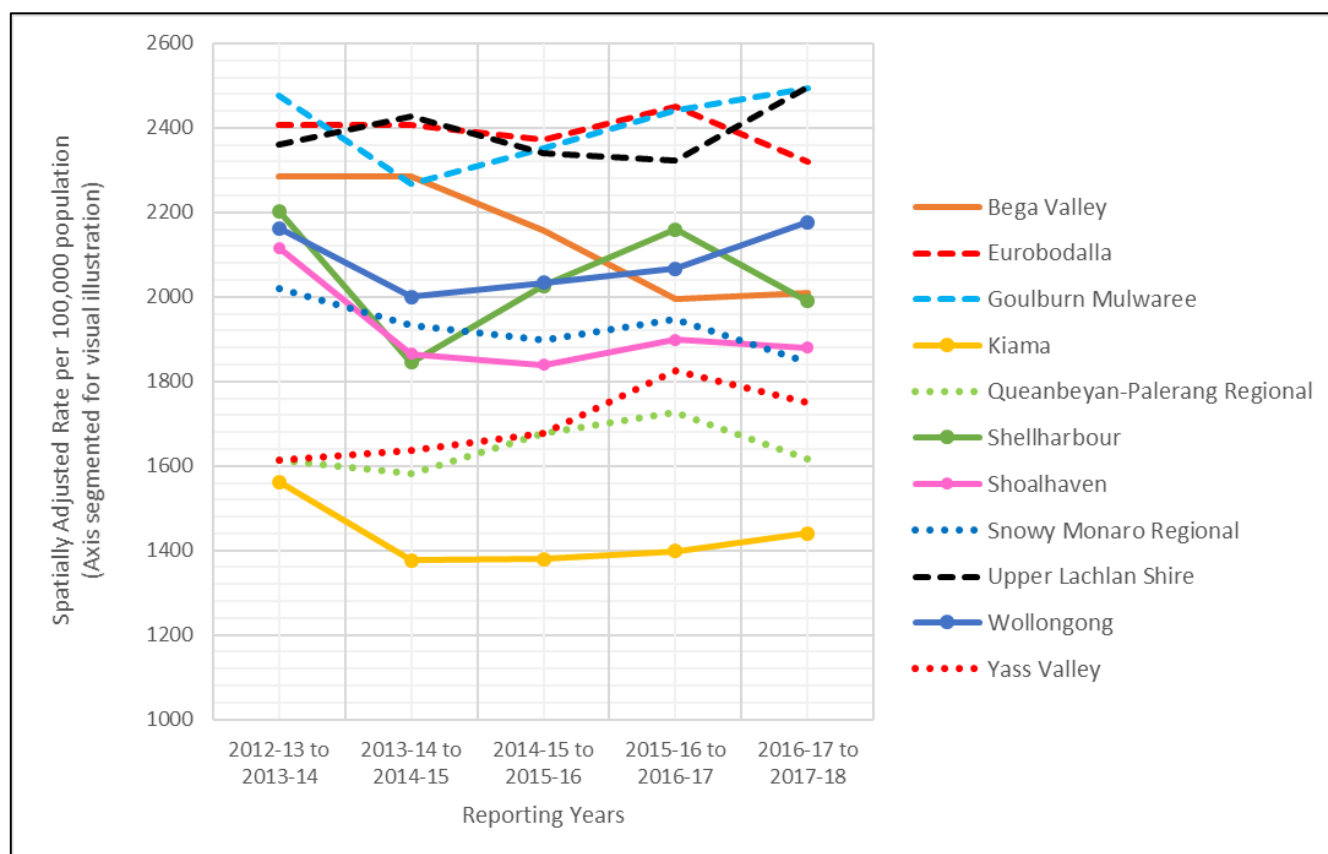
5.4. Brief health service usage insights of selected topics closely related to primary care

5.4.1. Potentially Preventable Hospitalisation (PPH)

'Potentially Preventable Hospitalisations' (PPH) are defined^{mmm} as admission to hospital for a condition where the hospitalisation could have potentially been prevented through the provision of appropriate individualised preventative health interventions and early disease management usually delivered in primary care and community-based care settings (including by general practitioners, medical specialists, dentists, nurses and allied health professionals). This excludes conditions that are preventable predominately through population health interventions, such as those for clean air and water. Conditions included within this definition are categorised into chronic, acute and vaccine-preventable categories with several conditions included within each categoryⁿⁿⁿ.

Overall age-standardised^{ooo} hospitalisation rates for the SENSWPHN catchment^{ppp} for PPH overall and all its sub-categories along with almost all major conditions were lower than Australian national rates [34] and lower than NSW state average rates [35]. While overall PPH rates are declining there still are some regions that have relatively higher rates, with Goulburn Mulwaree having statistically significantly higher rates than NSW for the latest reporting year.

Figure 27: Trends in regional age-standardised rates per 100,000 population^{qqq} of total Potentially Preventable Hospitalisation (PPH) [35]



^{mmm} Australian Institute of Health and Welfare (AIHW), National Healthcare Agreement: National Healthcare Agreement: PI 18-Selected potentially preventable hospitalisations, 2018 QS Health, Standard 30/01/2018. Sourced from the AIHW metadata online registry (METeOR item 658499).

