



# Population Health Profile

South Eastern NSW



**phn**  
SOUTH EASTERN NSW  
An Australian Government Initiative

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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 or Local Health Districts (LHDs). Wherever applicable the figures for the region or area or LHD 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 or LHDs** that are displayed on the respective data table
- Where the format and granularity of the source data enabled customisable aggregation, sub-totals for the LHDs 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*

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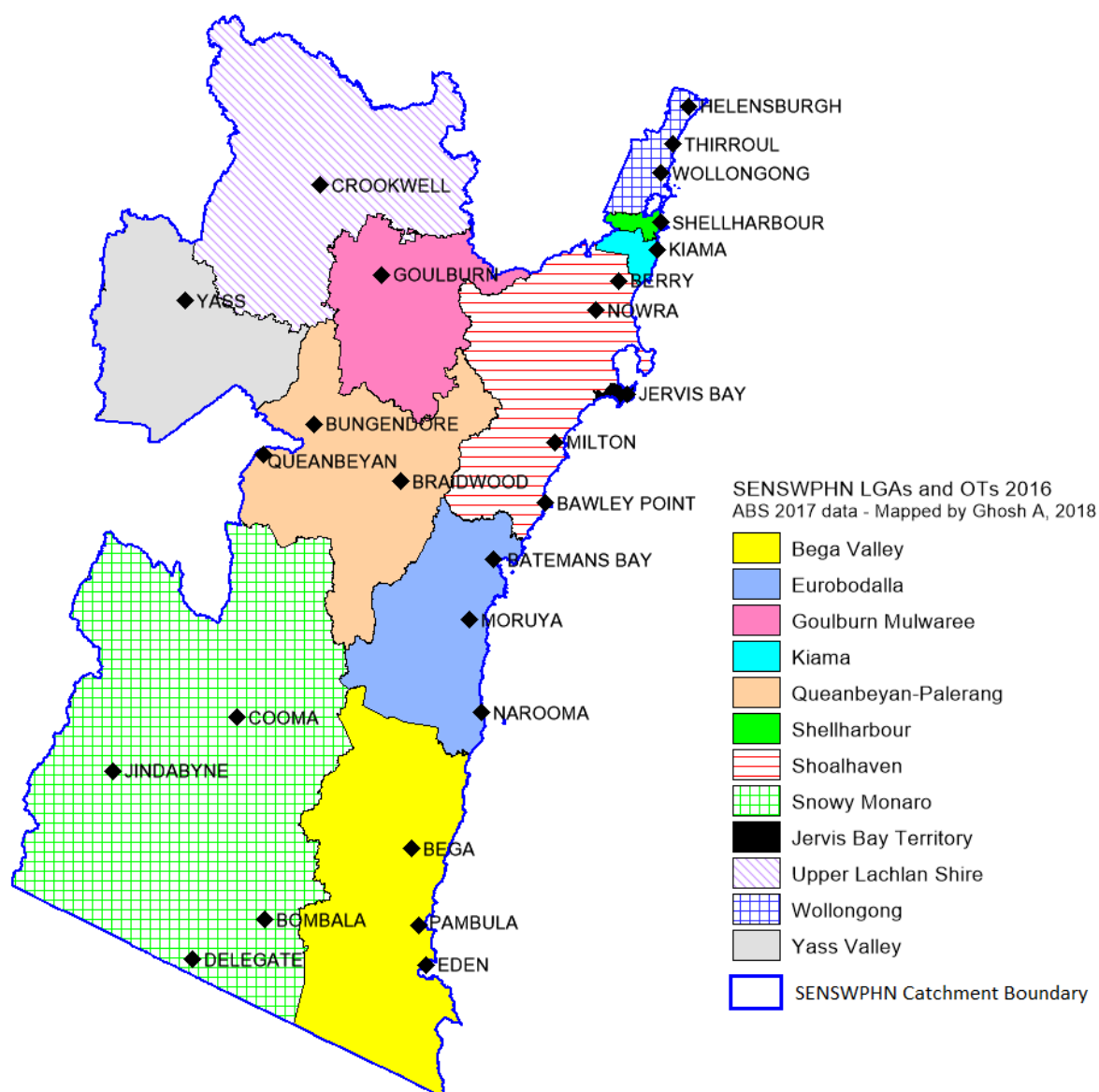


# 1. GEOGRAPHY

The SENSWPHN catchment covers a large geographic catchment that extends over 50,000 square kilometres 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<sup>a</sup> including Local Government Area (LGA) and Unincorporated<sup>b</sup> 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]



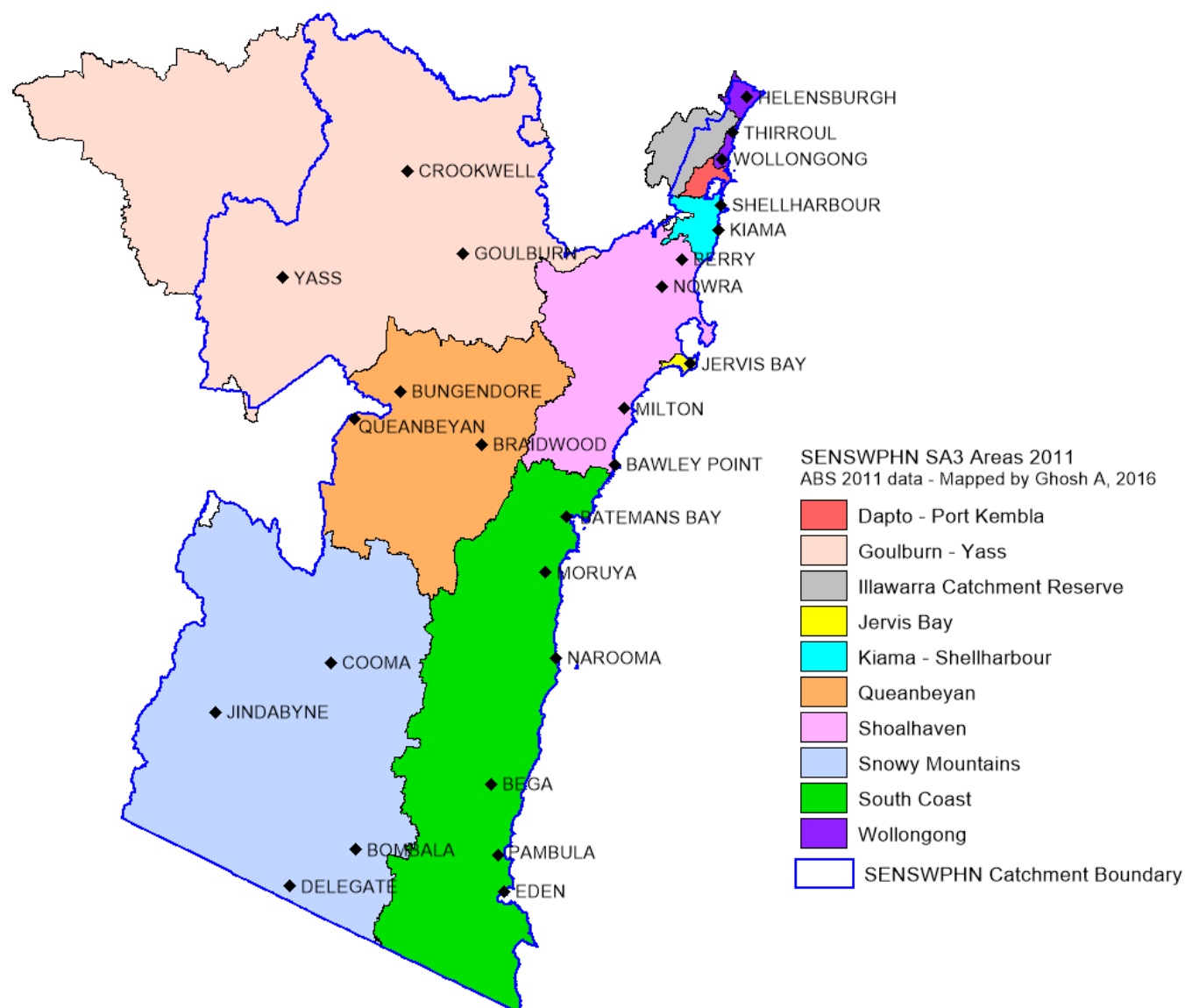
<sup>a</sup> Administrative boundaries are the 11 Local Government Areas (LGAs) and 1 Commonwealth Territory of Jervis Bay that have been used. All the **regions** are entirely (100% land mass and population) included within the SENSWPHN catchment. Therefore, these regions have been used as the best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

<sup>b</sup> 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<sup>c</sup> 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]*



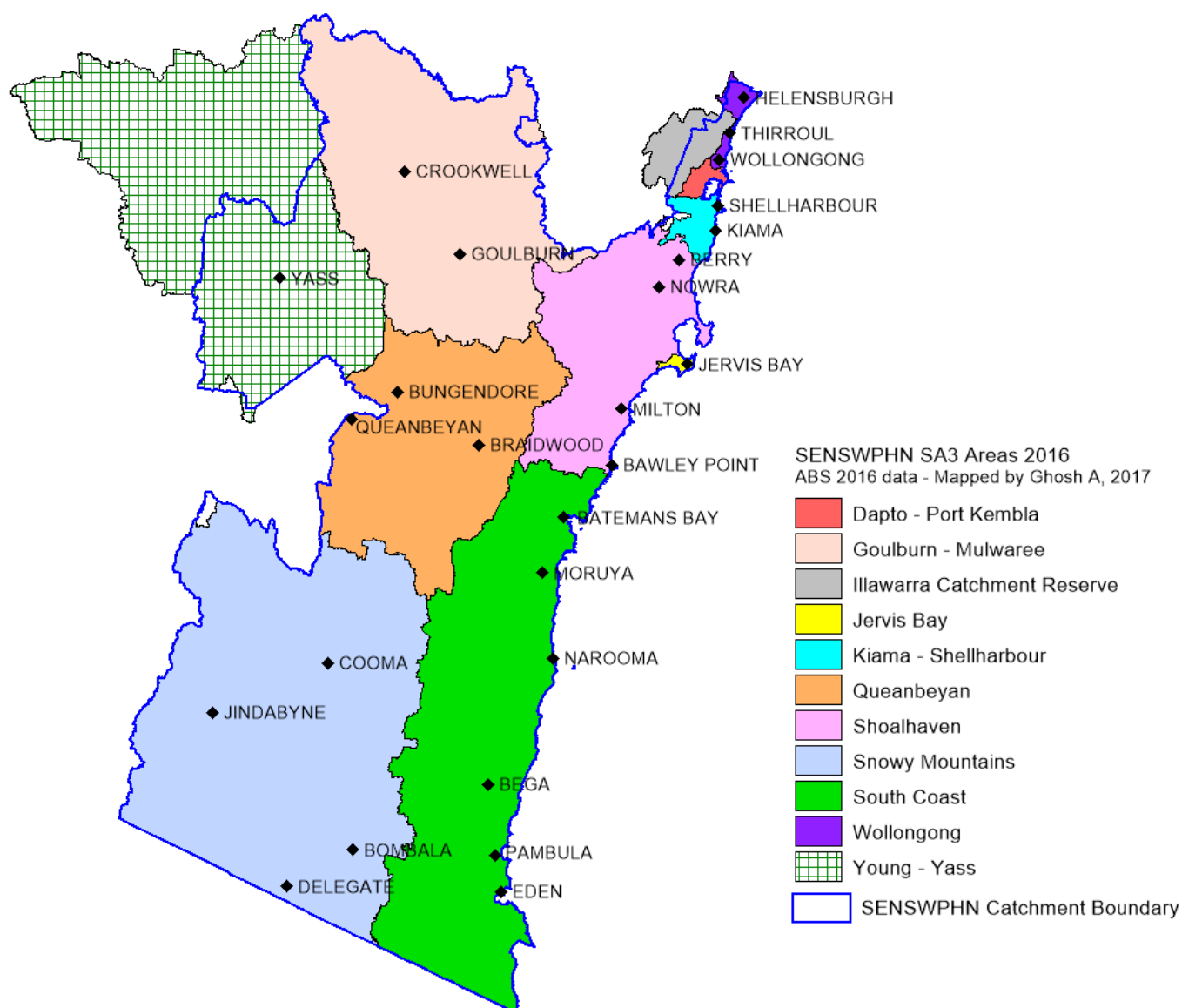
**Note:** Goulburn - Yass is one distinct area in this version

<sup>c</sup> 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<sup>d</sup> 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]*



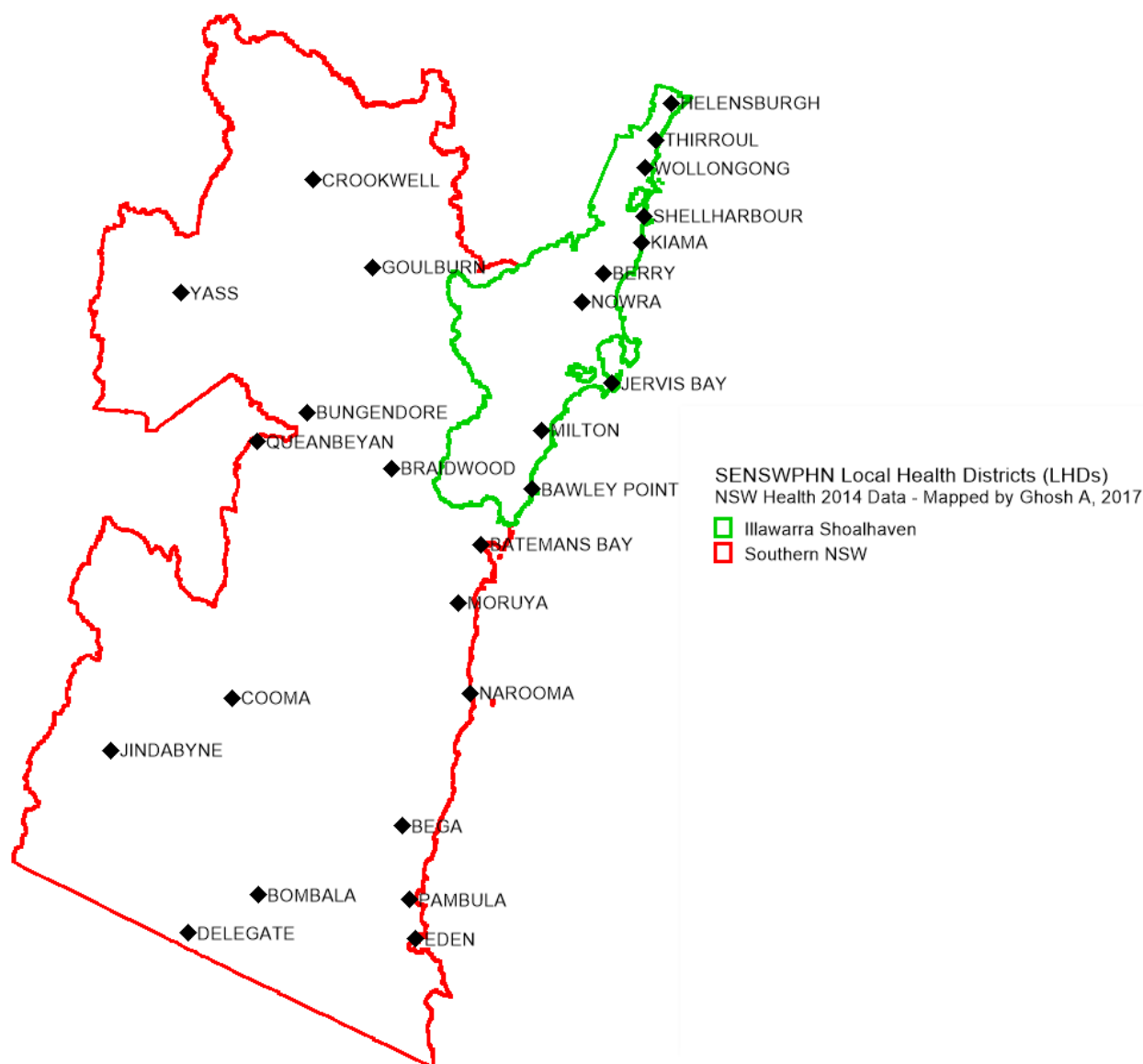
**Note:** Goulburn - Mulwaree and Young - Yass are two distinct areas in this version

<sup>d</sup> 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.

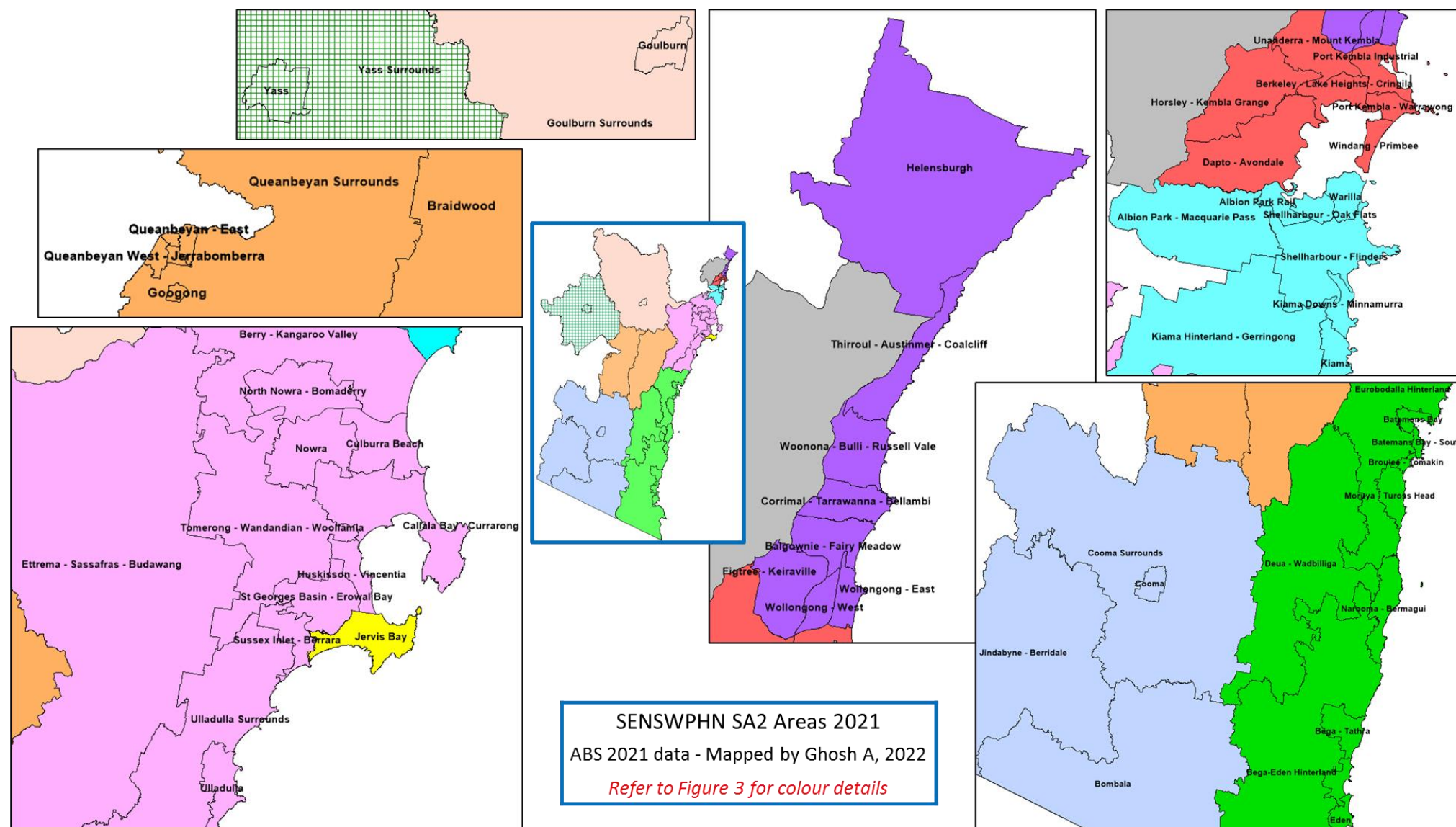
Figure 4: Map of the SENSWPHN Catchment by Health Administrative Boundaries or **Local Health Districts** [4]



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**<sup>e</sup>. 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.

<sup>e</sup> 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) [5]





## 2. DEMOGRAPHY

### 2.1. Life expectancy

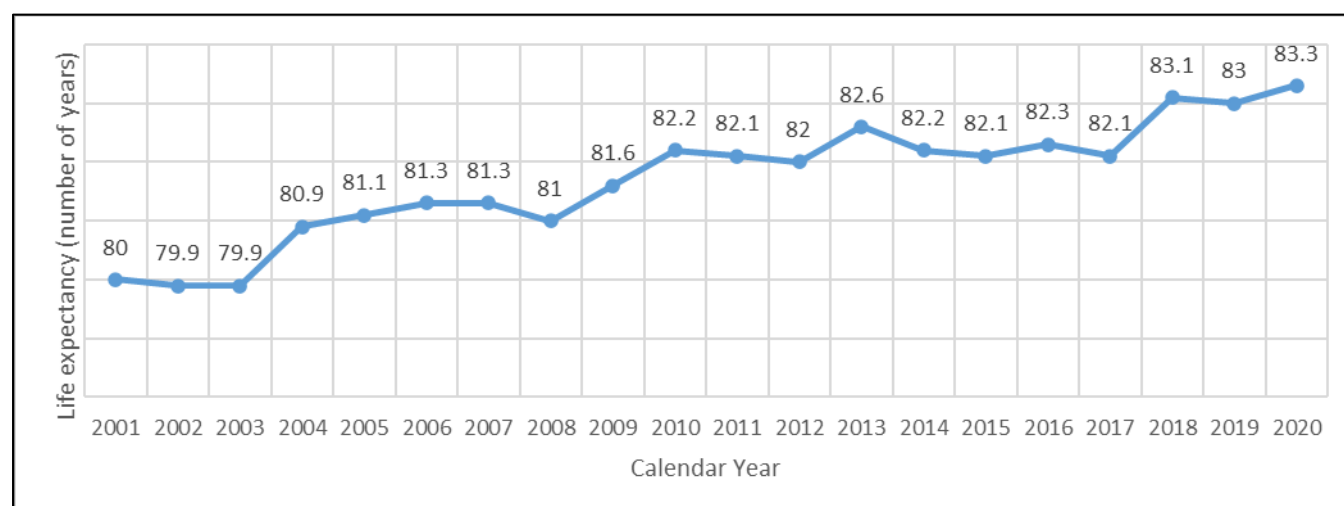
Life expectancy is the most used metric to describe the health of the population. It measures how long, on average, a person is expected to live based on current age and sex-specific death rates. In summarising mortality patterns, life expectancy is often expressed as the number of years of life, from birth, a person is expected to live.