ⁿⁿⁿ These include - **Chronic:** Angina, Asthma, Bronchiectasis, Congestive cardiac failure, Chronic obstructive pulmonary disease (COPD), Diabetes complications, Hypertension, Iron deficiency anaemia, Nutritional deficiencies, Rheumatic heart disease; **Acute:** Dehydration and gastroenteritis, Urinary Tract Infections including Pyelonephritis, Perforated bleeding ulcer, Cellulitis, Pelvic inflammatory disease, Ear nose and throat infections, Dental conditions, Convulsions and epilepsy, Gangrene, Pneumonia (not vaccine-preventable); **Vaccine-preventable:** Influenza and Pneumonia, Other vaccine-preventable.

^{ooo} Rates are age-standardised to a specific standard age structure to facilitate comparison between populations and over time. Age-standardised rates are directly standardised to the Australian estimated resident population as at 30 June 2001. Rates are expressed as potentially preventable hospitalisations per 100,000 persons for each geographic area. Age-standardised rates are suppressed where crude rates are suppressed OR if the population in any 5-year age group in an area is less than 30.

^{ppp} Figures are based on where a person resides, rather than where they are treated or the admitting hospital.

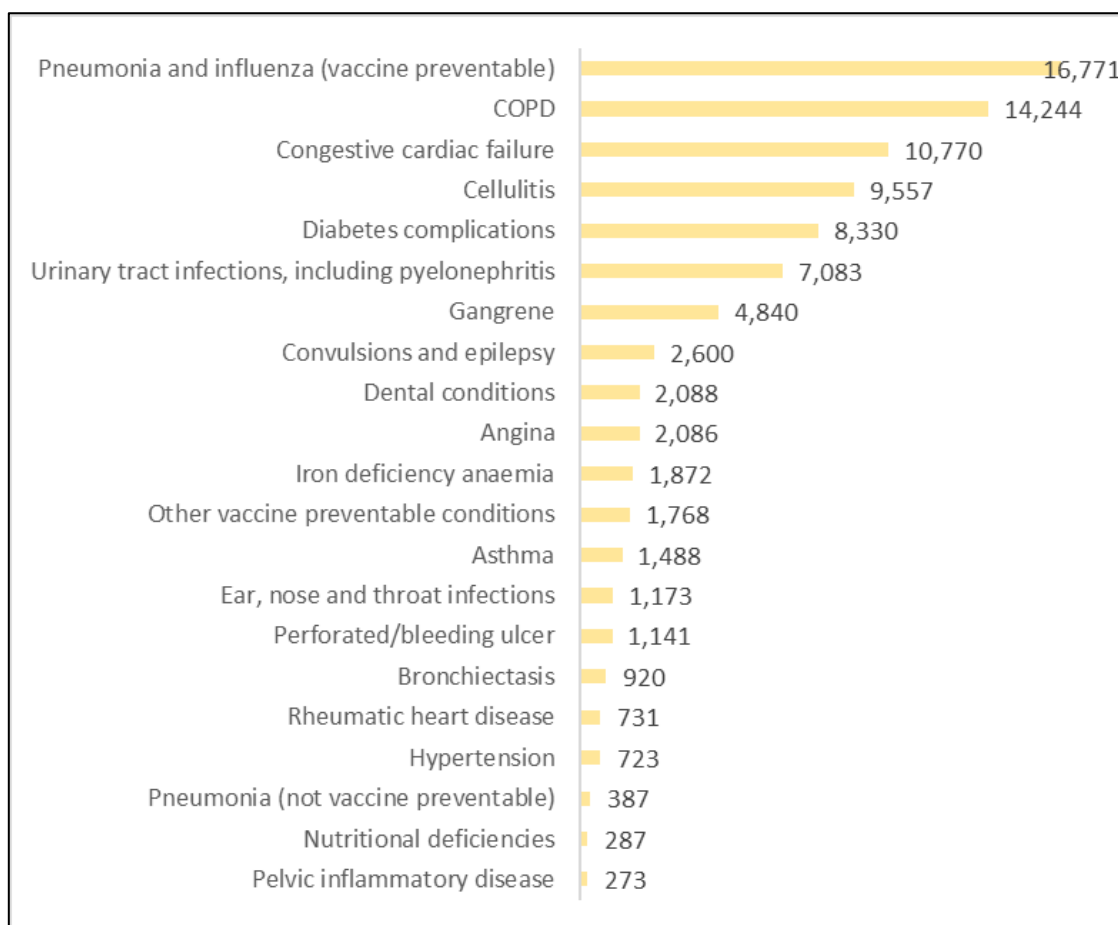
^{qqq} There are differences in the definition of PPH used by AIHW compared to the definitions used by NSW Ministry of Health and therefore the subsequent calculation of PPH figures are different too. However, trend analysis (illustrated in this report for LGAs) are not expected to vary (or will have negligible differences) due to these conceptual dissimilarities.

Table 63: Age-standardised rates of PPH per 100,000 population by PPH categories, 2017-18 [34]

| Areas Version 2 | Age-standardised rate of Potentially Preventable Hospitalisations (PPH) per 100,000 population | | | | |
|----------------------|--|---------------|---------------------------|-------------------------------------|--------------|
| | Total acute | Total chronic | Total vaccine preventable | Total acute and vaccine preventable | Total PPH |
| Dapto - Port Kembla | 1,417 | 1,327 | 425 | 1,824 | 3,111 |
| Goulburn - Mulwaree | 1,314 | 1,522 | 239 | 1,551 | 3,041 |
| Kiama - Shellharbour | 1,152 | 856 | 290 | 1,436 | 2,268 |
| Queanbeyan | 830 | 1,112 | 217 | 1,046 | 2,126 |
| Shoalhaven | 915 | 856 | 228 | 1,138 | 1,970 |
| Snowy Mountains | 840 | 992 | 256 | 1,096 | 2,078 |
| South Coast | 1,340 | 1,196 | 177 | 1,513 | 2,694 |
| Wollongong | 1,118 | 947 | 288 | 1,402 | 2,325 |
| Young - Yass | 1,406 | 1,339 | 272 | 1,673 | 2,979 |
| SENSWPHN | 1,116 | 1,033 | 264 | 1,375 | 2,383 |
| <i>Australia</i> | <i>1,286</i> | <i>1,233</i> | <i>313</i> | <i>1,590</i> | <i>2,793</i> |