The latest life expectancy figures for the overall SENSWPHN catchment population are estimated to be less than average NSW state residents

Table 1: Life expectancy at birth, 2020 [6]

Regions	Females	Males	Persons
Bega Valley	85.4	82.3	84.0
Eurobodalla	85.7	80.5	82.8
Goulburn Mulwaree	85.8	81.3	83.4
Kiama	85.0	83.1	84.8
Queanbeyan-Palerang Regional	86.4	82.5	85.1
Shellharbour	84.5	81.2	82.6
Shoalhaven	84.6	81.5	83.0
Snowy Monaro Regional	86.1	82.0	84.5
Upper Lachlan Shire	85.6	81.9	83.9
Wollongong	85.8	81.8	83.7
Yass Valley	85.7	81.8	83.8
<b>SENSWPHN</b>	<b>85.3</b>	<b>81.3</b>	<b>83.3</b>
Illawarra Shoalhaven	84.9	81.4	83.2
Southern NSW	86.3	81.2	83.6
NSW	86.6	82.4	84.5

Figure 6: Trends in life expectancy at birth for the SENSWPHN catchment [6]



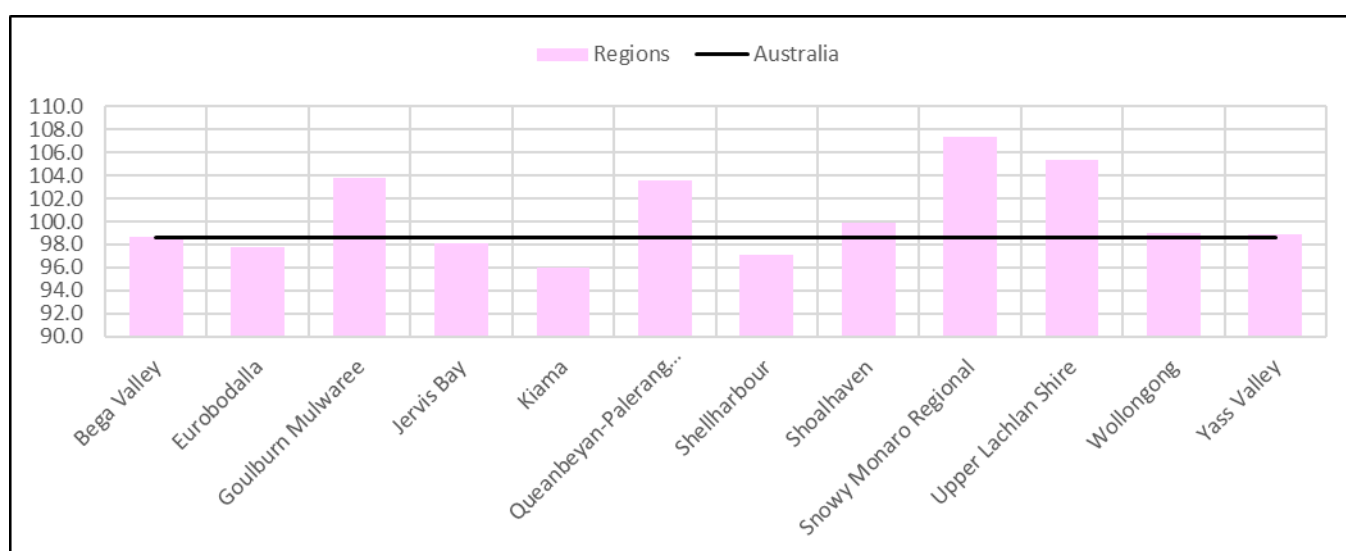
## 2.2. Current population

The most updated Estimated Resident Population (ERP)<sup>f</sup> of the SENSWPHN catchment and its sex distribution 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, 2023 [7]

Regions	Population	Population density
Bega Valley	35,988	5.7
Eurobodalla	40,755	11.9
Goulburn Mulwaree	32,428	10.1
Jervis Bay	311	4.6
Kiama	22,964	89.1
Queanbeyan-Palerang Regional	64,233	12.1
Shellharbour	78,332	531.4
Shoalhaven	109,611	24.0
Snowy Monaro Regional	21,823	1.4
Upper Lachlan Shire	8,551	1.2
Wollongong	216,431	316.4
Yass Valley	17,379	4.3
<b>SENSWPHN</b>	<b>648,806</b>	<b>12.9</b>
<i>Illawarra Shoalhaven</i>	<i>427,649</i>	<i>74.7</i>
<i>Southern NSW</i>	<i>221,157</i>	<i>5.0</i>
<i>NSW</i>	<i>8,165,731</i>	<i>10.2</i>
<i>Australia</i>	<i>26,005,540</i>	<i>3.4</i>

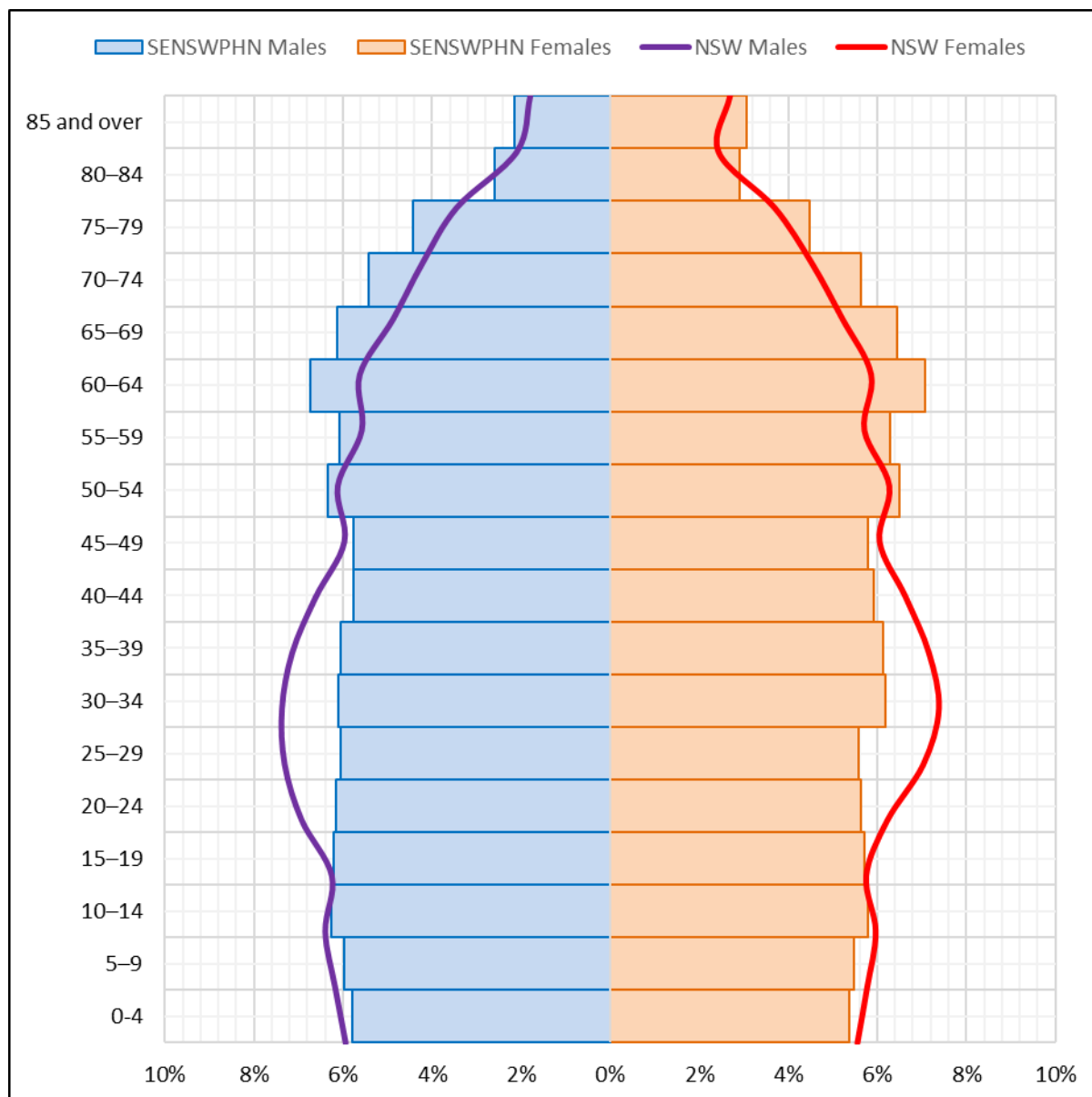
Figure 7: Sex ratio, 2023 [7]



<sup>f</sup> 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.

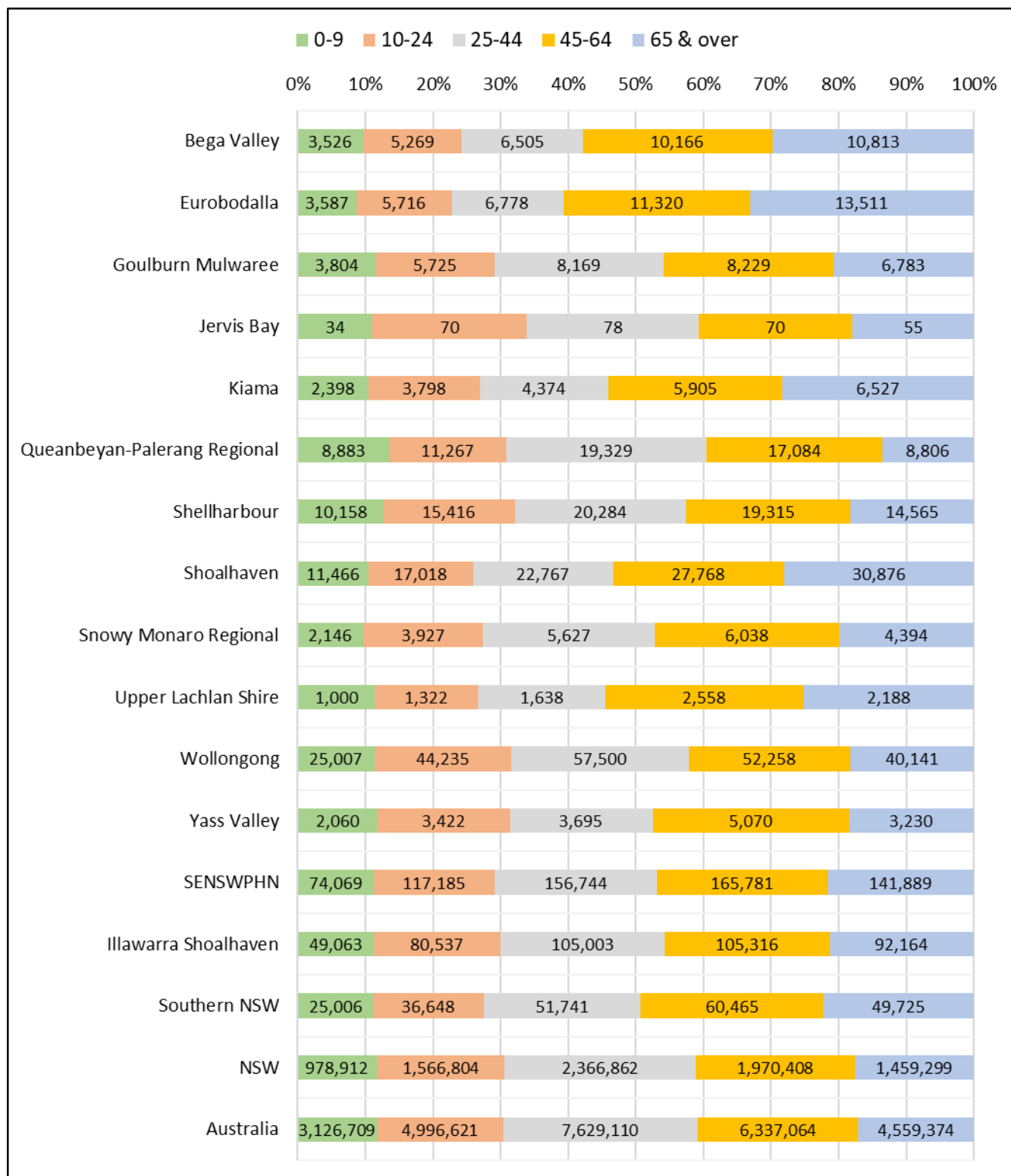
The overall age structure of the SENSWPHN population is typical of a rapidly aging population and in general, indicates a relatively older age profile. Compared to NSW state population distribution, the SENSWPHN catchment population has a substantially higher proportion in the older age groups.

Figure 8: Population pyramid of the SENSWPHN catchment, 2023 [7]



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

Figure 9: Population age distribution, 2023 [7]



### 2.3. Projected population

The population of the SENSWPHN catchment is expected to grow substantially in the next few years with the highest growth projected for the age group 65 years and over.

Table 3: Population projection figures, 2030 [8]

Regions	2030 Projected Population (no.)					Growth (no.) 2020 to 2030					Growth (%) 2020 to 2030				
	0 to 24	25-44	45-64	65+	Total	0 to 24	25-44	45-64	65+	Total	0 to 24	25-44	45-64	65+	Total
Bega Valley	8,098	6,328	9,639	11,697	35,761	-856	636	-877	2,132	1,034	-9.6%	11.2%	-8.3%	22.3%	3.0%
Eurobodalla	8,662	6,482	11,136	16,085	42,365	-443	516	-265	3,605	3,413	-4.9%	8.7%	-2.3%	28.9%	8.8%
Goulburn Mulwaree	10,360	8,532	8,220	8,515	35,628	929	923	48	2,173	4,074	9.9%	12.1%	0.6%	34.3%	12.9%
Kiama	7,469	5,437	6,475	7,518	26,899	789	780	125	1,520	3,214	11.8%	16.7%	2.0%	25.3%	13.6%
Queanbeyan-Palerang Regional	21,517	19,075	18,590	12,698	71,879	2,247	1,706	1,207	4,481	9,640	11.7%	9.8%	6.9%	54.5%	15.5%
Shellharbour	28,544	22,945	19,496	17,273	88,258	4,107	4,272	686	4,571	13,636	16.8%	22.9%	3.6%	36.0%	18.3%
Shoalhaven	31,619	25,772	29,244	38,170	124,805	2,473	4,428	1,311	9,402	17,614	8.5%	20.7%	4.7%	32.7%	16.4%
Snowy Monaro Regional	6,070	5,089	5,615	5,562	22,337	307	108	-408	1,332	1,340	5.3%	2.2%	-6.8%	31.5%	6.4%
Upper Lachlan Shire	2,438	1,802	2,203	2,611	9,054	81	309	-236	626	780	3.4%	20.7%	-9.7%	31.6%	9.4%
Wollongong	75,888	64,669	53,280	48,381	242,218	5,995	6,140	334	9,951	22,420	8.6%	10.5%	0.6%	25.9%	10.2%
Yass Valley	5,438	4,075	5,047	4,508	19,067	-111	485	-48	1,421	1,746	-2.0%	13.5%	-0.9%	46.0%	10.1%
<b>SENSWPHN</b>	<b>206,102</b>	<b>170,204</b>	<b>168,946</b>	<b>173,019</b>	<b>718,272</b>	<b>15,517</b>	<b>20,301</b>	<b>1,878</b>	<b>41,215</b>	<b>78,912</b>	<b>8.1%</b>	<b>13.5%</b>	<b>1.1%</b>	<b>31.3%</b>	<b>12.3%</b>
<i>Illawarra Shoalhaven</i>	<i>143,520</i>	<i>118,822</i>	<i>108,496</i>	<i>111,343</i>	<i>482,181</i>	<i>13,364</i>	<i>15,619</i>	<i>2,457</i>	<i>25,445</i>	<i>56,885</i>	<i>10.3%</i>	<i>15.1%</i>	<i>2.3%</i>	<i>29.6%</i>	<i>13.4%</i>
<i>Southern NSW</i>	<i>62,582</i>	<i>51,382</i>	<i>60,450</i>	<i>61,676</i>	<i>236,091</i>	<i>2,153</i>	<i>4,682</i>	<i>-579</i>	<i>15,770</i>	<i>22,027</i>	<i>3.6%</i>	<i>10.0%</i>	<i>-0.9%</i>	<i>34.4%</i>	<i>10.3%</i>
NSW	2,588,851	2,393,981	2,057,195	1,798,533	8,838,560	71,318	78,873	88,944	431,893	671,028	2.8%	3.4%	4.5%	31.6%	8.2%



## 2.4. Population diversity

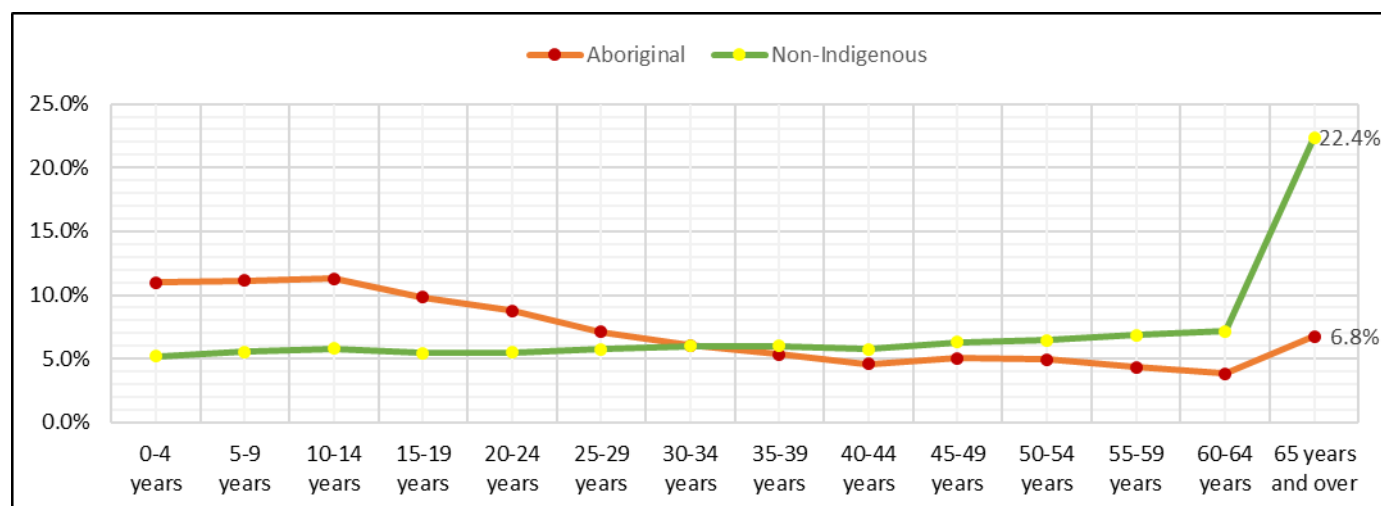
### 2.4.1. Aboriginal and Torres Strait Islander population

As per the latest estimates, the SENSWPHN catchment is home to 3.4% of Australia's Aboriginal<sup>g</sup> population and 9.8% of the total Aboriginal population of NSW.

Table 4: Aboriginal<sup>g</sup> population, 2021 [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	1,675	4.7%	5.0%
Eurobodalla	3,040	7.5%	9.2%
Goulburn Mulwaree	2,002	6.2%	6.0%
Jervis Bay	186	60.0%	0.6%
Kiama	610	2.7%	1.8%
Queanbeyan-Palerang Regional	2,588	4.1%	7.8%
Shellharbour	4,531	5.9%	13.7%
Shoalhaven	8,640	8.0%	26.0%
Snowy Monaro Regional	785	3.6%	2.4%
Upper Lachlan Shire	335	3.9%	1.0%
Wollongong	8,148	3.8%	24.6%
Yass Valley	640	3.7%	1.9%
SENSWPHN	33,180	5.2%	100.0%
Illawarra Shoalhaven	22,115	5.2%	66.7%
Southern NSW	11,065	5.0%	33.3%
NSW	339,710	4.2%	
Australia	983,709	3.8%	

Figure 10: Age distribution comparisons of the Aboriginal<sup>g</sup> and the non-Indigenous population of SENSWPHN<sup>h</sup>, 2021 [9]



The age distribution of the SENSWPHN catchment's Aboriginal<sup>g</sup> 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. A very substantially higher proportion of persons are aged 60 years and over within the non-Indigenous population; compared to the Aboriginal<sup>g</sup> population in the catchment.

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

<sup>h</sup> These figures are based on **Usual Resident Population (URP)** figures as per the latest Census which may differ from the **Estimated Resident Population (ERP)** figures used in the other Demographic tables, overall Aboriginal population table above and other charts in this report.

## 2.4.2. Culturally and Linguistically Diverse (CALD) population

Several residents in the SENSWPHN catchment are persons who were born overseas in predominantly non-English speaking background countries<sup>i</sup>.

*Table 5: Culturally and Linguistically Diverse (CALD) population, 2021 [9]*

Regions	Population born in predominantly non-English speaking countries	% of resident population
Bega Valley	1,800	5.0%
Eurobodalla	2,342	5.8%
Goulburn Mulwaree	2,150	6.7%
Kiama	1,277	5.5%
Queanbeyan-Palerang Regional	7,880	12.5%
Shellharbour	7,091	9.3%
Shoalhaven	6,690	6.2%
Snowy Monaro Regional	1,620	7.5%
Upper Lachlan Shire	244	2.9%
Wollongong	30,440	14.2%
Yass Valley	815	4.7%
<b>SENSWPHN</b>	<b>62,349</b>	<b>9.7%</b>
<i>Illawarra Shoalhaven</i>	<i>45,498</i>	<i>10.8%</i>
<i>Southern NSW</i>	<i>16,851</i>	<i>7.7%</i>
NSW	1,855,032	23.0%
Australia	5,016,327	19.7%

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

*Table 6: Poor English language proficiency population, 2021 [10, 11]*

Regions	Population with poor English proficiency	% of resident population aged 5 years and above
Bega Valley	104	0.3%
Eurobodalla	169	0.4%
Goulburn Mulwaree	281	0.9%
Kiama	93	0.4%
Queanbeyan-Palerang Regional	791	1.3%
Shellharbour	1,001	1.4%
Shoalhaven	582	0.6%
Snowy Monaro Regional	144	0.7%
Upper Lachlan Shire	17	0.2%
Wollongong	5,404	2.7%
Yass Valley	71	0.4%
<b>SENSWPHN</b>	<b>8,657</b>	<b>1.4%</b>
<i>Illawarra Shoalhaven</i>	<i>7,080</i>	<i>1.8%</i>
<i>Southern NSW</i>	<i>1,577</i>	<i>0.8%</i>
NSW	361,688	4.8%
Australia	872,213	3.6%

<sup>i</sup> **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

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 7: Top CALD nationalities, 2021 [9]*

Top 10 non-English speaking countries of birth of persons					
Illawarra Shoalhaven		Southern NSW		SENSWPHN	
North Macedonia		India		India	
India		Philippines		North Macedonia	
Italy		Germany		Italy	
Philippines		Nepal		Philippines	
China excludes SARs and Taiwan		Italy		Germany	
Germany		Netherlands		China excludes SARs and Taiwan	
Netherlands		North Macedonia		Netherlands	
Vietnam		China excludes SARs and Taiwan		Thailand	
Thailand		Thailand		Croatia	
Croatia		Croatia		Vietnam	

Region	Top 5 non-English speaking countries of birth of persons				
	1	2	3	4	5
Bega Valley	Germany	Netherlands	Philippines	India	Thailand
Eurobodalla	Germany	Netherlands	India	Philippines	Croatia
Goulburn Mulwaree	India	Philippines	Nepal	China excludes SARs and Taiwan	Germany
Kiama	Germany	Italy	China excludes SARs and Taiwan	Netherlands	Philippines
Queanbeyan-Palerang Regional	India	Philippines	North Macedonia	Nepal	Italy
Shellharbour	North Macedonia	Germany	Philippines	Italy	India
Shoalhaven	Philippines	Germany	India	Netherlands	Italy
Snowy Monaro Regional	Germany	Italy	China excludes SARs and Taiwan	India	Netherlands
Upper Lachlan Shire	Germany	Netherlands	Italy	Philippines	Lebanon
Wollongong	North Macedonia	Italy	India	China excludes SARs and Taiwan	Philippines
Yass Valley	Germany	India	Philippines	Netherlands	Croatia

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, 2021 [9]*

Regions	Population that speaks a language other than English at home	% of resident population aged 5 years and above
Bega Valley	1,193	3.5%
Eurobodalla	1,622	4.2%
Goulburn Mulwaree	1,995	6.6%
Kiama	1,033	4.7%
Queanbeyan-Palerang Regional	8,534	14.4%
Shellharbour	7,472	10.4%
Shoalhaven	5,299	5.1%
Snowy Monaro Regional	1,344	6.5%
Upper Lachlan Shire	213	2.6%
Wollongong	33,864	16.7%
Yass Valley	707	4.3%
<b>SENSWPHN</b>	<b>63,276</b>	<b>10.4%</b>
<i>Illawarra Shoalhaven</i>	<i>47,668</i>	<i>11.9%</i>
<i>Southern NSW</i>	<i>15,608</i>	<i>7.5%</i>
<i>NSW</i>	<i>2,146,080</i>	<i>28.2%</i>
<i>Australia</i>	<i>5,663,709</i>	<i>23.6%</i>

Based on the primary language spoken at home by residents of the SENSWPHN catchment as identified in the latest national Census figures, the biggest non-English language-based diversity cohorts in the SENSWPHN catchment are shown below

*Table 9: Top non-English languages spoken at home, 2021 [9]*

Top 10 languages spoken at home by persons		
Illawarra Shoalhaven	Southern NSW	SENSWPHN
Macedonian	Punjabi	Macedonian
Italian	Italian	Italian
Arabic	Macedonian	Arabic
Spanish	Nepali	Mandarin
Mandarin	Mandarin	Spanish
Greek	German	Greek
Serbian	Spanish	Serbian
Vietnamese	Greek	German
Portuguese	Tagalog	Vietnamese
Turkish	Hindi	Portuguese

Region	Top 5 languages spoken at home by persons				
	1	2	3	4	5
Bega Valley	German	Thai	Spanish	French	Mandarin
Eurobodalla	German	Italian	Croatian	Spanish	Australian Indigenous Languages
Goulburn Mulwaree	Nepali	Mandarin	Greek	Arabic	Malayalam
Kiama	Italian	German	Spanish	Greek	French
Queanbeyan-Palerang Regional	Macedonian	Punjabi	Italian	Nepali	Serbian
Shellharbour	Macedonian	Spanish	Italian	Turkish	Greek
Shoalhaven	Greek	Spanish	Italian	German	Tagalog
Snowy Monaro Regional	German	Mandarin	Spanish	Italian	Thai
Upper Lachlan Shire	Italian	German	Arabic	French	Greek
Wollongong	Macedonian	Arabic	Italian	Mandarin	Spanish
Yass Valley	German	Mandarin	Arabic	Italian	Croatian

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<sup>i</sup>. A total of 2,182 persons are recorded to have arrived between the years 2000 and 9<sup>th</sup> August 2016; who settled in the SENSWPHN catchment with almost 50% of persons arriving between 2012 and 9<sup>th</sup> August 2016 [10, 11]. 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.

<sup>i</sup> 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

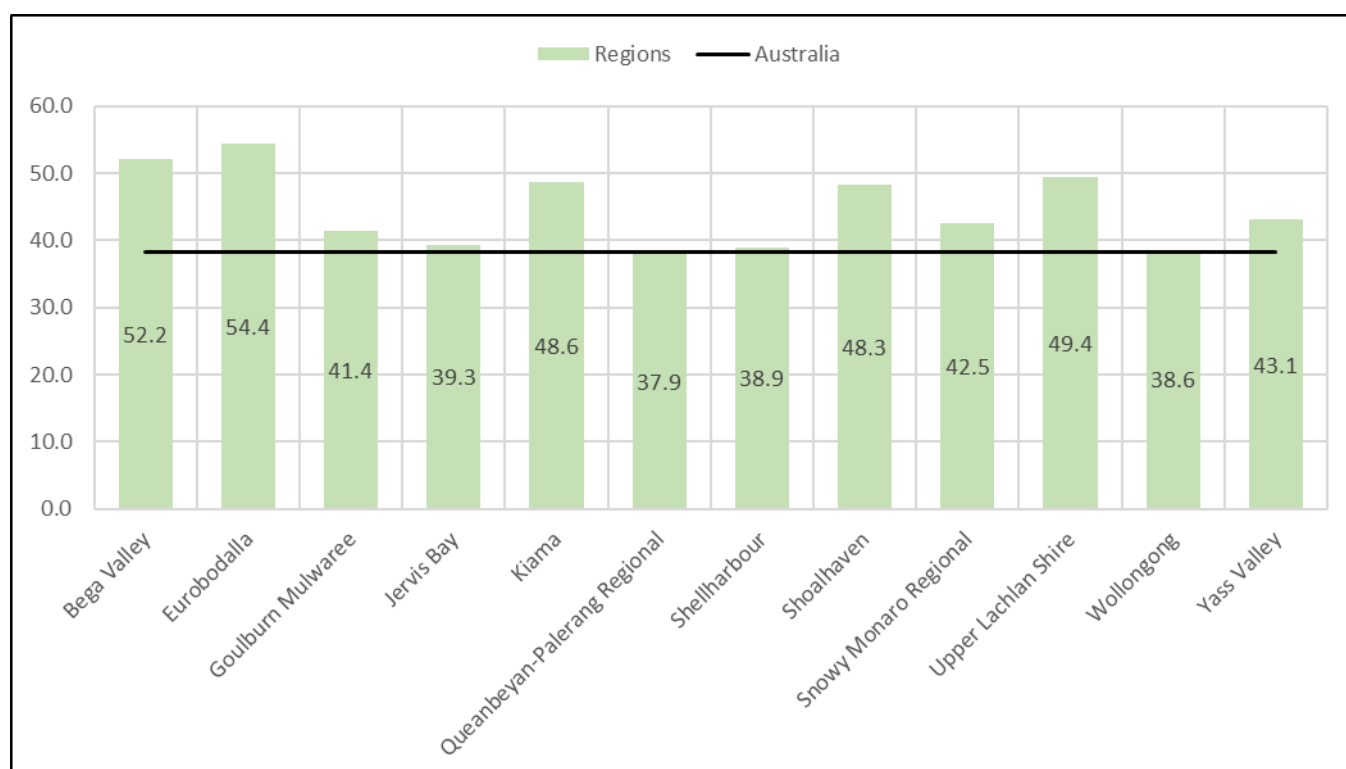
As identified earlier in the [Current population](#) section of this report, a significant proportion of the residents of the SENSWPHN catchment are aged 65 years and over. Moreover, the [Population projection](#) section highlights a notable projected growth in the overall numbers of persons aged 65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

*Table 10: Population figures for persons aged 65 years and over, 2023 [7]*

Regions	Population aged 65 & over	% of resident population
Bega Valley	10,813	29.8%
Eurobodalla	13,511	<b>33.0%</b>
Goulburn Mulwaree	6,783	20.7%
Jervis Bay	55	17.9%
Kiama	6,527	28.4%
Queanbeyan-Palerang Regional	8,806	13.5%
Shellharbour	14,565	18.3%
Shoalhaven	30,876	28.1%
Snowy Monaro Regional	4,394	19.9%
Upper Lachlan Shire	2,188	25.1%
Wollongong	40,141	18.3%
Yass Valley	3,230	18.5%
<b>SENSWPHN</b>	<b>141,889</b>	<b>21.6%</b>
<i>Illawarra Shoalhaven</i>	<i>92,164</i>	<i>21.3%</i>
<i>Southern NSW</i>	<i>49,725</i>	<i>22.2%</i>
NSW	1,459,299	17.5%
Australia	4,559,374	17.1%

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 11: Median Age, 2023 [7]*





## 2.5. Demographic summary for smaller geographic areas

Some selected demographic figures for the smaller geographic areas as described in the [geography](#) section of this report have been summarized below. The smaller areas have been allocated the same/similar colour highlighting as used for the wider map of Areas Version 2 within which they are located.

*Table 11: Selected demographic insights for smaller geographic areas of South Eastern NSW, 2023 (2021 for Aboriginal population estimates) [7, 9]*

Smaller Geographic Areas (SA2)	Estimated resident population	Median age	Persons aged 65 years and over as % of total population	Persons aged 10-24 years as % of total population	Aboriginal persons as % of total population
Berkeley - Lake Heights - Cringila	14,173	38.6	18.1%	19.9%	6.2%
Dapto - Avondale	24,651	40.3	21.4%	18.0%	6.2%
Horsley - Kembla Grange	13,531	34.2	10.9%	21.7%	4.3%
Port Kembla - Warrawong	9,734	40.8	20.9%	17.1%	5.9%
Port Kembla Industrial	7	53.5	14.3%	0.0%	14.3%
Unanderra - Mount Kembla	15,282	40.4	18.8%	19.7%	3.3%
Windang - Primbee	4,201	51.3	31.8%	14.4%	6.1%
Goulburn	25,017	40	20.5%	17.4%	6.6%
Goulburn Surrounds	14,121	48.8	24.0%	16.3%	4.6%
Jervis Bay	307	39.3	17.9%	22.8%	60.0%
Albion Park - Macquarie Pass	21,621	34.1	12.3%	20.0%	5.1%
Albion Park Rail	6,838	39.8	21.0%	17.5%	7.4%
Kiama	8,901	48.6	31.9%	14.4%	2.5%
Kiama Downs - Minnamurra	5,936	45.5	24.8%	19.3%	2.8%
Kiama Hinterland - Gerringong	8,057	49.4	27.8%	16.7%	2.7%
Shellharbour - Flinders	20,118	40	16.8%	21.2%	3.7%
Shellharbour - Oak Flats	10,736	43.3	22.8%	17.9%	4.8%
Warilla	20,425	42.4	22.7%	18.3%	8.8%
Braidwood	4,396	50.7	26.0%	12.8%	2.9%
Googong	7,352	32.1	3.6%	15.2%	2.6%
Karabar	8,483	38.1	15.4%	18.1%	8.8%
Queanbeyan	11,420	36.7	14.6%	14.4%	4.1%
Queanbeyan - East	5,099	35.6	13.0%	14.1%	3.8%
Queanbeyan Surrounds	17,274	42	15.8%	19.4%	3.3%
Queanbeyan West - Jerrabomberra	12,873	37.4	9.6%	20.8%	3.1%
Berry - Kangaroo Valley	9,380	57.4	36.9%	12.7%	2.8%
Callala Bay - Currarong	3,594	56.4	34.1%	13.8%	4.9%
Culburra Beach	5,004	55.3	34.2%	13.6%	8.0%
Ettrema - Sassafras - Budawang	62	59.8	37.1%	14.5%	0.0%
Huskisson - Vincentia	4,962	51.6	29.4%	12.3%	3.9%
North Nowra - Bomaderry	16,348	43	23.6%	17.6%	8.4%
Nowra	23,354	36.5	17.4%	19.1%	14.4%
St Georges Basin - Erowal Bay	15,238	49.8	30.3%	15.7%	9.5%
Sussex Inlet - Berrara	4,758	61.7	42.3%	10.2%	4.9%
Tomerong - Wandandian - Woollamia	3,744	47.2	23.0%	19.1%	6.1%
Ulladulla	17,330	51.8	32.0%	13.9%	4.9%
Ulladulla Surrounds	5,871	56.8	33.5%	12.0%	3.4%

Smaller Geographic Areas (SA2)	Estimated resident population	Median age	Persons aged 65 years and over as % of total population	Persons aged 10-24 years as % of total population	Aboriginal persons as % of total population
Bombala	2,468	48.8	28.1%	16.0%	4.0%
Cooma	6,781	42.9	22.7%	15.2%	5.3%
Cooma Surrounds	3,538	50.8	25.3%	15.9%	4.1%
Jindabyne - Berridale	8,381	37.6	14.1%	20.5%	1.8%
Batemans Bay	8,662	51.7	30.7%	14.9%	10.3%
Batemans Bay - South	9,030	54.1	33.5%	14.2%	6.9%
Bega - Tathra	8,926	46.7	25.2%	16.1%	5.6%
Bega-Eden Hinterland	9,711	51.4	25.0%	15.3%	4.7%
Broulee - Tomakin	3,852	52.5	30.9%	15.5%	4.6%
Deua - Wadbilliga	41	61.5	41.5%	2.4%	2.4%
Eden	3,424	54	32.9%	14.4%	10.3%
Eurobodalla Hinterland	3,611	54	29.6%	14.5%	8.9%
Merimbula - Tura Beach	11,597	54.4	34.1%	13.5%	2.6%
Moruya - Tuross Head	8,643	56.3	33.4%	12.9%	6.2%
Narooma - Bermagui	9,946	58.7	38.3%	12.0%	6.4%
Balgownie - Fairy Meadow	21,930	39	19.9%	21.0%	2.5%
Corrimal - Tarrawanna - Bellambi	16,340	40	19.4%	17.7%	5.2%
Figtree - Keiraville	23,396	36	16.2%	25.7%	2.3%
Helensburgh	9,087	39	14.5%	19.6%	3.1%
Thirroul - Austinmer - Coalcliff	12,023	44	19.5%	18.5%	2.3%
Wollongong - East	17,078	36	20.1%	17.9%	2.5%
Wollongong - West	17,039	34	13.8%	23.0%	2.5%
Woonona - Bulli - Russell Vale	20,698	42	18.6%	20.3%	3.1%
Yass	6,807	41.8	21.3%	18.7%	6.0%
Yass Surrounds	12,967	41.7	17.4%	19.5%	2.4%

### 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<sup>k</sup> 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 12: Index of Relative Socio-Economic Disadvantage (IRSD), 2021 [12]

Regions	SEIFA-IRSD Score	National Rank	NSW State Rank
Bega Valley	986	302	75
Eurobodalla	985	295	72
Goulburn Mulwaree	972	243	54
Jervis Bay <sup>#</sup>	865	130	na
Kiama	1,070	513	117
Queanbeyan-Palerang Regional	1,061	504	114
Shellharbour	983	290	69
Shoalhaven	980	279	65
Snowy Monaro Regional	1,020	421	99
Upper Lachlan Shire	1,022	427	101
Wollongong	1,000	364	91
Yass Valley	1,065	507	115
<b>SENSWPHN*</b>	<b>1,002</b>	<b>19</b> <b>amongst 31 PHNs</b>	<b>7</b> <b>amongst 10 PHNs</b>
<i>Illawarra Shoalhaven*</i>	995		
<i>Southern NSW*</i>	1,016		

**Note:** <sup>#</sup> 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<sup>l</sup>

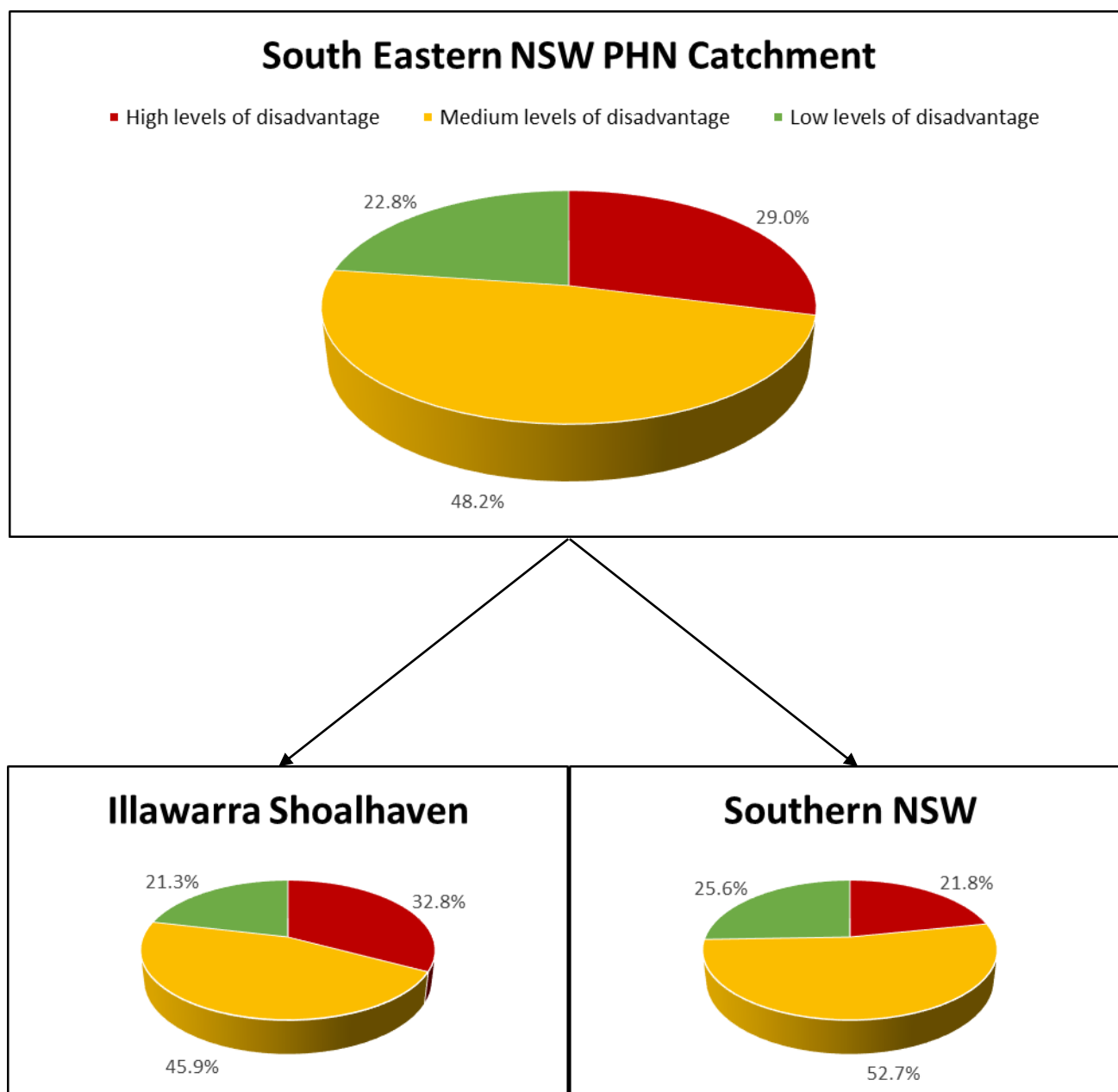
<sup>k</sup> Variables included in the Socio-Economic Indexes for Areas (SEIFA) - Index of Relative Socio-Economic Disadvantage (IRSD) 2021 are:

- Per cent of people living in households with stated annual household equivalised income between \$1 and \$25,999 (approx. 1st and 2nd deciles)
- Per cent of families with children under 15 years of age who live with jobless parents
- Per cent of people aged 15 years and over whose highest level of education is Year 11 or lower. Includes Certificate I and II
- Per cent of occupied private dwellings paying rent less than \$250 per week (excluding \$0 per week)
- Per cent of people (in the labour force) unemployed
- Per cent of employed people classified as 'labourers'
- Per cent of people aged under 70 who need assistance with core activities due to a long-term health condition, disability or old age
- Per cent of one parent families with dependent offspring only
- Per cent of occupied private dwellings requiring one or more extra bedrooms (based on the Canadian National Occupancy Standard)
- Per cent of employed people classified as Machinery Operators and Drivers
- Per cent of people aged 15 and over who are separated or divorced
- Per cent of people aged 15 years and over who have no educational attainment
- Per cent of employed people classified as Low Skill Community and Personal Service Workers
- Per cent of occupied private dwellings with no cars; and
- Per cent of people who do not speak English well.

<sup>l</sup> 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. Only SA2 areas that were given an index score have been included in calculations. At-least one SA2 area did not receive an index score, either due to low populations or poor-quality data.

Overall a substantial proportion of the Usual Resident Population (URP)<sup>m</sup> 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)<sup>e</sup> 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.