Analysing the individual conditions included within the definition of PPH for the SENSWPHN catchment provides greater insight into the actual causes of the overall problem of PPH. From a health services expenditure and service burden perspective, the indicator of Total Bed Days^{rrr} was analysed for all predominant PPH defined conditions across the SENSWPHN catchment and were compared with Australian national figures [34]. This revealed that as of 2017-18 for the SENSWPHN catchment, vaccine-preventable pneumonia and influenza was the biggest contributor to the total health services burden due to potentially preventable hospitalisations.

Figure 28: Total bed days of PPH in the SENSWPHN catchment by PPH conditions, 2017-18 [34]



^{rrr} **Total Bed Days** is the sum of the number of days from admission to separation for potentially preventable hospitalisations, by year and PPH condition. Same day hospitalisations are allocated one bed day and leave days are excluded. The number of total PPH bed days is suppressed where the number of PPH was less than 20, or the population was less than 2,500, or the number of same day PPH was between one and four, by area and PPH condition.

The area level comparison of hospitalisation rates for all individual conditions included within the definition of PPH, show some key hot-spots in the SENSWPHN catchment along with illustrating the fact that geographic areas of priority vary according to the respective PPH condition of interest being examined.

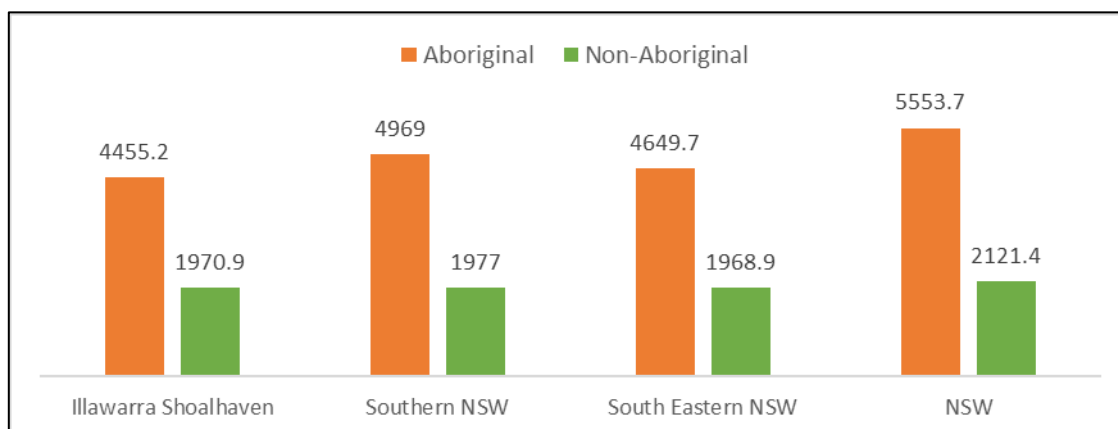
Table 64: Age-standardised rates of PPH per 100,000 population by PPH conditions^{sss}, 2017-18 [34]

| PPH Conditions | Age-standardised rate of Potentially Preventable Hospitalisations (PPH) per 100,000 population | | | | | | | | | | |
|--|--|---------------------|----------------------|------------|------------|-----------------|-------------|------------|--------------|----------|-----------|
| | Dapto - Port Kembla | Goulburn - Mulwaree | Kiama - Shellharbour | Queanbeyan | Shoalhaven | Snowy Mountains | South Coast | Wollongong | Young - Yass | SENSWPHN | Australia |
| Angina | 101 | 120 | 72 | 77 | 132 | | 98 | 111 | 66 | 101 | 110 |
| Asthma | 125 | 149 | 71 | 125 | 77 | 121 | 96 | 83 | 99 | 97 | 134 |
| Cellulitis | 295 | 319 | 304 | 164 | 191 | 223 | 334 | 246 | 343 | 258 | 258 |
| Convulsions and epilepsy | 181 | 159 | 116 | 131 | 125 | | 155 | 122 | 159 | 132 | 158 |
| COPD | 437 | 495 | 251 | 384 | 203 | 195 | 316 | 270 | 344 | 294 | 267 |
| Dental conditions | 415 | 203 | 375 | 169 | 215 | 146 | 260 | 343 | 290 | 287 | 293 |
| Diabetes complications | 218 | 252 | 123 | 173 | 139 | 242 | 138 | 130 | 211 | 158 | 187 |
| Ear, nose and throat infections | 129 | 201 | 95 | 101 | 102 | 145 | 208 | 101 | 199 | 123 | 194 |
| Iron deficiency anaemia | 168 | 255 | 140 | 99 | 98 | 97 | 361 | 139 | 232 | 160 | 241 |
| Pneumonia and influenza (vaccine preventable) | 376 | 222 | 275 | 163 | 209 | 216 | 151 | 244 | 253 | 234 | 207 |
| Urinary tract infections, including pyelonephritis | 276 | 318 | 172 | 173 | 186 | 207 | 244 | 232 | 312 | 219 | 282 |
| Bronchiectasis | 18 | | | | 16 | | 15 | | 60 | 13 | 28 |
| Congestive cardiac failure | 221 | 187 | 169 | 194 | 158 | 196 | 141 | 163 | 250 | 172 | 206 |
| Gangrene | 65 | 51 | 46 | 38 | 53 | | 63 | 46 | 55 | 49 | 51 |
| Hypertension | 26 | | 15 | | 16 | | 23 | 31 | 68 | 25 | 40 |
| Other vaccine preventable conditions | 52 | | | 56 | 19 | | | 47 | | 32 | 108 |
| Pelvic inflammatory disease | 32 | | | | | | | | | 21 | 20 |
| Perforated/bleeding ulcer | 22 | | | | 23 | | 42 | | | 22 | 21 |

^{sss} Blank fields indicate cell suppression was done by data custodian for this information as part of consequential suppression to manage confidentiality. Age-standardised rates are suppressed where crude rates are suppressed OR if the population in any 5-year age group in an area is less than 30. Crude rates are suppressed if the number of PPH in an area was less than 20 or the population of an age group in an area was less than 2,500; by year of reporting and PPH category and/or condition. Rates for some areas were marked as blank fields based on low numbers of events and/or very small populations that are more susceptible to random fluctuations and therefore may not provide a reliable representation of activity in that area.

Hospitalisation rates for PPH in total are alarmingly higher for Aboriginal[§] persons compared to the non-Indigenous population.

Figure 29: Comparison of age-standardised rates per 100,000 persons of total Potentially Preventable Hospitalisations between Aboriginal[§] and non-Indigenous persons, 2016-17 [35]



5.4.2. Low urgency care emergency department presentations

'Low Urgency Care' is defined^{ttt} to include presentations at formal public hospital Emergency Departments (ED) where the person had a type of visit to the ED of *emergency presentation*; was assessed as needing *semi-urgent* (triage category 4: should be seen within 1 hour) or *non-urgent care* (category 5: should be seen within 2 hours); did not arrive by ambulance, or police or correctional vehicle; was *not admitted* to the hospital, was *not referred* to another hospital, and did not die.

Overall the SENSHPHN catchment had a higher than Australian national rate for low urgency care ED presentations and overall 42.7% of all ED presentations in the catchment were categorised as low urgency care which was higher than the national Australian figures of 35.7% [36] with a substantial proportion presenting during the after-hours period^{uuu}.

Table 65: ED presentations for low urgency care by time period of presentation, 2018-19 [36]

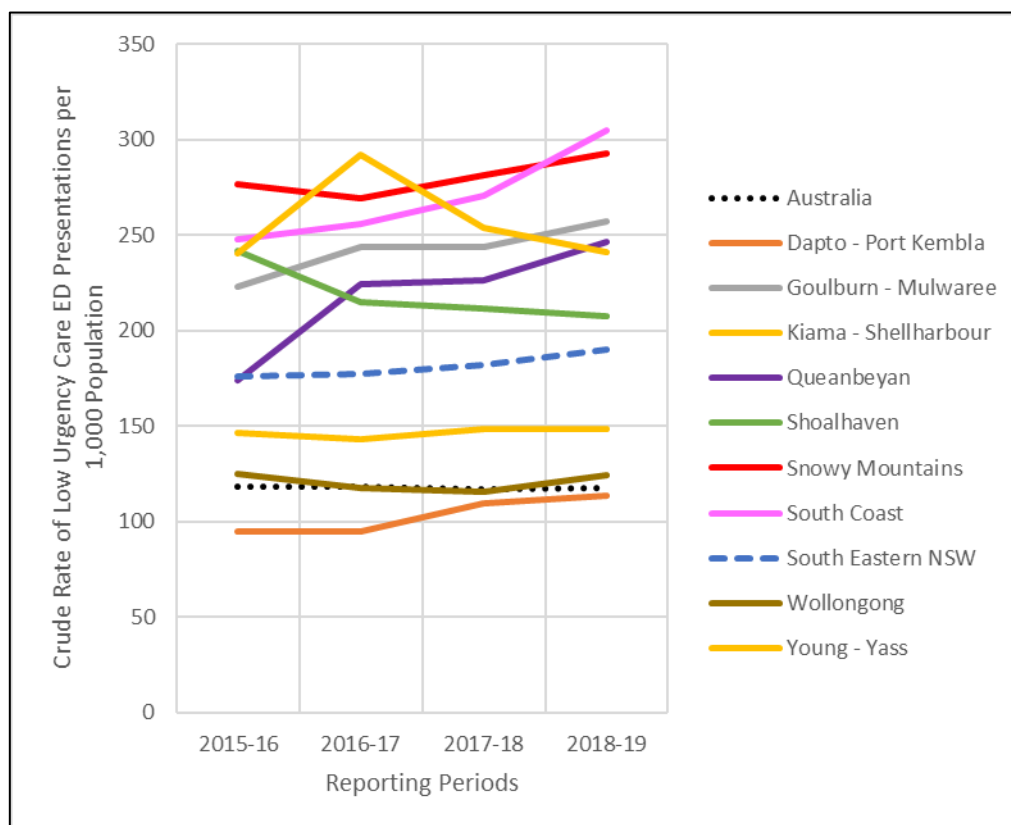
| Areas Version 2 | Crude Rate per 1,000 Population | | | After-hours low urgency care ED presentations as % of all low urgency care ED presentations |
|--------------------------|---------------------------------|----------------|--------------|---|
| | After-hours | In usual hours | Total | |
| Dapto - Port Kembla | 59.1 | 54.2 | 113.3 | 52.2% |
| Goulburn - Mulwaree | 108 | 149.4 | 257.4 | 42.0% |
| Kiama - Shellharbour | 72.9 | 75.9 | 148.8 | 49.0% |
| Queanbeyan | 112.6 | 134.2 | 246.8 | 45.6% |
| Shoalhaven | 94 | 113.7 | 207.7 | 45.2% |
| Snowy Mountains | 110.9 | 181.9 | 292.8 | 37.9% |
| South Coast | 113.3 | 191.7 | 305 | 37.1% |
| Wollongong | 61 | 63.1 | 124.1 | 49.2% |
| Young - Yass | 105.9 | 135 | 240.8 | 44.0% |
| South Eastern NSW | 84.8 | 105 | 189.8 | 44.7% |
| <i>Australia</i> | <i>55.8</i> | <i>61.6</i> | <i>117.4</i> | <i>47.5%</i> |