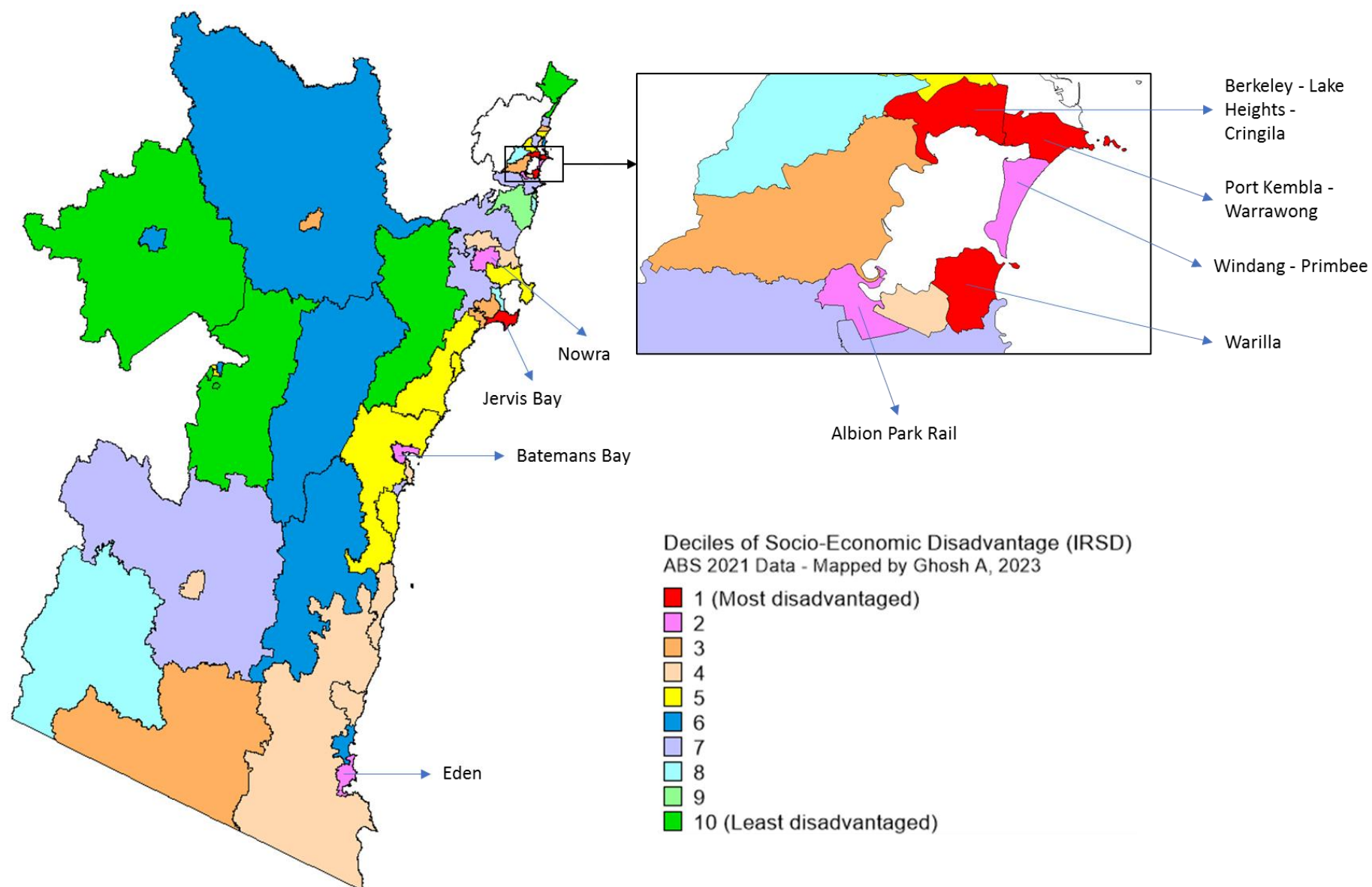
*Figure 12: Population distribution of relative socio-economic disadvantage based on national percentiles of Index of Relative Socio-Economic Disadvantage (IRSD for smaller geographic areas of South Eastern NSW, 2021 [12]*



<sup>m</sup> 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, 2021 [12]

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

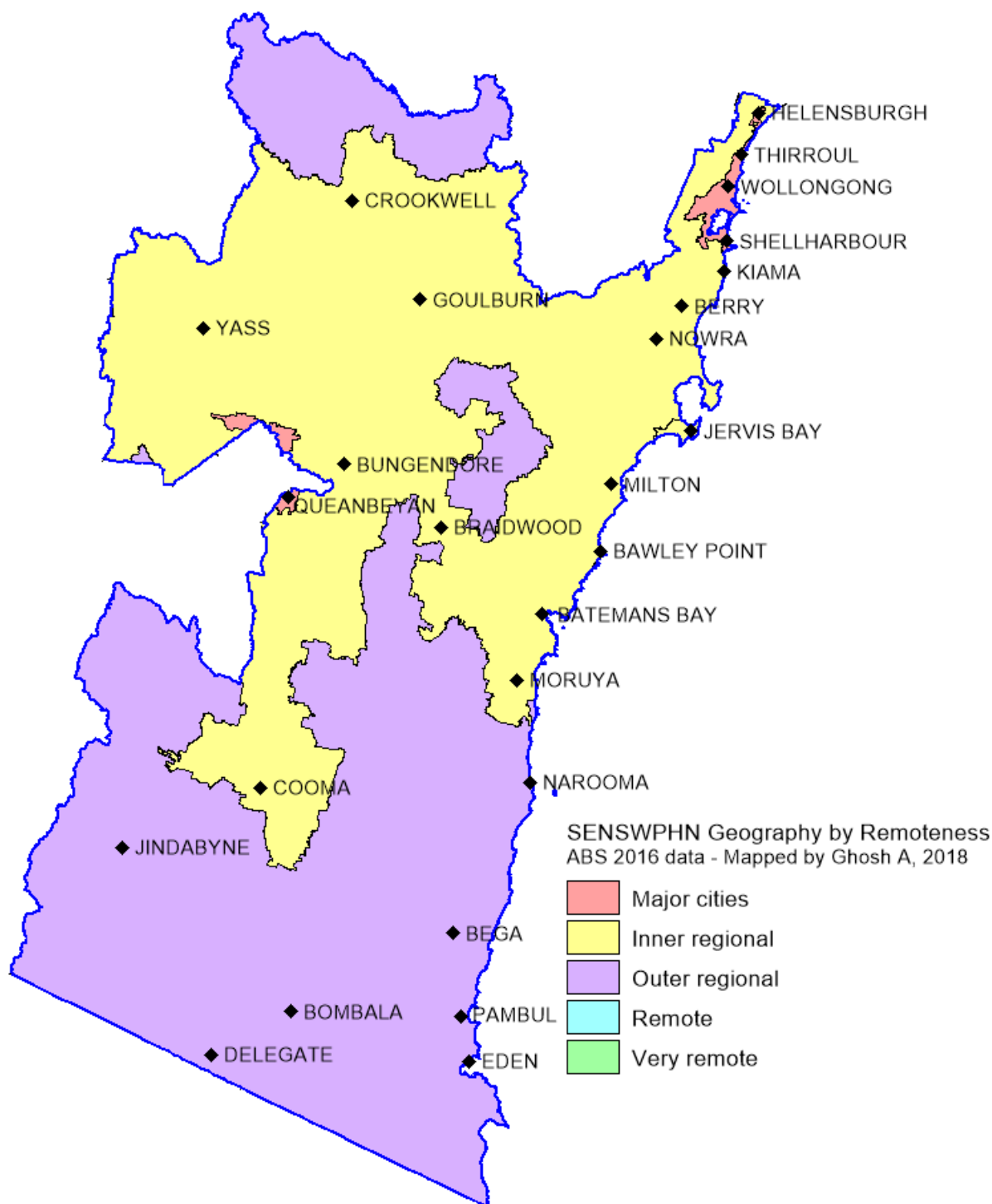




### 3.2. Remoteness

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 [13]. 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 [13]



### 3.3. Unemployment

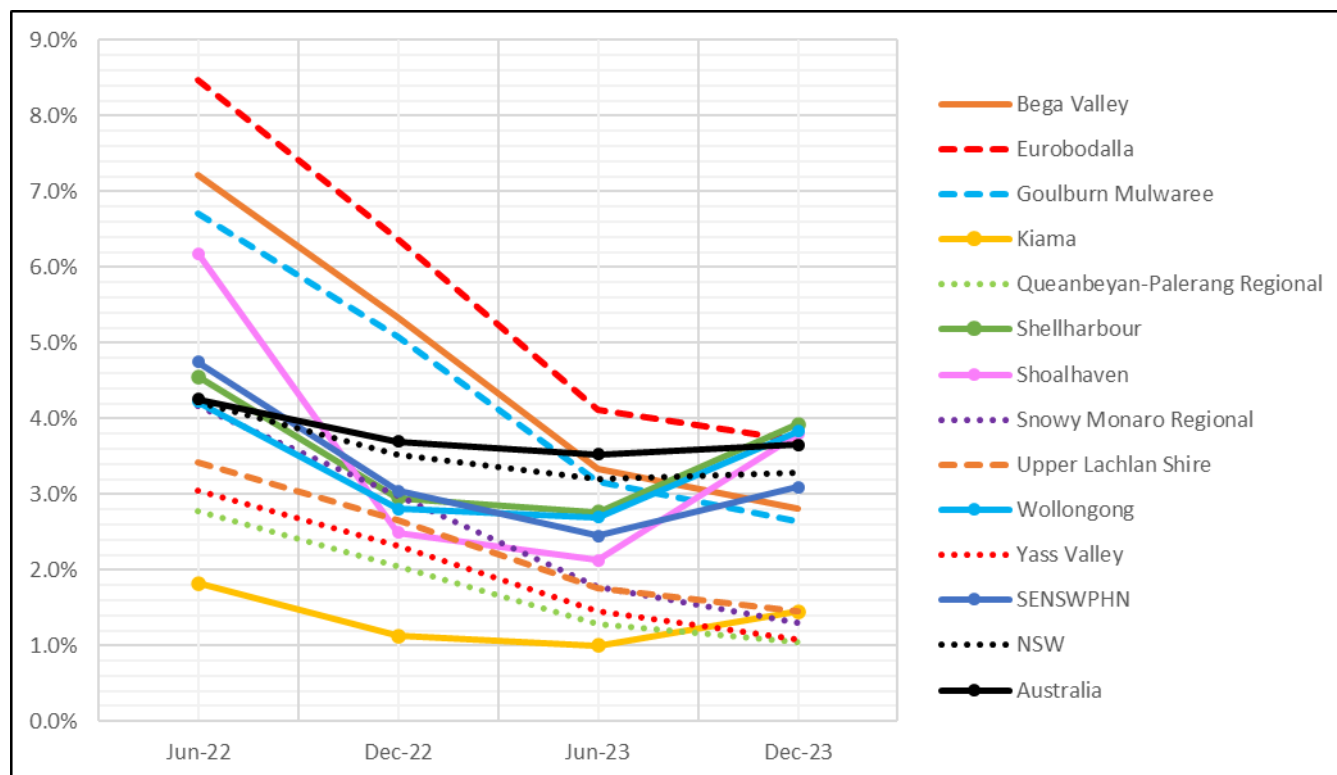
Using smoothed rates<sup>n</sup> of unemployment at the regional (smaller area levels), gives a very accurate understanding of unemployment. The SENSWPHN catchment has several pockets of very high unemployment rate according to recent figures and trends.

Table 13: Smoothed<sup>n</sup> estimates of unemployment, 2023 [14]

Regions	Smoothed unemployment rate (%) <sup>*</sup>	
	Jun-23	Dec-23
Bega Valley	3.3%	2.8%
Eurobodalla	<b>4.1%</b>	3.7%
Goulburn Mulwaree	3.2%	2.6%
Kiama	1.0%	1.5%
Queanbeyan-Palerang Regional	1.3%	1.1%
Shellharbour	2.8%	<b>3.9%</b>
Shoalhaven	2.1%	3.8%
Snowy Monaro Regional	1.8%	1.3%
Upper Lachlan Shire	1.8%	1.5%
Wollongong	2.7%	3.8%
Yass Valley	1.4%	1.1%
<b>SENSWPHN</b>	<b>2.4%</b>	<b>3.1%</b>
<i>Illawarra Shoalhaven</i>	2.5%	3.7%
<i>Southern NSW</i>	2.4%	2.0%
NSW	3.2%	3.3%
Australia	3.5%	3.7%

\* 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 smoothed<sup>n</sup> estimates of unemployment [14]



<sup>n</sup> 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 14: Centrelink income support recipients<sup>o</sup>, 2022 [10, 11]

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)	Unemployment benefit recipients (% of 16-64 years aged persons)	Youth unemployment benefit recipients (% of 16-21 years aged persons)	Welfare-dependent families (with children) (% of all families)	Jobseeker payment recipients (% of 22-64 years aged persons)
Bega Valley	60.4%	8.1%	4.7%	7.6%	7.3%	5.0%	7.6%
Eurobodalla	61.1%	10.4%	6.0%	8.7%	6.8%	5.3%	8.9%
Goulburn Mulwaree	64.0%	6.6%	5.4%	6.6%	6.2%	6.0%	6.6%
Kiama	48.8%	2.8%	1.8%	3.0%	1.9%	2.0%	3.1%
Queanbeyan-Palerang Regional	48.9%	3.1%	2.4%	3.0%	2.5%	2.8%	3.0%
Shellharbour	69.6%	6.5%	4.9%	6.1%	5.3%	5.2%	6.2%
Shoalhaven	62.6%	8.5%	6.0%	7.2%	6.2%	5.6%	7.3%
Snowy Monaro Regional	54.9%	4.6%	2.4%	4.7%	3.0%	3.3%	4.8%
Upper Lachlan Shire	45.7%	5.1%	2.4%	4.3%	4.1%	3.3%	4.3%
Wollongong	63.6%	6.3%	3.4%	5.7%	3.9%	4.5%	5.9%
Yass Valley	45.6%	3.1%	2.2%	3.0%	2.1%	2.5%	3.1%
<b>SENSWPHN</b>	<b>61.0%</b>	<b>6.4%</b>	<b>4.0%</b>	<b>5.8%</b>	<b>4.5%</b>	<b>4.6%</b>	<b>5.9%</b>
<i>Illawarra Shoalhaven</i>	63.1%	6.7%	4.2%	6.0%	4.5%	4.8%	6.2%
<i>Southern NSW</i>	56.9%	5.8%	3.7%	5.4%	4.5%	4.1%	5.5%
NSW	56.7%	4.7%	3.1%	5.2%	3.8%	4.7%	5.4%
Australia	59.2%	4.7%	3.3%	5.6%	4.3%	4.9%	5.7%

<sup>o</sup> 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;
- **Unemployment Benefit:** includes people receiving an 'unemployment benefit' - which includes the JobSeeker Payment or Youth Allowance (other) paid by Centrelink - are shown as a proportion of the eligible population (of persons aged 16 to 21 years for the Youth Allowance (other), 22 to 64 years for the JobSeeker Payment). For total unemployment, this is the sum of Youth Allowance (other) and JobSeeker Payment as a proportion of the population aged 16 to 64 years. Youth Allowance (other) is largely comprised of unemployed people aged 16 to 21 years 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 21 years) or Youth Allowance (other) 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:** 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);
- **Jobseeker Payment:** includes people aged 22 to 64 years receiving a JobSeeker Payment (before 20 March 2020, the Newstart Allowance) paid by the Department of Human Services

### 3.5. Households and housing

#### 3.5.1. Household stresses

While the indicators based on household and private dwellings<sup>p</sup> that suggest socio-economic vulnerability such as 'low annual household equivalised incomes' or 'low housing rent costs or overcrowding in private dwellings'<sup>q</sup> 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 latest 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 15: Household financial stress<sup>r</sup>, 2021 [10, 11]

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%
<b>SENSWPHN</b>	<b>25,100</b>	<b>24.9%</b>	<b>11.5%</b>
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%

<sup>p</sup> 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

<sup>q</sup> An **occupied private dwelling** is a private dwelling occupied by one or more people.

<sup>r</sup> 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).

### 3.5.2. Housing arrangements

Within the SENSWPHN catchment, several households have renters receiving assistance from the Department of Social Services and several private dwellings are rented from housing authorities.

*Table 16: Households in dwellings receiving rent assistance from the Australian Government, 2021 [10, 11]*

Regions	Households in dwellings receiving rent assistance from the Australian Government	% of private dwellings
Bega Valley	2,317	17.6%
Eurobodalla	3,388	22.5%
Goulburn Mulwaree	2,092	19.1%
Kiama	769	10.0%
Queanbeyan-Palerang Regional	2,173	10.9%
Shellharbour	4,434	18.8%
Shoalhaven	9,694	<b>25.4%</b>
Snowy Monaro Regional	1,115	14.8%
Upper Lachlan Shire	278	9.8%
Wollongong	13,637	18.4%
Yass Valley	581	10.4%
<b>SENSWPHN</b>	<b>40,473</b>	<b>18.5%</b>
<i>Illawarra Shoalhaven</i>	<i>28,534</i>	<i>19.9%</i>
<i>Southern NSW</i>	<i>11,942</i>	<i>15.9%</i>
NSW	477,209	18.3%
Australia	1,491,092	18.0%

*Table 17: Social housing<sup>s</sup>, 2021 [9]*

Regions	Social housing rented dwellings	% of private dwellings
Bega Valley	370	2.5%
Eurobodalla	509	3.1%
Goulburn Mulwaree	633	5.3%
Jervis Bay	34	<b>38.2%</b>
Kiama	107	1.2%
Queanbeyan-Palerang Regional	751	3.3%
Shellharbour	1,777	6.5%
Shoalhaven	1,563	3.7%
Snowy Monaro Regional	119	1.5%
Upper Lachlan Shire	23	0.7%
Wollongong	5,665	7.0%
Yass Valley	126	2.1%
<b>SENSWPHN</b>	<b>11,677</b>	<b>4.8%</b>
<i>Illawarra Shoalhaven</i>	<i>9,146</i>	<i>5.7%</i>
<i>Southern NSW</i>	<i>2,531</i>	<i>3.0%</i>
NSW	120,787	4.2%
Australia	348,018	3.8%

<sup>s</sup> Social housing refers to dwellings rented from either State or territory housing authority or Community housing provider

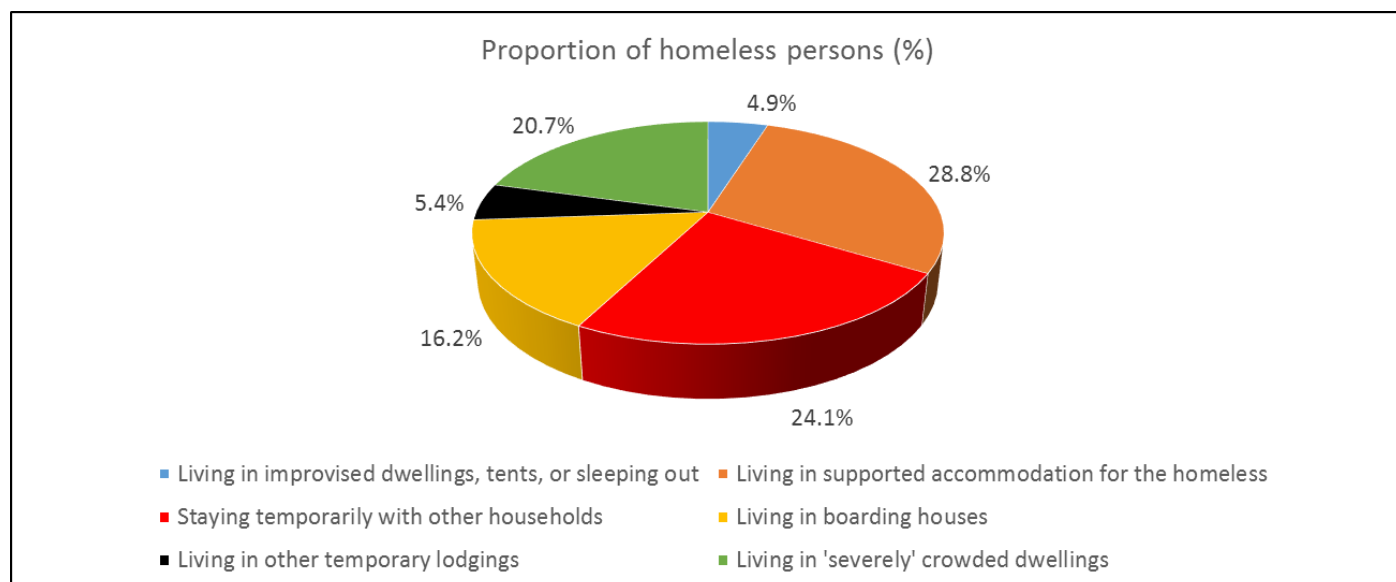
### 3.5.3. Homelessness

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 [15]. The ABS [16] definition<sup>t</sup> of 'Homelessness' is informed by an understanding of homelessness as 'homelessness, not rooflessness'. Latest estimates for persons who are classified as being homeless on Census night are shown below [16].

Table 18: Homelessness, 2021 [16]

Regions	Homeless persons	Rate per 1,000 resident population
Bega Valley	151	4.2
Eurobodalla	113	2.7
Goulburn Mulwaree	84	2.6
Jervis Bay	0	0.0
Kiama	64	2.8
Queanbeyan-Palerang Regional	191	3.0
Shellharbour	172	2.3
Shoalhaven	426	3.9
Snowy Monaro Regional	123	4.5
Upper Lachlan Shire	12	1.4
Wollongong	834	3.9
Yass Valley	17	1.0
<b>SENSWPHN</b>	<b>2,187</b>	<b>3.4</b>
<i>Illawarra Shoalhaven</i>	<i>1,496</i>	<i>3.6</i>
<i>Southern NSW</i>	<i>1,279</i>	<i>3.2</i>
NSW	34,977	4.3
Australia	122,488	4.8

Figure 16: Living arrangements of homeless persons in SENSWPHN, 2021 [16]



<sup>t</sup> 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 centred around the elements of - adequacy of the dwelling; security of tenure in the dwelling; and control of, and access to space for social relations. The six operational groups used for presenting estimates of people experiencing homelessness are also illustrated in the Living arrangements chart in this section.