^{ttt} Australian Institute of Health and Welfare (AIHW), National Healthcare Agreement: National Healthcare Agreement: PI 9—Selected potentially avoidable GP-type presentations to emergency departments, 2018, Standard 30/01/2018. Sourced from the AIHW metadata online registry (METeOR item 658497).

^{uuu} After-hours includes Sundays, public holidays, weekdays before 8am and from 8pm, and Saturdays before 8am and after 1pm

A significant matter of concern is the rising trends in the rates of low urgency care ED presentations for the SENSWPHN catchment including some very sharp rise in some pockets.

Figure 30: Trends in area-level rate of ED presentations for low urgency care per 1,000 population



Using age-standardised rates^{www} of ED presentations for low urgency care per 1,000 population, the SENSWPHN was reported to have the 5th highest rates among all reportable^{www} PHN catchments in Australia. Crude rates were higher for the younger age groups.

Table 66: Crude rate of ED presentations for low urgency care per 1,000 population by demographic attributes, 2018-19 [36]

| Areas Version 2 | Age Group (years) | | | | | | Sex | | All persons |
|--------------------------|-------------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|
| | <15 | 15-24 | 25-44 | 45-64 | <65* | 65 and over | Females | Males | |
| Dapto - Port Kembla | 157.6 | 153.4 | 122.6 | 83.3 | 123.7 | 66.1 | 108.3 | 118.4 | 113.3 |
| Goulburn - Mulwaree | 349.6 | 373.4 | 241.8 | 181.5 | 264.8 | 228.4 | 253.5 | 261.2 | 257.4 |
| Kiama - Shellharbour | 201.1 | 200.1 | 157.7 | 108.1 | 158.9 | 104.1 | 137.2 | 160.8 | 148.8 |
| Queanbeyan | 344.8 | 336.3 | 244.8 | 165.1 | 254.8 | 191.3 | 243.7 | 249.8 | 246.8 |
| Shoalhaven | 274.5 | 325 | 254.5 | 156.9 | 233.4 | 135.4 | 198.8 | 216.7 | 207.7 |
| Snowy Mountains | 372.1 | 412.6 | 277.3 | 223.4 | 297 | 275.3 | 300.8 | 285.4 | 292.8 |
| South Coast | 434.4 | 490.9 | 402.9 | 234.1 | 348.6 | 195.8 | 301.3 | 308.7 | 305 |
| Wollongong | 192.4 | 149.3 | 121.2 | 92.6 | 132.9 | 79.7 | 116.6 | 131.6 | 124.1 |
| Young - Yass | 322.3 | 317.5 | 254 | 172.7 | 252.5 | 193.2 | 228.4 | 253.6 | 240.8 |
| South Eastern NSW | 261.4 | 253.2 | 198.5 | 143.2 | 202.7 | 138 | 183.1 | 196.6 | 189.8 |
| <i>Australia</i> | 362.4 | 287 | 224 | 169.6 | 248.8 | 159.6 | 226.2 | 243.6 | 234.8 |

*<65 years age group includes all of the age groups (<15, 15-24, 25-44 and 45-64 years)

^{www} Age-standardised rates are hypothetical rates that would have been observed if the populations studied had the same age distribution as the standard population. Direct age-standardisation method, using the ABS ERP at 30 June 2001 as the standard population.

^{www} Estimates for some PHNs and some SA3 areas were either not available for publication as the figures were considered to be unreliable. Those PHNs have been excluded in the comparative rankings and analysis.