### 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<sup>u</sup> 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 19: Living alone in the household: at risk of social isolation, 2021 [9]*

Regions	Persons living alone	% of resident population
Bega Valley	4,511	13.9%
Eurobodalla	5,135	<b>14.1%</b>
Goulburn Mulwaree	3,666	12.7%
Jervis Bay	22	8.1%
Kiama	1,960	9.2%
Queanbeyan-Palerang Regional	5,818	9.8%
Shellharbour	5,943	8.2%
Shoalhaven	12,150	12.3%
Snowy Monaro Regional	2,389	12.6%
Upper Lachlan Shire	892	11.6%
Wollongong	21,263	10.5%
Yass Valley	1,184	7.4%
<b>SENSWPHN</b>	<b>64,933</b>	<b>10.9%</b>
<i>Illawarra Shoalhaven</i>	<i>41,338</i>	<i>10.5%</i>
<i>Southern NSW</i>	<i>23,595</i>	<i>11.8%</i>
NSW	723,718	9.6%
Australia	2,370,740	10.1%

*Table 20: Persons aged 65 years and over living alone in the household: at risk of social isolation, 2021 [9]*

Regions	Persons aged 65 years & over and living alone	% of resident population aged 65 years & over
Bega Valley	2,456	26.6%
Eurobodalla	2,840	24.2%
Goulburn Mulwaree	1,766	<b>30.2%</b>
Jervis Bay	4	10.0%
Kiama	1,208	21.5%
Queanbeyan-Palerang Regional	1,810	23.7%
Shellharbour	2,917	22.8%
Shoalhaven	6,774	24.6%
Snowy Monaro Regional	1,040	28.0%
Upper Lachlan Shire	483	25.9%
Wollongong	9,911	27.2%
Yass Valley	575	20.7%
<b>SENSWPHN</b>	<b>31,784</b>	<b>25.4%</b>
<i>Illawarra Shoalhaven</i>	<i>20,814</i>	<i>25.3%</i>
<i>Southern NSW</i>	<i>10,970</i>	<i>25.6%</i>
NSW	315,136	24.6%
Australia	993,465	25.5%

<sup>u</sup> 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 21: Concession and health care cards holders<sup>ν</sup>, 2022 [10, 11]*

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	6.4%	31.7%	11.5%
Eurobodalla	7.3%	36.3%	11.1%
Goulburn Mulwaree	5.8%	27.0%	9.4%
Kiama	4.0%	20.7%	17.7%
Queanbeyan-Palerang Regional	3.1%	13.5%	10.4%
Shellharbour	5.5%	27.5%	8.3%
Shoalhaven	6.5%	33.4%	10.4%
Snowy Monaro Regional	4.5%	19.8%	11.8%
Upper Lachlan Shire	4.9%	21.5%	11.0%
Wollongong	6.3%	24.6%	11.3%
Yass Valley	3.5%	15.4%	11.9%
<b>SENSWPHN</b>	<b>5.7%</b>	<b>26.1%</b>	<b>11.0%</b>
<i>Illawarra Shoalhaven</i>	6.1%	27.2%	11.0%
<i>Southern NSW</i>	4.9%	24.0%	10.9%
NSW	5.6%	20.8%	11.1%
Australia	6.3%	20.6%	10.4%

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 data from the Australian Taxation Office have been used to illustrate the potential coverage of additional health

<sup>ν</sup> 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).

cover purchased by persons to reimburse all or part of the cost of hospital and/or ancillary health and medical services.

Table 22: Private health insurance coverage<sup>w</sup>, 2019-20 [10, 11]

Regions	% of persons aged 20 years and over with private health insurance
Bega Valley	41.6%
Eurobodalla	34.5%
Goulburn Mulwaree	38.4%
Kiama	53.8%
Queanbeyan-Palerang Regional	52.7%
Shellharbour	39.9%
Shoalhaven	<b>33.7%</b>
Snowy Monaro Regional	48.1%
Upper Lachlan Shire	44.2%
Wollongong	44.2%
Yass Valley	57.1%
<b>SENSWPHN</b>	<b>42.4%</b>
<i>Illawarra Shoalhaven</i>	41.2%
<i>Southern NSW</i>	44.8%
NSW	44.2%
Australia	42.6%

While the indicator of '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; it is estimated to 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 23: Dwellings with no motor vehicle<sup>x</sup>, 2021 [9]

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	<b>9.1%</b>
Yass Valley	142	2.6%
<b>SENSWPHN</b>	<b>13,729</b>	<b>6.3%</b>
<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%

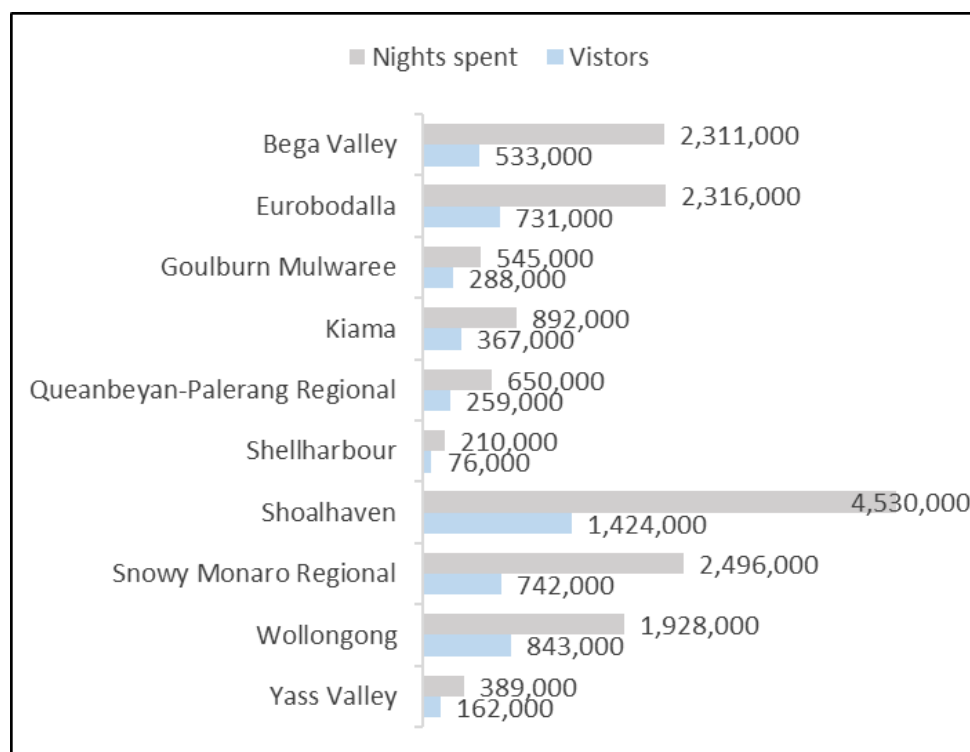
<sup>w</sup> This is sourced from Taxation Statistics data from the Australian Taxation Office under the heading 'People with PHI'. So it only includes persons who submitted a return in the period of analysis as well as does not cover dependants covered under the policy. Hence this should be interpreted as a guiding figure for regional comparison as it is likely to be an under-representation of the absolute finite figures for this metric.

<sup>x</sup> The numerator excludes the dwellings for which the number of motor vehicles was not stated; however, these records are included in the denominator.

### 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. Annual figures for the latest year reveal over 5 million tourist footfall figures are recorded with a total of over 16 million nights spent in the catchment.

Figure 17: Tourism figures, 2019 [17]



### 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 24: Youth specific participation in education<sup>y</sup>, 2021 [10, 11]

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	82.9%	75.1%	9.3%
Eurobodalla	79.6%	71.1%	10.0%
Goulburn Mulwaree	81.1%	71.2%	11.3%
Kiama	89.7%	81.7%	23.1%
Queanbeyan-Palerang Regional	89.2%	86.1%	12.7%
Shellharbour	83.7%	81.3%	8.4%
Shoalhaven	80.2%	77.5%	12.4%
Snowy Monaro Regional	86.0%	80.8%	9.3%
Upper Lachlan Shire	83.0%	71.7%	8.2%
Wollongong	85.9%	86.7%	18.6%
Yass Valley	89.9%	90.0%	13.8%
<b>SENSWPHN</b>	<b>84.7%</b>	<b>81.7%</b>	<b>14.5%</b>
<i>Illawarra Shoalhaven</i>	84.5%	83.2%	15.3%
<i>Southern NSW</i>	85.1%	79.0%	11.1%
NSW	84.9%	84.6%	29.4%
Australia	85.4%	85.3%	37.0%

<sup>y</sup> 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 the year of reporting, as this is the age of the majority of Year 12 students at 30 June of the same year.

### 3.9. Early childhood

Key indicators of lifelong well-being are early childhood environments and experiences. The Australian Early Childhood Development Census (AEDC)<sup>2</sup> 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 latest AEDC results reveal quite a substantial proportion of children to be developmentally vulnerable on multiple domains.

*Table 25: Developmental vulnerability among school children by domains of childhood development, 2021 [18]*

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	8.3%	8.3%	8.7%	8.3%	7.0%
Eurobodalla	<b>14.6%</b>	10.2%	<b>11.8%</b>	<b>13.0%</b>	8.4%
Goulburn Mulwaree	10.1%	8.7%	9.2%	7.8%	5.3%
Kiama	0.7%	1.4%	2.9%	2.5%	1.1%
Queanbeyan-Palerang Regional	10.9%	8.8%	9.6%	6.2%	<b>9.2%</b>
Shellharbour	10.6%	9.0%	8.5%	7.1%	7.8%
Shoalhaven	10.1%	<b>12.1%</b>	9.3%	9.7%	5.8%
Snowy Monaro Regional	13.6%	10.1%	9.6%	9.2%	7.9%
Upper Lachlan Shire	6.5%	4.3%	5.4%	5.4%	2.2%
Wollongong	9.6%	8.9%	8.6%	6.2%	7.5%
Yass Valley	12.0%	7.9%	6.8%	11.0%	6.3%
<b>SENSWPHN</b>	<b>9.9%</b>	<b>9.1%</b>	<b>8.7%</b>	<b>7.4%</b>	<b>7.0%</b>
<i>Illawarra Shoalhaven</i>	9.4%	9.2%	8.4%	7.0%	6.8%
<i>Southern NSW</i>	11.1%	8.8%	9.3%	8.4%	7.5%
NSW	9.4%	9.4%	7.3%	6.2%	8.4%
Australia	9.8%	9.6%	8.5%	7.3%	8.4%

*Table 26: Developmental vulnerability among school children by the number of domains of childhood development, 2021 [18]*

Regions	Proportion of children developmentally vulnerable (%)	
	On one or more domains	On two or more domains
Bega Valley	19.6%	9.9%
Eurobodalla	<b>28.6%</b>	<b>15.2%</b>
Goulburn Mulwaree	22.4%	10.6%
Kiama	5.8%	1.4%
Queanbeyan-Palerang Regional	23.8%	10.9%
Shellharbour	21.5%	11.0%
Shoalhaven	23.5%	13.1%
Snowy Monaro Regional	26.3%	10.5%
Upper Lachlan Shire	13.0%	4.3%
Wollongong	21.3%	10.1%
Yass Valley	22.5%	10.5%
<b>SENSWPHN</b>	<b>21.7%</b>	<b>10.6%</b>
<i>Illawarra Shoalhaven</i>	20.9%	10.4%
<i>Southern NSW</i>	23.4%	11.0%
NSW	21.2%	10.5%
Australia	22.0%	11.4%

<sup>2</sup> 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 27: Children and families with vulnerable circumstances, 2021 [10, 11]*

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	24.6%	11.4%	10.1%
Eurobodalla	<b>30.9%</b>	<b>14.0%</b>	12.6%
Goulburn Mulwaree	25.8%	11.8%	11.8%
Kiama	15.5%	5.3%	4.4%
Queanbeyan-Palerang Regional	17.6%	5.6%	5.3%
Shellharbour	24.9%	12.1%	11.6%
Shoalhaven	27.0%	13.7%	<b>12.6%</b>
Snowy Monaro Regional	19.0%	6.9%	7.1%
Upper Lachlan Shire	16.9%	8.9%	6.9%
Wollongong	21.1%	11.5%	11.1%
Yass Valley	14.8%	5.6%	4.9%
<b>SENSWPHN</b>	<b>22.5%</b>	<b>10.8%</b>	<b>10.2%</b>
<i>Illawarra Shoalhaven</i>	22.9%	11.8%	11.2%
<i>Southern NSW</i>	21.6%	8.8%	8.3%
NSW	19.7%	13.0%	12.9%
Australia	20.5%	11.4%	11.3%

### 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 28: Industry of employment for the population engaged in paid employment, 2021 [9]

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	9.9%	9.7%	7.0%	8.0%	5.0%	6.6%	9.5%	13.3%	3.9%	7.0%	5.9%	7.6%	7.6%	7.6%	6.2%	6.5%
Administrative and Support Services	3.5%	4.0%	3.2%	2.4%	2.7%	3.3%	3.9%	2.9%	2.2%	3.1%	2.4%	3.2%	3.3%	3.0%	3.2%	3.2%
Agriculture Forestry and Fishing	6.6%	2.6%	3.8%	1.9%	1.6%	0.4%	2.0%	8.6%	24.3%	0.3%	7.0%	2.3%	0.8%	4.9%	2.0%	2.3%
Arts and Recreation Services	1.4%	1.5%	1.0%	1.6%	1.4%	0.9%	1.3%	5.1%	0.9%	1.5%	1.6%	1.5%	1.3%	1.8%	1.4%	1.6%
Construction	10.2%	12.5%	10.5%	12.1%	11.6%	11.9%	11.9%	9.9%	7.9%	9.2%	12.2%	10.7%	10.5%	11.1%	8.6%	8.9%
Education and Training	8.1%	7.9%	7.5%	12.7%	7.3%	8.2%	8.3%	8.1%	7.4%	11.2%	9.1%	9.2%	10.1%	7.8%	8.7%	8.8%
Electricity Gas Water and Waste Services	1.2%	1.1%	1.3%	1.0%	1.0%	1.1%	1.0%	3.3%	1.4%	1.0%	1.6%	1.2%	1.0%	1.4%	1.0%	1.1%
Financial and Insurance Services	1.2%	1.2%	1.2%	2.6%	1.1%	2.8%	1.5%	0.9%	1.1%	3.5%	1.1%	2.2%	2.9%	1.1%	5.3%	3.7%
Health Care and Social Assistance	16.0%	15.9%	15.7%	15.5%	9.7%	17.4%	16.0%	7.8%	11.3%	17.3%	9.9%	15.2%	16.9%	12.2%	14.4%	14.5%
Inadequately described Not stated	3.9%	4.3%	3.9%	2.9%	3.5%	3.6%	3.8%	4.0%	3.8%	3.6%	3.0%	3.7%	3.6%	3.7%	4.6%	4.4%
Information Media and Telecommunications	0.6%	1.1%	0.6%	1.1%	1.1%	0.7%	0.6%	0.8%	0.8%	1.1%	1.2%	0.9%	0.9%	0.9%	1.8%	1.4%
Manufacturing	6.6%	3.1%	6.1%	5.0%	3.4%	6.8%	4.7%	2.8%	3.5%	5.7%	2.6%	5.1%	5.7%	4.1%	5.5%	5.9%
Mining	0.2%	0.4%	1.7%	1.5%	0.3%	2.3%	0.5%	0.4%	0.5%	1.8%	0.2%	1.2%	1.6%	0.5%	1.0%	1.8%
Other Services	3.7%	4.0%	4.1%	2.9%	3.5%	3.9%	3.8%	3.0%	3.5%	3.8%	3.5%	3.7%	3.8%	3.6%	3.4%	3.6%
Professional Scientific and Technical Services	4.6%	4.4%	3.9%	7.1%	7.8%	4.1%	4.8%	4.1%	5.3%	6.7%	8.2%	5.8%	5.8%	5.9%	8.9%	7.8%
Public Administration and Safety	5.8%	8.1%	10.7%	8.9%	26.2%	7.1%	9.8%	8.7%	10.5%	7.2%	19.5%	10.5%	7.9%	15.4%	6.1%	6.6%
Rental Hiring and Real Estate Services	1.0%	1.7%	1.2%	1.6%	1.4%	1.3%	1.5%	1.9%	0.8%	1.2%	1.3%	1.4%	1.3%	1.4%	1.7%	1.6%
Retail Trade	10.5%	11.9%	9.8%	6.9%	7.0%	10.7%	10.7%	8.8%	6.2%	8.5%	6.2%	9.1%	9.3%	8.7%	9.0%	9.1%
Transport Postal and Warehousing	3.0%	3.1%	4.7%	2.8%	3.0%	5.0%	3.0%	3.6%	3.0%	4.5%	2.2%	3.8%	4.1%	3.2%	4.6%	4.5%
Wholesale Trade	2.1%	1.3%	2.0%	1.5%	1.5%	1.8%	1.4%	1.8%	1.8%	1.7%	1.3%	1.6%	1.6%	1.6%	2.8%	2.6%

### 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 29: Crime rates, 2023 [19]

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	NSW
Arson	80.6	49.1	64.8	52.3	42.0	63.8	92.1	73.3	11.7	55.0	63.3	62.1	55.8
Assault - domestic violence	277.9	628.1	632.2	135.0	375.2	312.8	420.6	352.8	198.8	323.4	235.9	362.1	441.6
Assault - non-domestic violence	244.5	559.4	545.8	156.8	347.2	273.2	479.0	293.3	222.2	387.2	258.9	374.7	403.6
Breach AVO	275.1	608.5	404.0	121.9	219.5	314.0	475.3	242.9	269.0	286.9	115.1	325.0	293.0
Breach bail conditions	125.0	890.7	709.3	91.4	404.8	712.4	541.0	229.1	58.5	730.5	92.1	567.7	649.5
Break and enter dwelling	91.7	375.4	185.0	126.3	191.5	141.7	249.1	155.8	175.4	244.0	103.6	210.0	244.6
Break and enter non-dwelling	105.6	98.1	126.4	39.2	90.3	71.5	146.0	110.0	105.3	87.3	51.8	96.5	105.5
Fraud	352.9	380.3	727.8	256.9	404.8	485.1	425.1	297.9	245.6	522.1	339.5	451.1	572.8
Harassment threatening	361.2	888.2	542.7	196.0	485.7	474.9	640.4	586.5	269.0	454.2	258.9	499.9	564.7
Liquor offences	72.2	66.2	237.4	230.8	151.0	90.6	44.7	921.0	128.6	127.5	333.7	144.3	88.1
Malicious damage to property	597.4	876.0	897.4	300.5	521.5	540.0	880.4	641.5	596.4	603.0	293.5	640.9	603.1
Motor vehicle theft	77.8	223.3	126.4	121.9	158.8	128.9	179.7	45.8	93.6	170.0	149.6	152.5	174.9
Offensive conduct	50.0	71.2	95.6	17.4	38.9	11.5	41.1	96.2	35.1	37.0	69.0	42.2	39.1
Offensive language	33.3	93.2	27.8	na	12.5	3.8	10.0	27.5	11.7	22.2	17.3	21.2	13.9
Other theft	227.9	274.8	345.4	104.5	200.8	169.8	245.4	265.8	140.3	251.4	120.8	228.2	247.3
Possession use of cannabis	138.9	267.5	271.4	65.3	199.3	99.6	156.0	233.7	46.8	276.3	506.4	210.5	178.1
Prohibited weapons offences	127.8	245.4	249.8	74.0	333.2	154.5	170.6	311.6	222.2	253.7	333.7	222.7	170.8
Receiving stolen goods	22.2	137.4	80.2	4.4	81.0	30.6	48.4	18.3	35.1	116.9	23.0	73.8	95.8
Resist or hinder officer	75.0	149.7	111.0	30.5	60.7	46.0	42.0	36.7	11.7	84.6	11.5	68.0	64.7
Robbery	5.6	4.9	21.6	8.7	21.8	15.3	16.4	9.2	na	22.2	na	16.3	23.4
Sexual Offences	202.8	269.9	283.7	174.2	171.3	194.0	273.7	174.1	93.6	210.7	247.4	216.9	208.9
Steal from dwelling	125.0	238.0	277.5	91.4	152.6	140.4	167.0	87.1	163.7	196.4	46.0	169.3	194.6
Steal from motor vehicle	119.5	412.2	246.7	348.4	303.6	365.1	354.0	128.3	70.2	546.6	155.4	378.8	355.5
Steal from person	2.8	12.3	6.2	4.4	6.2	14.0	11.9	4.6	na	16.2	na	11.1	26.3
Steal from retail store	161.2	387.7	404.0	26.1	264.7	393.2	462.5	36.7	na	525.8	40.3	379.9	333.7
Transport regulatory offences	na	4.9	27.8	187.2	9.3	103.4	58.4	na	na	1,311.7	na	464.2	897.9
Trespass	97.3	495.6	212.8	43.5	132.3	154.5	146.9	192.5	222.2	124.3	212.9	160.1	149.6

### 3.13. Selected population and household summary measures

Table 30: Selected Census-based regional<sup>aa</sup> medians and averages<sup>bb</sup>, 2021 [20]

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	\$1,516	\$310	\$1,501	\$1,200	\$645
Eurobodalla	2.2	0.7	\$1,517	\$325	<b>\$1,436</b>	<b>\$1,167</b>	\$618
Goulburn Mulwaree	2.4	0.7	\$1,733	\$320	\$1,939	\$1,466	\$749
Kiama	2.5	0.7	<b>\$2,194</b>	<b>\$485</b>	\$2,202	\$1,834	\$827
Queanbeyan-Palerang Regional	2.6	0.8	\$2,167	\$355	\$2,801	\$2,295	\$1,159
Shellharbour	2.6	0.8	\$2,114	\$420	\$1,977	\$1,647	\$729
Shoalhaven	2.3	0.7	\$1,733	\$350	\$1,537	\$1,250	\$634
Snowy Monaro Regional	2.4	0.8	\$1,500	\$300	\$2,092	\$1,593	\$835
Jervis Bay	3	0.8	\$1,849	\$90	\$1,687	\$1,825	<b>\$585</b>
Upper Lachlan Shire	2.4	0.7	\$1,540	\$277	\$1,906	\$1,465	\$753
Wollongong	2.5	0.8	\$2,167	\$390	\$2,151	\$1,682	\$754
Yass Valley	2.7	0.8	\$2,167	\$350	\$2,701	\$2,289	\$1,050
NSW	2.6	0.9	\$2,167	\$420	\$2,185	\$1,829	\$813
Australia	2.5	0.8	\$1,863	\$375	\$2,120	\$1,746	\$805

<sup>aa</sup> Not available or reported at the PHN level.