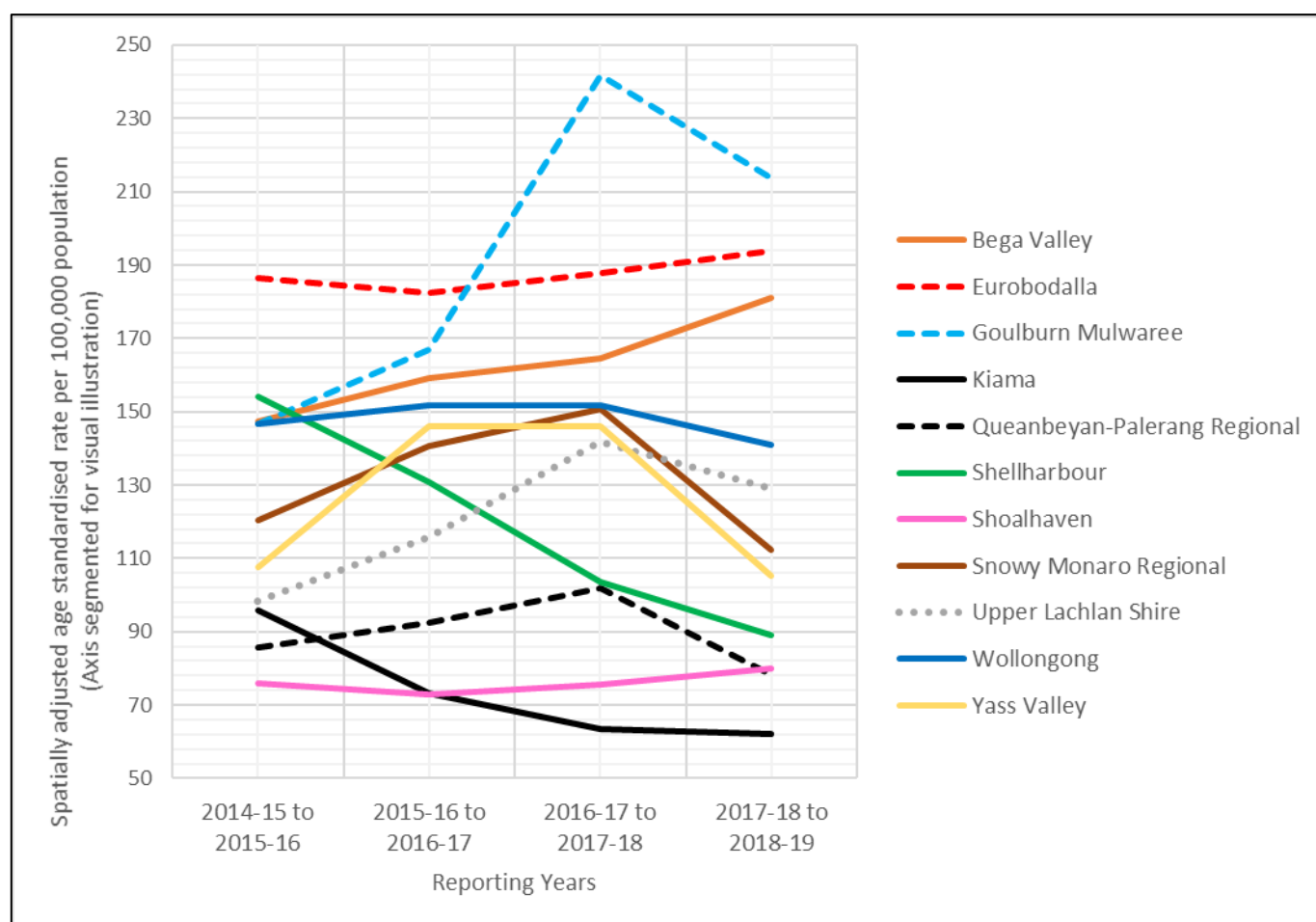
5.4.3. Intentional self-harm hospitalisation

Intentional self-harm hospitalisations^{xxx} are defined as those reported to have resulted from purposefully self-inflicted poisoning or injury and include attempted suicide^{yyy}.

As per latest (2018-19) estimates, the SENSWPHN had the 4th highest age-standardised rates of intentional self-harm hospitalisation among all 10 PHNs in NSW with rates among females being almost two times higher than males and persons aged 15-24 years accounting for 36% of intentional self-harm hospitalisations [35].

Regional figures show some concerning trends with Goulburn Mulwaree having very high rates and 4 out of the 11 SENSWPHN LGAs estimated to have statistically significantly higher rates of intentional self-harm hospitalisation compared to NSW state averages [35].

Figure 31: Trends in regional age-standardised rates per 100,000 population of intentional self-harm hospitalisation [35]



While intentional self-harm hospitalisation figures by Aboriginality^z are not available for PHN catchment regions (or any smaller administrative boundaries), at the NSW state level the latest figures suggest that intentional self-harm hospitalisation rates are 3.1 times higher among Aboriginal^z persons compared to non-Indigenous persons with this ethnicity-based disparity being higher within males. However overall rates even within Aboriginal^z persons continue to be higher in females than males.

^{xxx} This indicator measures people admitted to hospital after self-harm. It is not a direct measure of the number of people in the NSW population who make suicide attempts. This indicator only includes people who are admitted to hospital and does not include people who go home after treatment in the Emergency Department (ED).

^{yyy} In this report the definition of **intentional self-harm hospitalisations** is based on International Classification of Diseases, Tenth Revision (ICD-10) classification codes X60-X84 and Y87.0. All records are included except those involving rehabilitation.