<sup>bb</sup> Indicators drawn from the latest Census of Population and Housing 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; For 2021, median rent calculations exclude dwellings being 'Occupied rent-free' and will not be comparable to 2016 Census data
- **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 31: Selected Census-based regional<sup>cc</sup> medians and averages<sup>dd</sup> of comparison between the Aboriginal<sup>9</sup> population and the non-Indigenous population, 2021 [20]

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	2.2	1	0.7	\$1,347	\$1,193	\$492	\$649
Eurobodalla	3	2.1	1	0.7	\$1,338	\$1,154	\$499	\$623
Goulburn Mulwaree	3.1	2.3	0.9	0.7	\$1,627	\$1,457	\$594	\$755
Kiama	3.2	2.5	1	0.7	\$2,250	\$1,819	\$717	\$830
Queanbeyan-Palerang Regional	3	2.6	0.9	0.8	\$2,241	\$2,297	\$920	\$1,166
Shellharbour	3.3	2.6	1	0.8	\$1,733	\$1,640	\$600	\$735
Shoalhaven	3	2.3	0.9	0.7	\$1,332	\$1,242	\$545	\$639
Snowy Monaro Regional	3.1	2.3	1	0.8	\$1,850	\$1,583	\$749	\$837
Jervis Bay	3.1	2.7	0.9	0.7	\$1,020	\$3,416	\$434	\$1,410
Upper Lachlan Shire	3.1	2.4	0.9	0.7	\$1,800	\$1,451	\$601	\$758
Wollongong	3	2.5	1	0.8	\$1,602	\$1,686	\$605	\$759
Yass Valley	3.3	2.7	0.9	0.8	\$2,079	\$2,297	\$703	\$1,058
NSW	3.1	2.6	1	0.9	\$1,558	\$1,843	\$600	\$822
Australia	3.1	2.5	1	0.8	\$1,507	\$1,757	\$540	\$814

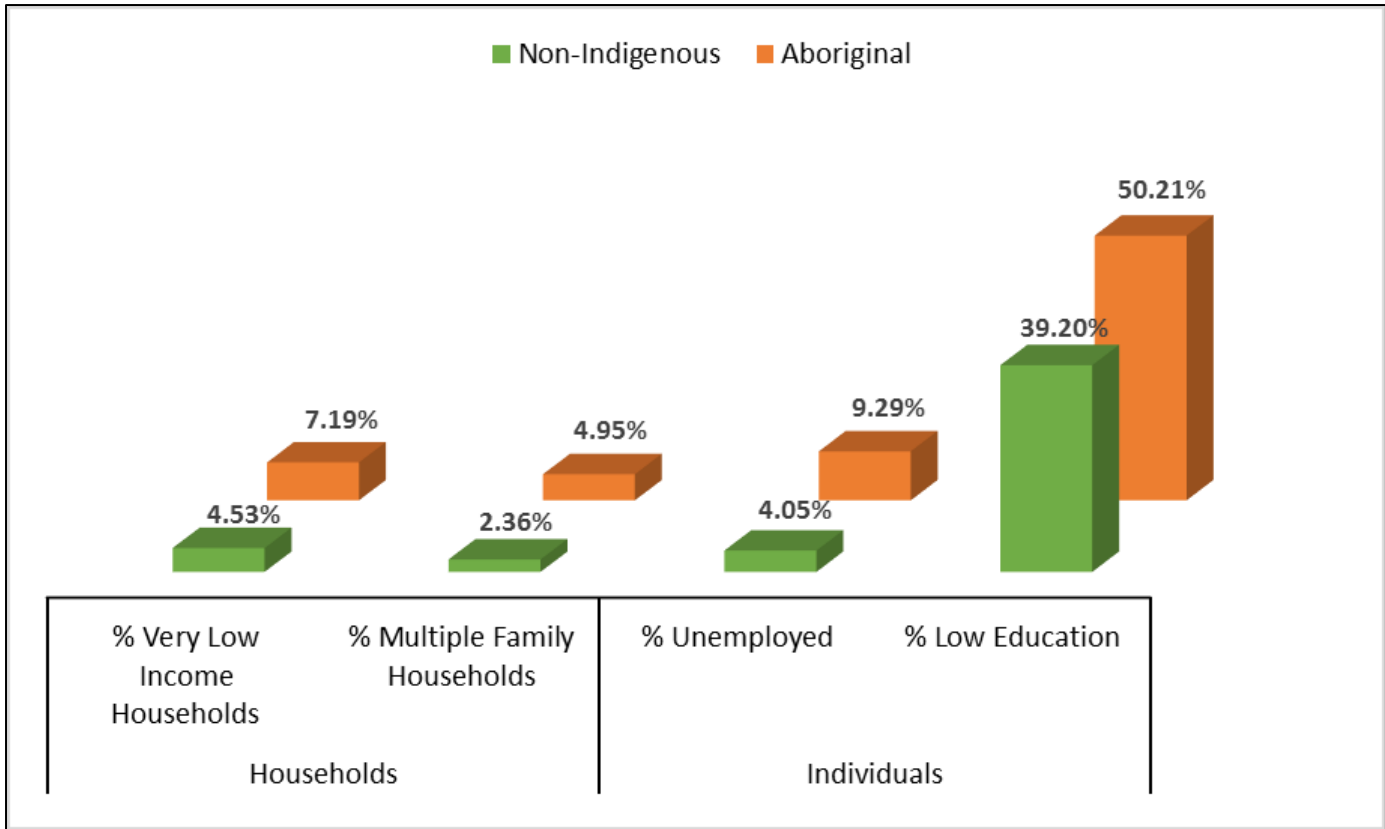
<sup>cc</sup> Not available or reported at the PHN level.

<sup>dd</sup> Indicators drawn from the latest Census of Population and Housing 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<sup>ee</sup> sourced from the latest 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 Aboriginal<sup>9</sup> population and the non-Indigenous population in SENSWPHN, 2021 [9]



<sup>ee</sup> Indicators drawn from the latest Census of Population and Housing. These include: -

- **% 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;
- **% Very low income households:** equivalised total household income of below \$300 per week or nil income;
- **% Multiple family household:** two or more families identified to be living in a household.

It should be noted that a household with Aboriginal and Torres Strait Islander person(s) is any household that had at least one person of any age as a resident at the time of the Census who identified as being of Aboriginal and/or Torres Strait Islander origin.



## 4. EPIDEMIOLOGY

### 4.1. Recent estimates of morbidity and risk factor prevalence

It is noteworthy that 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 [21, 22]. Chronic condition and health risk factor prevalence estimates at the granular level are only available as synthetically modelled estimates<sup>ff</sup> 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<sup>gg</sup> 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 through the novel *Sentinel Practices Data Sourcing* (SPDS) project; it is deemed to be more beneficial for the purposes of primary care service planning and commissioning rather than community level morbidity estimation as it only includes estimates for clients who access primary care general practice services from partaking practices. With the gross variability in the [uptake of general practitioner services in the catchment](#); at this stage SPDS project based chronic disease estimates are unable to publicly/widely used for community level prevalence estimation.

Attempts to use Census based disease estimates are plagued with biases that result from use of self-reported data especially when health surveillance is not the primary aim of the Census. Additionally, prevalence comparison analysis done on the Census based disease estimates reveal substantial under-estimation of the total burden of some key chronic conditions when compared to estimates drawn from other population health-based surveys such as the national health survey/s.

Therefore recent estimates of several health risk factors sourced from the NSW Adult Population Health Survey [23] 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<sup>g</sup> and non-Indigenous populations within NSW. At the regional level synthetically modelled estimates<sup>ff</sup> from the national health survey [10, 11] 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.

<sup>ff</sup> **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.

<sup>gg</sup> Regional registration figures for Diabetes can be viewed on the [NDSS Diabetes Map](#).

*Table 32: Prevalence (self-reported) estimates of selected health risk factors for persons aged 16 years and over, 2023 (2022 or 2021 for some metrics\*) [23]*

Health Risks	Illawarra Shoalhaven	Southern NSW	SENSWPHN	NSW
Alcohol consumption posing short-term risk to health	<b>30.8%</b>	23.2%	28.2%	26.4%
Alcohol consumption posing long-term risk to health	<b>39.0%</b>	32.3%	36.7%	33.5%
Current smoking	11.4%	<b>13.9%</b>	12.2%	11.7%
Daily smoking	7.3%	<b>11.7%</b>	8.8%	8.2%
Obesity	27.2%	<b>34.7%</b>	29.7%	24.6%
Overweight	<b>39.2%</b>	32.2%	36.9%	34.9%
Either overweight or obesity	66.4%	<b>66.9%</b>	66.6%	59.4%
Insufficient physical activity*	33.9%	<b>40.0%</b>	35.9%	39.4%
High or very high psychological distress*	16.9%	<b>20.4%</b>	18.0%	16.9%
Recommended daily consumption of vegetables*	<b>4.9%</b>	6.2%	5.3%	4.4%
Recommended daily consumption of fruits*	43.4%	<b>34.7%</b>	40.5%	37.7%

**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 comparison between the Aboriginal<sup>a</sup> population and the non-Indigenous population of **NSW** for selected health risk factors for persons aged 16 years and over in, 2023 (2022 or 2021 for some metrics\*) [23]*

Health Risks	Aboriginal	Non-Aboriginal
Alcohol consumption posing short-term risk to health	<b>30.6%</b>	26.2%
Alcohol consumption posing long-term risk to health	<b>41.6%</b>	33.2%
Current smoking	<b>29.7%</b>	11.1%
Daily smoking	<b>21.9%</b>	7.7%
Obesity	<b>44.0%</b>	23.8%
Overweight	27.8%	<b>35.1%</b>
Either overweight or obesity	<b>71.7%</b>	58.9%
Insufficient physical activity*	<b>46.6%</b>	39.2%
High or very high psychological distress*	<b>28.3%</b>	16.5%
Recommended daily consumption of vegetables*	<b>4.1%</b>	4.4%
Recommended daily consumption of fruits*	<b>35.4%</b>	37.8%

**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.

## 4.2. Granular estimates<sup>hh</sup> 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 34: Modelled estimated prevalence<sup>ff</sup> (self-reported) of fair or poor health status, 2017-18 [10, 11]

Regions	Age-standardised rate per 100 persons
	Fair or poor health
Bega Valley	16.1
Eurobodalla	<b>17.0</b>
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
<b>SENSWPHN</b>	<b>14.9</b>
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 35: Modelled estimated prevalence<sup>ff</sup> (self-reported) of behavioral risk factors, 2017-18 [10, 11]

Regions	Age-standardised rate per 100 persons			
	Inadequate exercise	Adequate fruit intake	Harmful use of alcohol (persons)	Smoker (persons)
Bega Valley	64.4	<b>46.7</b>	<b>26.8</b>	18.0
Eurobodalla	61.0	46.8	21.4	<b>18.9</b>
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	<b>73.3</b>	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
<b>SENSWPHN</b>	<b>63.9</b>	<b>49.9</b>	<b>18.1</b>	<b>16.2</b>
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

<sup>hh</sup> **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 36: Modelled estimated prevalence<sup>ff</sup> (measured) of selected biomedical risk factors, 2017-18 [10, 11]*

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	<b>23.9</b>	37.2	34.3
Shoalhaven	23.6	37.1	33.7
Snowy Monaro Regional	23.1	<b>38.9</b>	<b>35.9</b>
Upper Lachlan Shire	22.9	33.2	35.0
Wollongong	23.7	33.4	34.6
Yass Valley	23.3	31.6	35.0
<b>SENSWPHN</b>	<b>23.6</b>	<b>35.0</b>	<b>34.6</b>
NSW	23.1	30.9	35.0
Australia	22.8	31.3	35.6

*Table 37: Modelled estimated prevalence<sup>ff</sup> (self-reported for smoking and measured for obesity) of selected risk factors by sex, 2017-18 [10, 11]*

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	<b>15.5</b>	<b>38.2</b>
Eurobodalla	34.5	37.1	14.9	<b>23.3</b>	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	<b>15.3</b>	21.1	8.9	25.2
Shoalhaven	35.9	38.5	14.6	21.7	9.6	26.7
Snowy Monaro Regional	<b>37.7</b>	<b>40.2</b>	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
<b>SENSWPHN</b>	<b>33.9</b>	<b>36.2</b>	<b>13.2</b>	<b>19.5</b>	<b>9.8</b>	<b>26.5</b>
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 38: Modelled estimated prevalence<sup>ff</sup> (self-reported) of selected chronic conditions, 2017-18 [10, 11]*

Regions	Age-standardised rate per 100 persons					
	Asthma	COPD	Diabetes	Heart, Stroke and Vascular disease	Arthritis	Osteoporosis
Bega Valley	<b>14.0</b>	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	<b>19.7</b>	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	<b>2.8</b>	5.0	5.4	18.4	4.3
Shoalhaven	12.7	2.4	<b>5.1</b>	<b>5.4</b>	18.4	<b>4.7</b>
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
<b>SENSWPHN</b>	<b>12.4</b>	<b>2.4</b>	<b>4.8</b>	<b>5.1</b>	<b>17.8</b>	<b>4.2</b>
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 39: Modelled estimated prevalence<sup>ff</sup> (self-reported) of selected chronic mental health issues, 2017-18 [10, 11]*

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	<b>22.9</b>
Kiama	9.9	19.7
Queanbeyan-Palerang Regional	11.3	20.5
Shellharbour	<b>14.6</b>	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
<b>SENSWPHN</b>	<b>13.1</b>	<b>21.6</b>
NSW	12.4	18.8
Australia	12.9	20.1

*Table 40: Modelled estimated prevalence<sup>ff</sup> (self-reported) of selected chronic mental health issues by sex, 2017-18 [10, 11]*

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	<b>20.9</b>
Goulburn Mulwaree	13.5	10.6	<b>25.3</b>	20.7
Kiama	11.0	8.7	21.8	17.7
Queanbeyan-Palerang Regional	12.7	10.0	22.5	18.6
Shellharbour	<b>16.4</b>	<b>12.7</b>	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
<b>SENSWPHN</b>	<b>14.6</b>	<b>11.6</b>	<b>23.8</b>	<b>19.5</b>
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). Recent modelled estimation as shown below suggest a substantial projected rise in the number of persons living with dementia in the SENSWPHN.

*Table 41: Modelled estimated prevalence<sup>ff</sup> of persons living with Dementia, 2024 [24]*

Regions	Estimated number of persons with Dementia		% Change between 2024-2054
	2024	2054	
Bega Valley	923	1,626	76.2%
Eurobodalla	1,188	2,097	76.5%
Goulburn Mulwaree	664	1,191	79.4%
Kiama	596	1,065	78.7%
Queanbeyan-Palerang Regional	738	1,275	72.8%
Shellharbour	1,338	2,384	78.2%
Shoalhaven	2,789	4,956	77.7%
Snowy Monaro Regional	397	699	76.1%
Upper Lachlan Shire	163	281	72.4%
Wollongong	4,060	7,392	<b>82.1%</b>
Yass Valley	295	520	76.3%
<b>SENSWPHN</b>	<b>13,151</b>	<b>23,486</b>	<b>78.6%</b>
<i>Illawarra Shoalhaven</i>	<i>8,783</i>	<i>15,797</i>	<i>79.9%</i>
<i>Southern NSW</i>	<i>4,368</i>	<i>7,689</i>	<i>76.0%</i>
NSW	138,484	248,676	79.6%
Australia	421,704	799,338	89.5%

Another major reason for morbidity in the SENSWPHN catchment is chronic pain. Chronic pain, also called persistent pain, is pain that continues for more than three months after surgery, an injury, as a result of disease, or from another cause. This can be debilitating and have an adverse effect on work, sleep, and relationships. While the actual prevalence of the condition is not able to be very accurately quantified in Australia, most recent estimates [25] suggest that as of the year 2020, an estimated 87,993 persons in the SENSWPHN catchment suffered from chronic pain. This figure is projected to grow by 23.6% by the year 2050 to 108,745 persons with chronic pain 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: Overview of mortality figures<sup>ii</sup>, 2022 [26]

Regions	Total number of deaths from 'all causes'	Crude death rate per 100,000 population	Age-standardised death rate per 100,000 population
Bega Valley	397	1,103.0	556.6
Eurobodalla	532	<b>1,304.1</b>	582.5
Goulburn Mulwaree	366	1,128.4	<b>692.4</b>
Kiama	217	947.4	441.4
Queanbeyan-Palerang Regional	326	507.5	514.5
Shellharbour	643	820.9	587.1
Shoalhaven	1,244	1,135.4	581.7
Snowy Monaro Regional	177	811.7	541.0
Upper Lachlan Shire	68	790.8	510.3
Wollongong	1,926	889.8	580.7
Yass Valley	124	716.5	521.6
<b>SENSWPHN</b>	<b>6,025</b>	<b>928.7</b>	<b>570.3</b>
NSW	62,980	771.3	552.7
Australia	190,939	734.0	548.4

Table 43: Major causes of death<sup>oo</sup> and their associated age-standardised death rates<sup>ii</sup> in SENSWPHN, 2018-22 [26]

Top Causes of Death in SENSWPHN	Age-standardised death rate per 100,000 population		
	SENSWPHN	NSW	Australia
Coronary heart disease	51.6	50.6	<b>52.8</b>
Dementia including Alzheimer disease	<b>45.6</b>	43.1	43.3
Cerebrovascular disease	<b>31.1</b>	30.6	28.7
Lung cancer	<b>30</b>	26.8	27.1
Chronic obstructive pulmonary disease	<b>27.3</b>	22	21.6
Colorectal cancer	<b>18.1</b>	16.8	16.5
Diabetes	<b>16.8</b>	16.4	15.9
Heart failure and complications and ill-defined heart disease	<b>11.5</b>	10.8	9.9
Prostate cancer	<b>11.8</b>	10	10.6
Cancer of unknown or ill-defined primary site	<b>11.1</b>	10.4	9.4
Pancreatic cancer	<b>10.8</b>	10.4	10.3
Cardiac arrhythmias	<b>9.4</b>	7.8	7.1
Breast cancer	<b>10.6</b>	10.3	10.1
Hypertensive disease	<b>8.8</b>	8.6	6.6
Suicide	<b>14.8</b>	11.2	12.5
Influenza and pneumonia	7.7	7.3	<b>7.8</b>
Accidental falls	7.9	not in top causes for NSW	<b>10.2</b>
Liver disease	<b>8.3</b>	not in top causes for NSW	not in top causes for Australia
Parkinson disease	<b>6.5</b>	not in top causes for NSW	not in top causes for Australia
Liver cancer	7	<b>7.5</b>	not in top causes for Australia

<sup>ii</sup> **Age-standardised rates** are standardised to a specific standard age structure to facilitate comparison between populations of differing age structure 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.

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<sup>jj</sup> 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<sup>kk</sup>.

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 44: Morality<sup>l</sup> burden of premature deaths and potentially avoidable deaths<sup>mm</sup>, 2018-22 [26]*

Regions	Age-standardised death rate per 100,000 population		Potentially avoidable deaths as % of premature deaths
	Premature deaths (aged under 75)	Potentially avoidable deaths (PAD)	
Bega Valley	232.0	106.3	42.5%
Eurobodalla	226.8	125.0	47.7%
Goulburn Mulwaree	<b>285.0</b>	132.5	47.2%
Kiama	114.0		38.0%
Queanbeyan-Palerang Regional	192.5	87.4	44.3%
Shellharbour	214.1	96.6	44.6%
Shoalhaven	228.5	<b>134.6</b>	<b>56.1%</b>
Snowy Monaro Regional	199.0	113.9	52.6%
Upper Lachlan Shire	224.6		37.5%
Wollongong	218.5	98.3	43.8%
Yass Valley	174.3		52.9%
<b>SENSWPHN</b>	<b>215.2</b>	<b>105.7</b>	<b>47.2%</b>
NSW	205.6	94.9	45.2%
Australia	207.5	100.1	47.0%

<sup>jj</sup> 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).

<sup>kk</sup> **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.

<sup>ll</sup> Geographic regional allocation of death is based on area of usual residence of the person.

<sup>mm</sup> 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.

Table 45: Crude death rates<sup>nn</sup> for the major<sup>oo</sup> causes of death<sup>pp</sup>, 2018-22 [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	Pancreatic cancer	Cardiac arrhythmias	Breast cancer	Hypertensive disease	Suicide	Influenza and pneumonia	Accidental falls	Liver disease	Parkinson disease	Liver cancer
Bega Valley	91.6	85.7	63.5	68.5	59.4	34.6	38.0	31.8	26.0	27.5	26.3	25.3	23.5	17.7	21.6	na	21.0	na	na	na
Eurobodalla	124.1	108.0	88.4	77.9	71.5	48.9	43.9	33.4	33.1	23.2	27.8	23.6	16.2	19.8	18.3	na	22.0	17.2	na	19.7
Goulburn Mulwaree	84.5	83.7	60.4	46.2	72.8	35.1	27.1	19.6	13.8	18.6	17.5	18.1	na	14.3	13.8	18.0	18.3	14.5	14.8	na
Kiama	60.7	116.7	59.8	33.4	20.2	20.3	18.4	14.0	22.0	22.0	15.1	16.7	13.2	15.0	16.7	17.6	17.6	na	16.7	na
Queanbeyan-Palerang Regional	48.5	30.6	21.2	24.2	21.9	15.1	12.1	7.5	10.0	8.8	11.3	6.9	9.1	na	12.9	7.6	7.6	7.6	na	6.9
Shellharbour	67.4	88.2	33.6	41.5	38.6	18.9	23.4	17.0	18.6	13.6	14.4	9.6	16.0	14.4	13.8	na	9.6	10.9	10.7	na
Shoalhaven	116.3	79.8	68.6	63.4	60.7	40.4	35.5	25.4	27.9	24.1	21.7	20.0	17.9	20.8	19.5	16.8	16.8	na	13.5	14.0
Snowy Monaro Regional	83.7	45.1	44.2	33.5	40.5	23.1	23.5	29.4	17.3	10.7	14.5	26.3	11.5	na	13.4	na	16.0	na	na	9.6
Upper Lachlan Shire	69.0	35.5	34.3	40.3	47.4	26.5	25.0	13.1	15.9	na	17.6	17.3	na	9.6	16.2	na	15.2	13.1	na	na
Wollongong	80.6	87.4	48.5	40.8	37.2	24.3	26.8	15.7	16.1	16.7	13.8	14.9	15.7	14.1	11.4	15.5	na	na	11.1	10.8
Yass Valley	48.9	56.0	39.6	29.8	29.4	25.9	na	26.1	16.9	12.8	16.2	16.4	11.3	10.9	12.0	10.1	9.9	8.6	na	na
<b>SENSWPHN</b>	<b>83.8</b>	<b>79.7</b>	<b>51.2</b>	<b>46.4</b>	<b>44.4</b>	<b>28.0</b>	<b>27.2</b>	<b>19.6</b>	<b>19.6</b>	<b>17.7</b>	<b>16.9</b>	<b>16.1</b>	<b>15.2</b>	<b>14.7</b>	<b>14.7</b>	<b>13.3</b>	<b>13.3</b>	<b>10.9</b>	<b>10.8</b>	<b>10.7</b>
NSW	70.0	63.8	43.1	34.6	29.7	22.0	22.1	15.7	13.9	13.8	13.6	11.4	12.9	12.3	11.4	10.6	na	na	na	9.6
Australia	69.7	60.5	38.5	34.2	28.1	20.9	20.7	13.7	14.1	12.1	13.0	10.0	12.4	9.1	12.7	10.8	13.8	na	na	na

<sup>nn</sup> **Crude rates** are the total number of deaths due to a particular cause expressed per 100,000 population for each region. Crude rates reflect the raw mortality burden within a region and are **NOT** standardised for age. Additionally, for several causes of death age-standardisation was not possible due to very no or very small age-specific number of deaths for that respective cause within several regions

<sup>oo</sup> Major causes of death are enumerated in the order of crude burden of death i.e. the total number of deaths (and hence by default also the crude death rate) for the respective cause within the entire SENSWPHN catchment for the reporting period. Several causes of death that were leading causes of mortality for the SENSWPHN catchment as a whole, may not be a leading cause of death for a particular region/area. The crude burden figures illustrate this quite clearly. However crude death rates for all leading causes of death for the SENSWPHN catchment have been shown for all regions where possible.