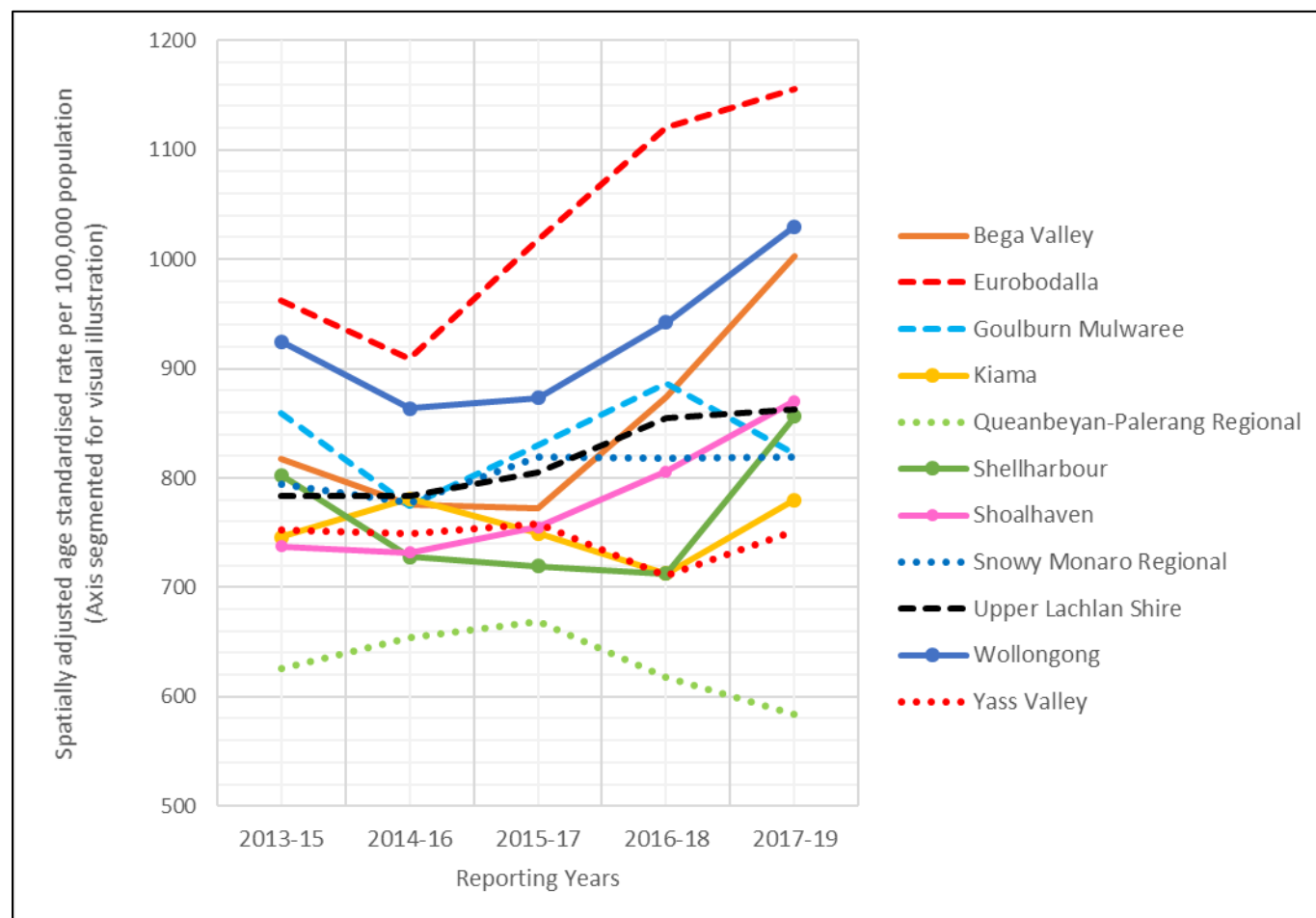
5.4.4. Alcohol attributable hospitalisation

Alcohol attributable hospitalisations^{zzz} are a means to capture the burden that risky alcohol consumption has on hospitalisations.

As per latest (2018-19) estimates, the SENSWPHN had the 6th highest age-standardised rates of alcohol attributable hospitalisation among all 10 PHNs in NSW with rates among males being almost two times higher than females [35].

Regional figures show some concerning trends with Eurobodalla having very high rates that were estimated to be statistically significantly higher compared to NSW state averages [35].

Figure 32: Trends in regional age-standardised rates per 100,000 population of alcohol attributable hospitalisation [35]



While alcohol attributable hospitalisation figures by Aboriginality^z are not available for PHN catchment regions (or any smaller administrative boundaries), at the NSW state level the latest figures suggest that alcohol attributable hospitalisation rates are 1.9 times higher among Aboriginal^z persons compared to non-Indigenous persons with this ethnicity-based disparity being higher within males.

^{zzz} This indicator estimates the hospitalisations attributable to the use of alcohol as a risk factor. It uses age and sex-specific aetiological fractions for NSW developed by the Australian Institute of Health and Welfare (AIHW) as part of the Australian Burden of Disease Study 2015 (ABDS 2015). The term 'aetiological fraction' is the estimated proportion of cases of the disease in a specific population that would be eliminated in the absence of the risk factor. The AIHW provides the Australian 'aetiological fraction' to NSW Health with mapping of diseases to ICD-10 codes. These were applied to hospital unit record files for this indicator. This indicator only includes people who are admitted to hospital and does not include people who go home after treatment in the Emergency Department (ED).