<sup>pp</sup> na indicates the respective cause of death was not among the top causes of mortality in the respective region

Table 46: Age-standardised<sup>ii</sup> death rates for the major causes<sup>oo</sup> of death<sup>qq</sup>, 2018-22 [26]

Regions	Age-standardised 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	Pancreatic cancer	Cardiac arrhythmias	Breast cancer	Hypertensive disease	Suicide	Influenza and pneumonia	Accidental falls	Liver disease	Parkinson disease	Liver cancer
Bega Valley	47.6	40.0	31.2	35.7	28.8	19.0	18.0	15.7	12.2	13.8	13.2	11.7	12.8	8.5	23.0	na	10.1	na	na	na
Eurobodalla	57.0	43.4	36.9	37.1	31.9	22.7	19.7	13.5	13.9	11.6	12.6	9.5	8.3	8.8	17.6	na	9.5	10.6	na	9.9
Goulburn Mulwaree	52.7	47.8	35.3	30.3	46.0	22.4	17.8	11.4	8.3	11.8	11.4	10.3	na	8.8	12.6	11.3	10.5	11.2	8.9	na
Kiama	29.5	53.1	30.7	17.8	9.8	10.3	8.8	na	10.2	10.6	na	na	na	na	na	7.9	8.0	na	na	na
Queanbeyan-Palerang Regional	50.6	35.6	23.6	24.6	24.6	15.6	13.1	8.4	10.6	9.0	11.3	7.7	9.1	na	12.6	8.8	8.6	7.2	na	6.7
Shellharbour	48.1	59.9	24.6	31.2	27.7	14.3	16.8	11.9	13.3	10.1	10.5	6.7	12.7	9.9	15.3	na	6.9	9.0	7.6	na
Shoalhaven	57.7	36.5	33.7	34.1	30.2	21.0	17.6	12.1	13.6	11.9	11.1	9.3	10.3	9.9	20.6	7.9	8.2	na	6.3	7.5
Snowy Monaro Regional	57.8	29.9	30.4	22.5	27.0	16.0	16.5	19.5	na	na	na	18.1	na	na	na	na	na	na	na	na
Upper Lachlan Shire	45.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Wollongong	52.3	51.8	31.3	29.3	24.7	17.3	17.7	9.7	10.4	11.1	9.8	8.7	11.9	9.0	11.4	9.1	na	na	7.1	8.0
Yass Valley	35.5	40.9	29.5	21.6	22.0	19.0	na	18.8	na	na	na	na	na	na	na	na	na	na	na	na
<b>SENSWPHN</b>	<b>51.6</b>	<b>45.6</b>	<b>31.1</b>	<b>30.0</b>	<b>27.3</b>	<b>18.1</b>	<b>16.8</b>	<b>11.5</b>	<b>11.8</b>	<b>11.1</b>	<b>10.8</b>	<b>9.4</b>	<b>10.6</b>	<b>8.8</b>	<b>14.8</b>	<b>7.7</b>	<b>7.9</b>	<b>8.3</b>	<b>6.5</b>	<b>7.0</b>
NSW	50.6	43.1	30.6	26.8	22.0	16.8	16.4	10.8	10.0	10.4	10.4	7.8	10.3	8.6	11.2	7.3	na	na	na	7.5
Australia	52.8	43.3	28.7	27.1	21.6	16.5	15.9	9.9	10.6	9.4	10.3	7.1	10.1	6.6	12.5	7.8	10.2	na	na	na

See footnotes in all previous tables within the [Mortality](#) section of this report

<sup>qq</sup> na indicates either the respective cause of death was not among the top causes of mortality in the respective region or age-standardised rates were suppressed as either the population in the respective region was less than 30, or where there were less than 20 total deaths (excluding those with missing age at death) in the respective region.

#### 4.4. Disability

Through the national census variable of *Core Activity Need for Assistance*<sup>rr</sup> 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 47: Population with profound or severe disability, 2021 [9]

Regions	Persons with profound or severe disability	% of resident population
Bega Valley	2,273	6.3%
Eurobodalla	3,139	7.7%
Goulburn Mulwaree	2,315	7.2%
Jervis Bay	19	6.1%
Kiama	1,221	5.3%
Queanbeyan-Palerang Regional	2,776	4.4%
Shellharbour	5,392	7.1%
Shoalhaven	8,783	8.1%
Snowy Monaro Regional	1,055	4.9%
Upper Lachlan Shire	507	6.0%
Wollongong	14,458	6.7%
Yass Valley	926	5.4%
<b>SENSWPHN</b>	<b>42,864</b>	<b>6.7%</b>
<i>Illawarra Shoalhaven</i>	<i>29,873</i>	<i>7.1%</i>
<i>Southern NSW</i>	<i>12,991</i>	<i>5.9%</i>
NSW	464,712	5.8%
Australia	1,464,415	5.8%

The burden of disability is significantly higher within the older persons cohort.

Table 48: Persons aged 65 years and over with profound or severe disability, 2021 [9]

Regions	Persons aged 65 years & over with profound or severe disability	% of resident population aged 65 years & over
Bega Valley	1,293	12.4%
Eurobodalla	1,978	14.9%
Goulburn Mulwaree	1,241	18.6%
Jervis Bay	7	16.3%
Kiama	815	12.8%
Queanbeyan-Palerang Regional	1,296	15.2%
Shellharbour	2,658	19.0%
Shoalhaven	5,052	16.6%
Snowy Monaro Regional	580	13.6%
Upper Lachlan Shire	307	14.5%
Wollongong	8,189	20.5%
Yass Valley	462	14.6%
<b>SENSWPHN</b>	<b>23,878</b>	<b>17.1%</b>
<i>Illawarra Shoalhaven</i>	<i>16,721</i>	<i>18.4%</i>
<i>Southern NSW</i>	<i>7,157</i>	<i>14.7%</i>
NSW	261,417	18.4%
Australia	793,263	18.1%

<sup>rr</sup> **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 49: Population providing unpaid assistance<sup>ss</sup> to disabled or chronically ill persons, 2021 [9]*

Regions	Unpaid carer population	% of resident population
Bega Valley	4,115	13.5%
Eurobodalla	4,690	13.4%
Goulburn Mulwaree	3,498	13.3%
Jervis Bay	26	10.6%
Kiama	2,504	13.0%
Queanbeyan-Palerang Regional	6,206	12.2%
Shellharbour	8,342	13.5%
Shoalhaven	12,338	13.5%
Snowy Monaro Regional	2,012	11.1%
Upper Lachlan Shire	978	13.8%
Wollongong	23,213	13.1%
Yass Valley	1,945	14.0%
<b>SENSWPHN</b>	<b>69,867</b>	<b>13.2%</b>
<i>Illawarra Shoalhaven</i>	<i>46,423</i>	<i>13.3%</i>
<i>Southern NSW</i>	<i>23,444</i>	<i>12.9%</i>
<i>NSW</i>	<i>759,383</i>	<i>11.5%</i>
<i>Australia</i>	<i>2,476,681</i>	<i>11.9%</i>

*Table 50: Persons aged 65 years and over providing unpaid assistance<sup>ss</sup> disabled or chronically ill persons, 2021 [9]*

Regions	Unpaid carer population aged 65 years & over	% of resident population aged 65 years & over
Bega Valley	1,201	11.5%
Eurobodalla	1,622	12.2%
Goulburn Mulwaree	827	12.4%
Jervis Bay	7	16.3%
Kiama	799	12.6%
Queanbeyan-Palerang Regional	1,148	13.5%
Shellharbour	1,796	12.9%
Shoalhaven	3,928	12.9%
Snowy Monaro Regional	437	10.2%
Upper Lachlan Shire	225	10.6%
Wollongong	5,023	12.6%
Yass Valley	465	14.7%
<b>SENSWPHN</b>	<b>17,478</b>	<b>12.5%</b>
<i>Illawarra Shoalhaven</i>	<i>11,553</i>	<i>12.7%</i>
<i>Southern NSW</i>	<i>5,925</i>	<i>12.2%</i>
<i>NSW</i>	<i>165,303</i>	<i>11.6%</i>
<i>Australia</i>	<i>546,541</i>	<i>12.5%</i>

<sup>ss</sup> **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. This includes people who are in receipt of a Carer Allowance or Carer Payment. It does not include care provided through a voluntary organisation or group. Occasional help or assistance, such as shopping, is included if the person needs this type of assistance because of their condition.

## 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<sup>tt</sup>, the National Bowel Cancer Screening Program (NBCSP)<sup>uu</sup> and the National Cervical Screening Program (NCSP)<sup>vv</sup>. 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 51: Participation figures for all national cancer screening programs [27]

Areas Version 2	National Cancer Screening Program Participation (%)		
	Breast Screening for 50–74 year old females	Bowel Screening for 50–74 year old persons	Cervical Screening for 25–74 year old females
	2019–2020	2020–2021	2018–2021
Dapto - Port Kembla	48.0%	39.0%	56.7%
Goulburn - Mulwaree	56.9%	40.7%	54.5%
Kiama - Shellharbour	54.0%	43.9%	60.2%
Queanbeyan	58.2%	40.5%	63.2%
Shoalhaven	52.1%	44.9%	63.0%
Snowy Mountains	62.2%	41.5%	60.5%
South Coast	57.2%	47.2%	63.0%
Wollongong	52.6%	43.6%	66.9%
Young - Yass	53.5%	40.3%	58.0%
<b>SENSWPHN</b>	<b>53.8%</b>	<b>43.3%</b>	<b>61.8%</b>
NSW	50.2%	39.5%	60.6%
Australia	49.9%	40.9%	62.4%

### 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 52: Fully immunised proportions for all children, December 2022<sup>ww</sup> [28]

Areas Version 1	Fully immunised (%) figures for all children aged		
	12-<15 Months	24-<27 Months	60-<63 Months
Dapto - Port Kembla	94.3%	93.6%	97.3%
Goulburn - Yass	94.8%	94.0%	95.7%
Kiama - Shellharbour	95.5%	94.3%	97.1%
Queanbeyan	96.7%	93.7%	97.6%
Shoalhaven	93.2%	91.9%	95.0%
Snowy Mountains	93.0%	92.5%	95.4%
South Coast	92.1%	91.0%	95.7%
Wollongong	94.4%	93.5%	94.2%
<b>SENSWPHN</b>	<b>94.4%</b>	<b>93.2%</b>	<b>96.0%</b>
NSW	93.8%	91.9%	94.2%
Australia	93.8%	92.0%	94.3%

<sup>tt</sup> 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.

<sup>uu</sup> 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.

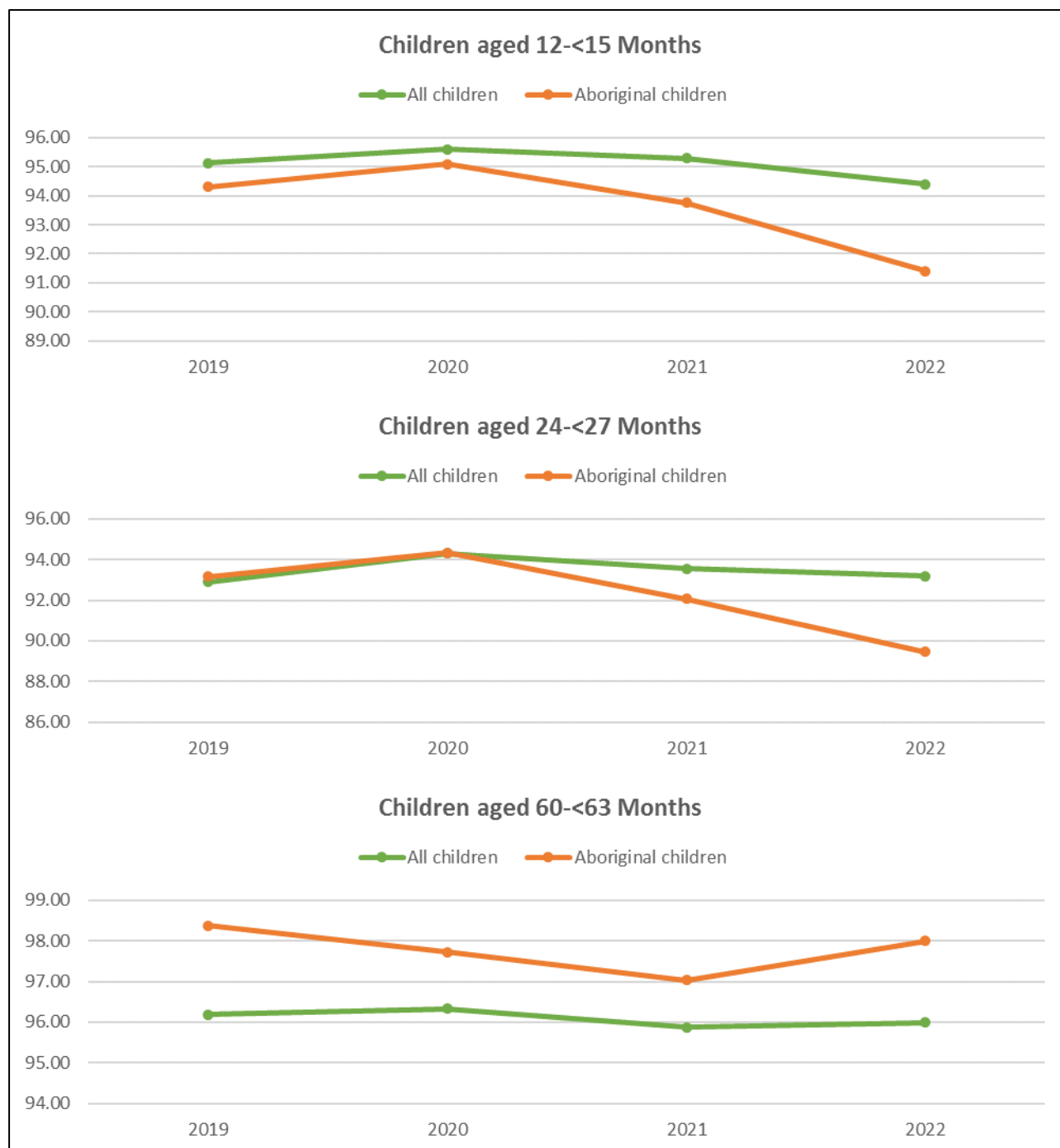
<sup>vv</sup> to reduce illness and death from cervical cancer, in a cost-effective manner, through a more organised approach to cervical screening. From 1 December 2017 NCSP will change from a biennial Pap Smear test to a HPV (human papillomavirus) test once every five years for women aged 25 to 74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

<sup>ww</sup> 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.



Table 53: Fully immunised proportions for Aboriginal<sup>g</sup> children, December 2022<sup>xx</sup> [28]

Areas	Fully immunised (%) figures for Aboriginal children aged		
	12-<15 Months	24-<27 Months	60-<63 Months
<b>SENSWPHN</b>	<b>91.4%</b>	<b>89.5%</b>	<b>98.0%</b>
NSW	93.1%	91.2%	96.9%
Australia	91.1%	89.1%	96.1%

Table 54: Trends in immunisation rates (%) for the SENSWPHN catchment by Aboriginality<sup>g</sup> of children, December<sup>yy</sup> [28]

<sup>xx</sup> 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.

<sup>yy</sup> 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.

### 4.5.3. First Nations health checks

Through Medicare, Aboriginal and Torres Strait Islander (First Nations) people can receive annual health checks from their doctor, as well as follow-up services from other health professionals, that are specifically for First Nations people<sup>zz</sup>. This health check aims to identify and treat common health conditions that disproportionately affect First Nations people, such as diabetes and heart disease, promoting early detection and intervention.

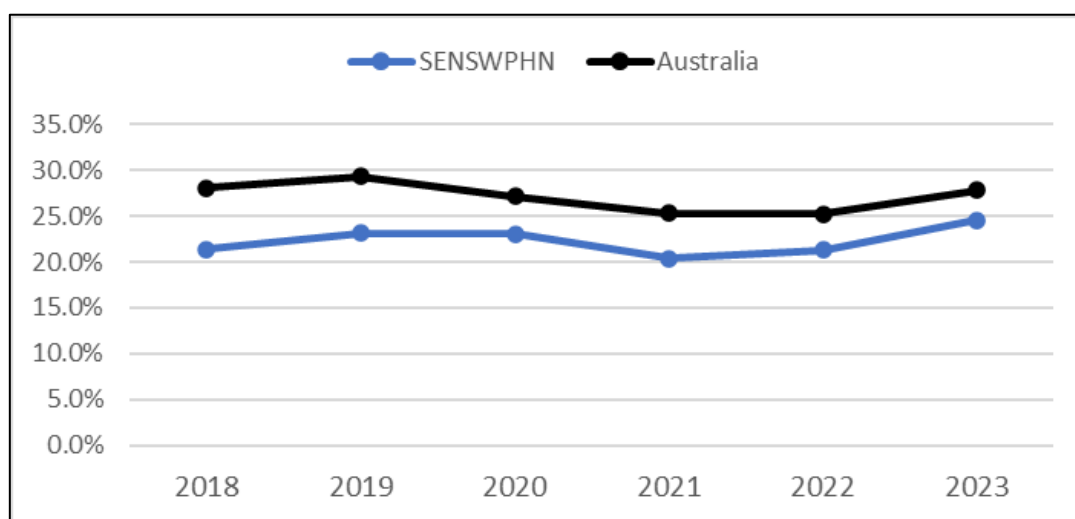
During the health check, a General Practitioner (GP) or a multidisciplinary team led by a GP will assess the individual's physical, psychological, and social wellbeing, providing necessary health-related information, advice and care. If required, the GP may also refer the person to other healthcare professionals, such as physiotherapists, podiatrists, or dietitians, for free follow-up care under a list of First Nations follow-up Medicare items.

The population coverage rates of this annual preventive health check<sup>aaa</sup> and its subsequent follow-ups are quite low for the Aboriginal<sup>8</sup> persons residing within the SENSWPHN catchment.

Figure 19: Population coverage figures for First Nations health checks, Dec 2023 [29]

Areas Version 1	First Nations health check (%)
Dapto - Port Kembla	25.3%
Goulburn - Mulwaree	20.2%
Kiama - Shellharbour	20.0%
Queanbeyan	24.3%
Shoalhaven	28.3%
Snowy Mountains	8.4%
South Coast	28.1%
Wollongong	25.1%
Young - Yass	33.2%
<b>SENSWPHN</b>	<b>24.6%</b>
Australia	27.9%

Figure 20: Trends in population coverage figures for First Nations health checks [29]



<sup>zz</sup> Annual health checks are provided as either a face-to-face service under the Medicare Benefits Schedule (MBS) items 715 and 228 as well through telehealth under the Indigenous-specific Medicare Benefits Schedule (MBS) items 92004, 92016, 92011 and 92023. Based on health needs identified during a health check, First Nations people can access follow-up care through MBS service items: 10987, 93200, 93202, 81300, 81305, 81310, 81315, 81320, 81325, 81330, 81335, 81340, 81345, 81350, 81355, 81360, 93048 and 93061.

<sup>aaa</sup> The data include health checks and follow-ups billed to Medicare by Aboriginal Community Controlled Health Services (ACCHSs) or other First Nations health services, as well as by mainstream General Practitioners / General Practices.

#### 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<sup>bbb</sup>.

*Table 55: Prevalence of other maternal health indicators, 2022 [30]*

Maternal Health Indicators	Illawarra Shoalhaven	Southern NSW	SENSWPHN	NSW
First antenatal visit done before 14 weeks	89.4%	<b>73.5%</b>	85.4%	79.4%
First antenatal visit done before 20 weeks	96.8%	<b>88.3%</b>	94.7%	92.5%
Low birth weight in all births	<b>5.8%</b>	2.5%	5.0%	6.1%
Preterm births	<b>7.2%</b>	2.2%	5.9%	7.3%
Smoked at all during pregnancy	9.5%	<b>11.4%</b>	9.9%	7.9%
Maternal age of 19 years and under (teenage mothers)	<b>1.7%</b>	1.5%	1.6%	1.4%

**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 all other harmful risk factors, high figures denote high levels of need and therefore the highest regional figure is highlighted in red bold font.