REFERENCES

1. Australian Bureau of Statistics (ABS). *Australian Statistical Geography Standard (ASGS): Volume 3 - Non ABS Structures (cat. no. 1270.0.55.003)*. 2017 [cited 2017 19/09/2017].
2. Australian Bureau of Statistics (ABS). *Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas, July 2011 (cat. no. 1270.0.55.001)*. 2011 [cited 2016 19/09/2016].
3. Australian Bureau of Statistics (ABS). *Australian Statistical Geography Standard (ASGS): Volume 1 - Main Structure and Greater Capital City Statistical Areas (cat. no. 1270.0.55.001)*. 2016 [cited 2017 19/09/2017].
4. NSW Ministry of Health. *LHD Maps*. 2014 [cited 2016 19/09/2016].
5. NSW Ministry of Health - Centre for Epidemiology and Evidence. *Aggregated Analysis of Cause of Death Unit Record File provided by Australian Coordinating Registry and Australian Bureau of Statistics*. 2019 [cited 2020 07/08/2020].
6. Australian Bureau of Statistics (ABS). *Regional Population Growth, Australia (cat. no. 3218.0)*. 2020 28/08/2020].
7. Australian Bureau of Statistics (ABS). *Population by Age and Sex, Regions of Australia (cat. no. 3235)*. 2020 28/08/2020].
8. NSW Department of Planning and Environment. *NSW state and Local Government Area (LGA) population and household projections*. 2019 [cited 2020 14/03/2020].
9. Australian Bureau of Statistics (ABS). *Estimates of Aboriginal and Torres Strait Islander Australians (cat. no. 3238.0.55.001)*. 2017 [cited 2018 19/09/2018].
10. Australian Bureau of Statistics (ABS). *Census of Population and Housing, Australia, 2016 - TableBuilder Data tables (Unpublished)*. 2017 [cited 2017 12/12/2017].
11. Public Health Information Development Unit (PHIDU). *Social Health Atlas of Australia: Local Government Areas (online)*. 2020 [cited 2020 30/01/2020].
12. Public Health Information Development Unit (PHIDU). *Social Health Atlas of Australia: Primary Health Networks (online)*. 2020 [cited 2020 30/01/2020].
13. Australian Bureau of Statistics (ABS). *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia (cat. no. 2033.0.55.001)*. 2018 [cited 2018 30/03/2018].
14. Australian Bureau of Statistics (ABS). *Australian Statistical Geography Standard (ASGS): Volume 5 - Remoteness Structure (cat. no. 1270.0.55.005)*. 2018 [cited 2018 20/03/2018].
15. Department of Education Skills and Employment. *Labour Market Information Portal*. 2020 [cited 2020 19/09/2020].
16. Australian Government Department of Families Housing Community Services and Indigenous Affairs (FaHCSIA). *The Road Home. A National Approach to Reducing Homelessness*. 2008, FaHCSIA: Canberra.
17. Australian Bureau of Statistics (ABS). *Census of Population and Housing: Estimating homelessness (cat. no. 2049.0)*. 2018 [cited 2018 30/03/2018].
18. Tourism Research Australia (TRA). *Local Government Area Profiles*. 2019 [cited 2019 19/09/2019].
19. Australian Government Department of Education and Training. *Australian Early Development Census (AEDC)*. 2019 [cited 2019 10/05/2019].
20. NSW Bureau of Crime Statistics and Research (BoCSaR). *NSW Crimes Ranking Dataset*. 2020 [cited 2020 07/08/2020].
21. Australian Bureau of Statistics (ABS). *Local Government Area, Basic Community Profile: G 02*, ABS, Editor. 2018, ABS: Canberra.
22. Ghosh, A., et al., *Addressing the deficiencies in the evidence-base for primary practice in regional Australia - sentinel practices data sourcing (SPDS) project: a pilot study*. BMC Fam Pract, 2013. **14**(1): p. 109.
23. Ghosh, A., et al., *Using data from patient interactions in primary care for population level chronic disease surveillance: The Sentinel Practices Data Sourcing (SPDS) project*. BMC Public Health, 2014. **14**(1): p. 557.
24. NSW Ministry of Health - Centre for Epidemiology and Evidence. *Adult Population Health Survey. NSW Population Health Survey 2019* [cited 2020 21/06/2020].
25. Dementia Australia. *Dementia Prevalence Data 2018-2058*. 2018, University of Canberra: Canberra.
26. Australian Institute of Health and Welfare (AIHW). *Mortality Over Regions and Time (MORT) books*. 2020 [cited 2020 13/08/2020].
27. Australian Institute of Health and Welfare (AIHW). *National cancer screening programs participation data*. 2020 [cited 2020 28/11/2020].

28. Australian Government Department of Health (DoH). *Australian Immunisation Register (AIR) data*. 2020 [cited 2020 28/05/2020].
29. NSW Ministry of Health - Centre for Epidemiology and Evidence. *NSW Perinatal Data Collection*. 2019 [cited 2020 16/09/2020].
30. Australian Government Department of Health. *National Health Workforce Dataset (NHWDS)*. 2020 [cited 2020 12/10/2020].
31. Bodenheimer, T., et al., *The 10 Building Blocks of High-Performing Primary Care*. The Annals of Family Medicine, 2014. **12**(2): p. 166-171.
32. Australian Institute of Health and Welfare (AIHW). *Medicare-subsidised GP, allied health and specialist health care across local areas*. 2020 [cited 2020 10/10/2020].
33. Australian Institute of Health and Welfare (AIHW). *My Aged Care Region Tool Report for South Eastern NSW PHN*. GEN Aged Care 2020 [cited 2020 01/12/2020].
34. Australian Institute of Health and Welfare (AIHW). *Potentially preventable hospitalisations in Australia by small geographic areas*. 2019 [cited 2019 10/05/2019].
35. NSW Ministry of Health - Centre for Epidemiology and Evidence. *NSW Combined Admitted Patient Epidemiology Data*. 2019 [cited 2020 21/06/2020].
36. Australian Institute of Health and Welfare (AIHW). *Use of emergency departments for lower urgency care*. 2020 [cited 2019 02/07/2019].