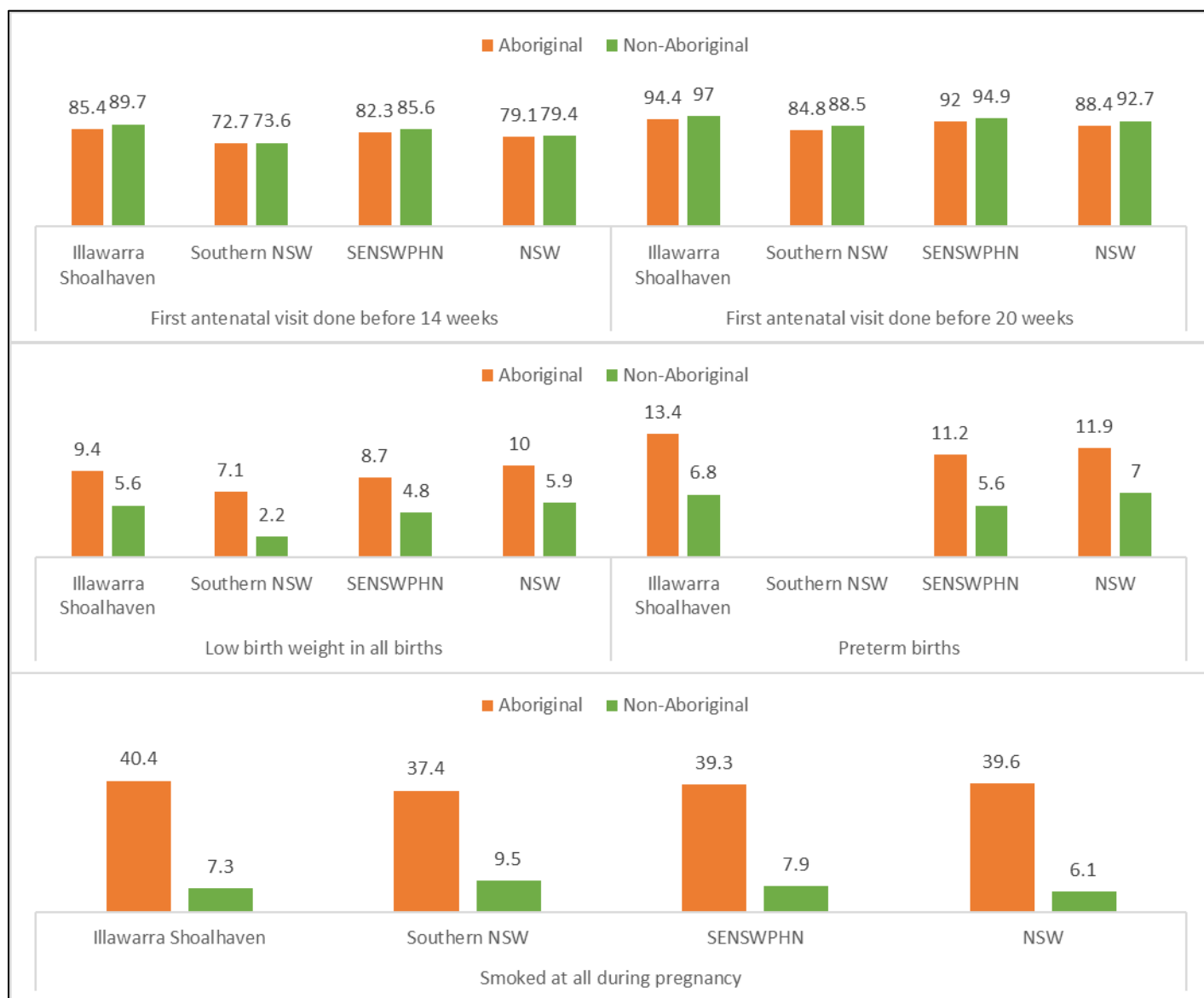
*Table 56: Prevalence of selected maternal medical conditions, 2022 [30]*

Maternal Medical Conditions	Illawarra Shoalhaven	Southern NSW	SENSWPHN	NSW
Chronic hypertension	0.8%	<b>1.4%</b>	1.0%	1.1%
Gestational diabetes mellitus	14.7%	<b>14.8%</b>	14.7%	16.2%
Gestational hypertension	2.5%	<b>3.6%</b>	2.8%	2.6%
Pre-eclampsia	1.5%	<b>1.8%</b>	1.6%	1.9%
Pre-existing diabetes mellitus	<b>0.6%</b>	0.0%	0.5%	1.0%

There is an alarmingly wide gap in the prevalence of some key maternal health risk factors for Aboriginal<sup>8</sup> mothers and babies (as applicable to the relevant indicator) especially when compared to the non-Indigenous mothers and babies in the population.

<sup>bbb</sup> Maternal health metrics are not available to be reported at the regional level (regions or areas) and can only be assessed at the aggregated level of Local Health Districts (LHDs)

Figure 21: Comparison of prevalence of selected maternal health indicators between Aboriginal<sup>a</sup> and non-Indigenous cohorts, 2022 [30]



## 5. PRIMARY CARE and RELATED INSIGHTS

### 5.1. Workforce distribution<sup>ccc</sup> of selected health professionals<sup>ddd</sup>

#### 5.1.1. General Practitioner (GP) workforce

Acknowledging that a General Practitioner (GP)<sup>eee</sup> 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)<sup>fff</sup> figures for the catchment shows quite a level of regional inequity in the existing workforce distribution within the SENSWPHN catchment.

Table 57: General Practitioner (GP) workforce, 2023 [31]

Regions	Headcount	Full-Time Equivalent per 100,000 Population
Bega Valley	44	120.3
Eurobodalla	48	114.3
Goulburn Mulwaree	32	97.8
Kiama	32	106.3
Queanbeyan-Palerang Regional	63	93.6
Shellharbour	73	89.7
Shoalhaven	143	118.1
Snowy Monaro Regional	37	154.9
Upper Lachlan Shire	9	93.6
Wollongong	278	115.0
Yass Valley	20	96.7
<b>SENSWPHN</b>	<b>771</b>	<b>108.8</b>
<i>Illawarra Shoalhaven</i>	<i>526</i>	<i>110.6</i>
<i>Southern NSW</i>	<i>253</i>	<i>108.7</i>
<b>NSW</b>	<b>9,810</b>	<b>110.2</b>
<b>Australia</b>	<b>31,926</b>	<b>111.5</b>

#### 5.1.2. Primary care nurse workforce

General practice nurses<sup>ggg</sup> play a very significant role in delivering best-practice care within high performing general practices [32]. The latest headcount and FTE figures of practice nurses in the SENSWPHN catchment highlight a lot of regional inequity in the existing workforce distribution.

<sup>ccc</sup> 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.

<sup>ddd</sup> Only **Australian Health Practitioner Regulation Agency (AHPRA)** registered practitioner professions were analysed and illustrated in this report. Region level analysis was based on volume of releasable/publishable data. Regions with headcount 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 as regional distribution in the report either had no region affected by privacy-maintaining small cell suppression or just one region with headcount figures less than or equal to three. In the latter circumstance the figures for the respective region was marked as na. Where a region has na for the figures, the LHD level totals exclude that particular region, therefore the LHD figures would be a slight underestimate of the actual figures.

<sup>eee</sup> **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)'.

<sup>fff</sup> **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.

<sup>ggg</sup> **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

Table 58: General practice nurse workforce, 2023 [31]

Regions	Headcount	Full-Time Equivalent per 100,000 Population
Bega Valley	32	57.1
Eurobodalla	26	42.8
Goulburn Mulwaree	15	40.0
Kiama	21	53.5
Queanbeyan-Palerang Regional	30	37.6
Shellharbour	30	32.5
Shoalhaven	88	61.1
Snowy Monaro Regional	16	51.1
Upper Lachlan Shire	9	57.4
Wollongong	114	40.7
Yass Valley	4	28.6
<b>SENSWPHN</b>	385	44.5
<i>Illawarra Shoalhaven</i>	253	45.0
<i>Southern NSW</i>	132	43.5
NSW	3,525	32.6
Australia	13,282	38.8

### 5.1.3. Allied health workforce

Allied health<sup>hhh</sup> workforce is key from a planning and service commissioning<sup>iii</sup> context. It should be noted that this includes allied health practitioners working in all kinds of private and public settings. Substantial regional inequity in the workforce distribution of several allied health professions can be observed in the SENSWPHN catchment.

Table 59: Other allied health<sup>jjj</sup> workforce, 2022 [31]

Other allied health professions	SENSWPHN		NSW	Australia
	Headcount	Full-Time Equivalent per 100,000 Population		
ATSI Health Practitioners	10	1.7	1.8	2.3
Chinese Medicine Practitioners	56	5.8	14.7	11.5
Chiropractors	92	11.5	19.5	17.1
Medical Radiation Practitioners	402	54.8	58.4	56.5
Occupational Therapists	407	53.4	67.2	77.2
Optometrists	116	16.0	20.4	20.0
Osteopaths	59	8.4	5.8	9.0
Podiatrists	104	15.4	17.3	18.8

- job setting identified as 'General practitioner (GP) practice'.

<sup>hhh</sup> All Allied Health profession types 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.

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

<sup>iii</sup> Commissioning is an iterative cycle involving the development and implementation of services based on planning, procurement, monitoring, and evaluation.

<sup>jjj</sup> Only Australian Health Practitioner Regulation Agency (AHPRA) registered practitioner professions were analysed and illustrated in this report. Region level analysis was based on volume of releasable/publishable data. Regions with headcount 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 table here illustrates selected professions that were had more than one region affected by privacy-maintaining small cell suppression and hence only SENSWPHN along with state and national total figures have been shown.

Table 60: Psychologist workforce, 2022 [31]

Regions	Headcount	Full-Time Equivalent per 100,000 Population
Bega Valley	37	87.3
Eurobodalla	36	66.0
Goulburn Mulwaree	30	82.6
Kiama	23	81.9
Queanbeyan-Palerang Regional	26	36.3
Shellharbour	75	87.2
Shoalhaven	102	77.9
Snowy Monaro Regional	11	40.3
Upper Lachlan Shire	3	na
Wollongong	375	148.0
Yass Valley	9	44.3
<b>SENSWPHN</b>	725	95.3
<i>Illawarra Shoalhaven</i>	575	115.2
<i>Southern NSW</i>	152	56.5
NSW	9,481	97.7
Australia	29,272	95.2

Table 61: Pharmacist workforce, 2022 [31]

Regions	Headcount	Full-Time Equivalent per 100,000 Population
Bega Valley	32	83.6
Eurobodalla	33	63.8
Goulburn Mulwaree	20	59.2
Kiama	18	61.8
Queanbeyan-Palerang Regional	25	39.1
Shellharbour	53	60.3
Shoalhaven	94	80.6
Snowy Monaro Regional	16	65.1
Upper Lachlan Shire	7	76.0
Wollongong	164	72.8
Yass Valley	10	65.6
<b>SENSWPHN</b>	472	67.8
<i>Illawarra Shoalhaven</i>	329	71.9
<i>Southern NSW</i>	143	59.9
NSW	7,148	80.8
Australia	24,544	88.8



Table 62: Physiotherapist workforce, 2022 [31]

Regions	Headcount	Full-Time Equivalent per 100,000 Population
Bega Valley	44	93.7
Eurobodalla	28	58.2
Goulburn Mulwaree	25	73.4
Kiama	32	118.9
Queanbeyan-Palerang Regional	37	51.2
Shellharbour	52	63.7
Shoalhaven	104	77.2
Snowy Monaro Regional	18	77.0
Upper Lachlan Shire	na	na
Wollongong	299	125.0
Yass Valley	8	35.1
<b>SENSWPHN</b>	647	87.8
<i>Illawarra Shoalhaven</i>	487	101.2
<i>Southern NSW</i>	160	61.9
NSW	9,359	106.3
Australia	31,113	110.6

Table 63: Paramedicine practitioners workforce, 2022 [31]

Regions	Headcount	Full-Time Equivalent per 100,000 Population
Bega Valley	60	186.5
Eurobodalla	60	173.7
Goulburn Mulwaree	22	79.9
Kiama	14	79.3
Queanbeyan-Palerang Regional	44	85.5
Shellharbour	62	92.0
Shoalhaven	94	104.6
Snowy Monaro Regional	29	169.1
Upper Lachlan Shire	5	90.1
Wollongong	149	77.3
Yass Valley	11	80.0
<b>SENSWPHN</b>	550	100.1
<i>Illawarra Shoalhaven</i>	319	87.1
<i>Southern NSW</i>	231	125.3
NSW	4,960	72.6
Australia	18,452	85.3

## 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. 4,266,720 GP attendances (total) services were delivered with \$224,768,845 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2022-23. All key GP service categories<sup>kkk</sup> have been analysed and illustrated in this report.

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<sup>kkk</sup> 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 64: General Practitioner (GP) MBS service uptake<sup>III</sup>, 2022-23 [33]

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)	14.6%	16.5%	9.2%	8.4%	3.0%	3.5%	5.2%	9.4%	8.7%	8.6%	15.6%
GP After-hours (urgent)	2.7%	0.4%	2.2%	0.2%	0.5%	0.2%	0.2%	1.8%	0.7%	1.2%	1.3%
<b>GP subtotal - After-hours</b>	<b>16.5%</b>	<b>16.8%</b>	<b>10.9%</b>	<b>8.5%</b>	<b>3.3%</b>	<b>3.7%</b>	<b>5.4%</b>	<b>10.6%</b>	<b>9.3%</b>	<b>9.5%</b>	<b>16.4%</b>
GP Chronic Disease Management Plan	18.5%	17.0%	19.5%	8.3%	23.9%	11.4%	19.7%	16.4%	15.6%	17.8%	15.8%
GP Health Assessment	7.0%	5.8%	5.6%	3.1%	10.0%	2.2%	7.4%	6.3%	5.5%	6.5%	4.9%
GP Mental Health	9.5%	8.2%	10.0%	7.0%	10.4%	5.8%	7.8%	10.4%	7.3%	9.2%	8.3%
GP Multidisciplinary Case Conference	0.3%	0.2%	0.3%	0.1%	0.4%		0.3%	0.2%	0.2%	0.3%	0.2%
Medication Management Review (domiciliary)	0.6%	0.4%	0.3%	0.2%	0.9%	0.3%	0.2%	0.4%	0.2%	0.4%	0.3%
Medication Management Review (residential)	0.3%	0.2%	0.2%	0.2%	0.4%	0.2%	0.5%	0.3%	0.3%	0.3%	0.3%
<b>GP subtotal - Enhanced Primary Care</b>	<b>28.5%</b>	<b>25.7%</b>	<b>29.0%</b>	<b>15.9%</b>	<b>34.5%</b>	<b>17.3%</b>	<b>29.1%</b>	<b>26.6%</b>	<b>24.1%</b>	<b>27.3%</b>	<b>24.2%</b>
GP Acupuncture	0.1%		0.0%	0.0%			0.0%	0.3%	0.0%	0.1%	0.2%
GP Focussed Psychological Strategies and Family Group Therapy	0.0%			0.0%	0.0%		0.0%	0.1%		0.0%	0.1%
GP Pregnancy Support Counselling	0.2%		0.1%	0.1%	0.1%		0.2%	0.2%	0.3%	0.1%	0.1%
GP Prolonged - Imminent danger of death	0.0%				0.1%		0.0%	0.0%	0.1%	0.0%	0.0%
GP Short (Level A)	23.3%	15.9%	26.6%	16.7%	27.4%	33.0%	28.9%	22.8%	17.9%	23.9%	18.6%
GP Standard (Level B)	85.7%	81.7%	85.0%	76.0%	83.3%	75.5%	80.9%	80.1%	81.3%	81.8%	80.4%
GP Long (Level C)	37.5%	44.2%	41.2%	30.4%	42.3%	35.7%	36.5%	34.9%	44.2%	38.1%	36.0%
GP Prolonged (Level D)	4.2%	6.7%	5.2%	3.9%	5.1%	6.3%	5.9%	3.8%	6.2%	4.9%	4.7%
GP Telehealth (patient-end support)											
Other GP Services	0.5%	0.5%	0.4%	0.4%	0.5%	1.3%	0.4%	0.7%	0.3%	0.5%	0.5%
Other Non-referred Medical Practitioner attendances	1.3%	4.9%	2.6%	4.1%	4.7%	3.4%	5.5%	1.2%	11.4%	3.5%	4.1%
<b>GP subtotal - Other</b>	<b>88.5%</b>	<b>85.3%</b>	<b>88.5%</b>	<b>79.9%</b>	<b>87.1%</b>	<b>80.3%</b>	<b>86.3%</b>	<b>83.4%</b>	<b>86.3%</b>	<b>85.6%</b>	<b>84.1%</b>
Asthma Cycle of Care PIP					0.1%					0.0%	0.0%
Cervical Smear PIP					0.1%				0.1%	0.0%	0.0%
Diabetes Mellitus Annual Cycle of Care PIP	0.2%	0.3%	0.2%	0.1%	0.5%		0.2%	0.1%		0.2%	0.1%
<b>GP subtotal - PIP</b>	<b>0.3%</b>	<b>0.4%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>0.6%</b>		<b>0.2%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>0.2%</b>
<b>GP attendances (total)</b>	<b>90.3%</b>	<b>86.9%</b>	<b>89.9%</b>	<b>81.7%</b>	<b>88.4%</b>	<b>81.7%</b>	<b>87.9%</b>	<b>85.0%</b>	<b>87.5%</b>	<b>87.1%</b>	<b>86.0%</b>

<sup>III</sup> 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 65: General Practitioner (GP) MBS service delivery<sup>mmm</sup>, 2022-23 [33]

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)	28.23	30.72	14.87	13.12	6.53	5.43	10.47	18.79	12.64	15.94	29.05
GP After-hours (urgent)	3.52	0.51	2.78	0.23	0.61	0.26	0.34	2.41	0.76	1.59	1.72
<b>GP subtotal - After-hours</b>	<b>31.75</b>	<b>31.23</b>	<b>17.65</b>	<b>13.35</b>	<b>7.14</b>	<b>5.69</b>	<b>10.8</b>	<b>21.2</b>	<b>13.4</b>	<b>17.53</b>	<b>30.77</b>
GP Chronic Disease Management Plan	45.91	42.42	46.34	19.32	70.71	25.52	58.94	41.89	38.19	47.1	39.82
GP Health Assessment	7.08	5.89	5.66	3.12	10.1	2.23	7.46	6.34	5.6	6.56	4.96
GP Mental Health	14.72	12.7	15.69	10.45	17.89	8.86	12.05	17.08	11.81	14.78	13.15
GP Multidisciplinary Case Conference	0.45	0.2	0.37	0.17	0.58		0.57	0.29	0.26	0.38	0.29
Medication Management Review (domiciliary)	0.57	0.37	0.33	0.16	0.91	0.32	0.21	0.43	0.2	0.45	0.31
Medication Management Review (residential)	0.31	0.24	0.25	0.17	0.36	0.2	0.46	0.3	0.27	0.3	0.28
<b>GP subtotal - Enhanced Primary Care</b>	<b>68.97</b>	<b>61.75</b>	<b>68.58</b>	<b>33.25</b>	<b>100.51</b>	<b>37.16</b>	<b>79.61</b>	<b>66.16</b>	<b>56.21</b>	<b>69.47</b>	<b>58.7</b>
GP Acupuncture	0.43		0.13	0.16			0.07	1.5	0.07	0.64	1.01
GP Focussed Psychological Strategies and Family Group Therapy	0.04			0.04	0.06		0.04	0.26		0.08	0.14
GP Pregnancy Support Counselling	0.33		0.18	0.15	0.13		0.2	0.23	0.33	0.19	0.14
GP Prolonged - Imminent danger of death	0.03				0.07		0.03	0.02	0.08	0.03	0.05
GP Short (Level A)	42.07	23.08	46.39	23.51	43.8	61.55	53.71	37.34	35.56	40.21	30.51
GP Standard (Level B)	479.49	441.98	445.23	324.35	453.35	337.54	356.89	411.31	395.21	416.1	412.57
GP Long (Level C)	79.24	103.61	84.08	57.88	90.75	74.95	73.33	69.44	106.04	79.04	73.88
GP Prolonged (Level D)	5.77	9.94	7.44	5.49	7.01	9.38	9.1	5.27	9.34	6.99	6.9
GP Telehealth (patient-end support)											
Other GP Services	0.86	0.63	0.65	0.56	0.62	1.78	0.57	2.05	0.53	0.98	0.69
Other Non-referred Medical Practitioner attendances	1.86	7.01	3.57	7.22	8.84	6.71	9.05	1.88	19.69	5.82	8.24
<b>GP subtotal - Other</b>	<b>611.39</b>	<b>589.38</b>	<b>589.35</b>	<b>421.68</b>	<b>607.05</b>	<b>496.26</b>	<b>504.85</b>	<b>530.56</b>	<b>571.11</b>	<b>551.87</b>	<b>536.22</b>
Asthma Cycle of Care PIP					0.06					0.02	0.02
Cervical Smear PIP					0.05				0.07	0.03	0.03
Diabetes Mellitus Annual Cycle of Care PIP	0.23	0.27	0.17	0.06	0.53		0.17	0.1		0.21	0.14
<b>GP subtotal - PIP</b>	<b>0.26</b>	<b>0.4</b>	<b>0.19</b>	<b>0.09</b>	<b>0.64</b>		<b>0.21</b>	<b>0.13</b>	<b>0.14</b>	<b>0.26</b>	<b>0.18</b>
<b>GP attendances (total)</b>	<b>725.83</b>	<b>706.46</b>	<b>691.29</b>	<b>485.21</b>	<b>738.78</b>	<b>563.54</b>	<b>619.51</b>	<b>632.93</b>	<b>656.86</b>	<b>657.63</b>	<b>639.23</b>

<sup>mmm</sup> 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 22: Trends in selected wider categories of General Practitioner (GP) MBS service provision [33]

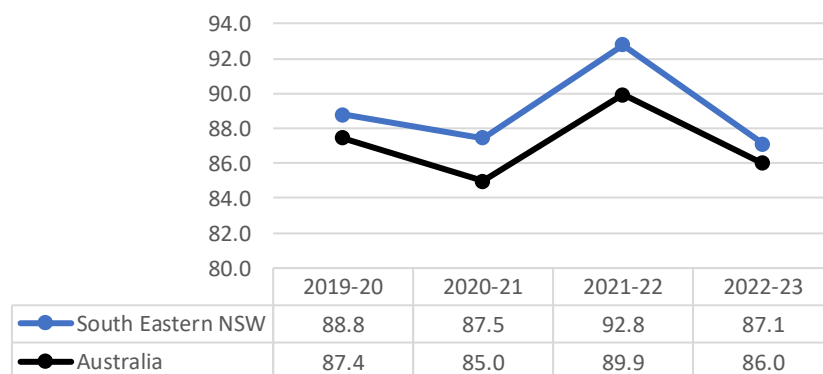
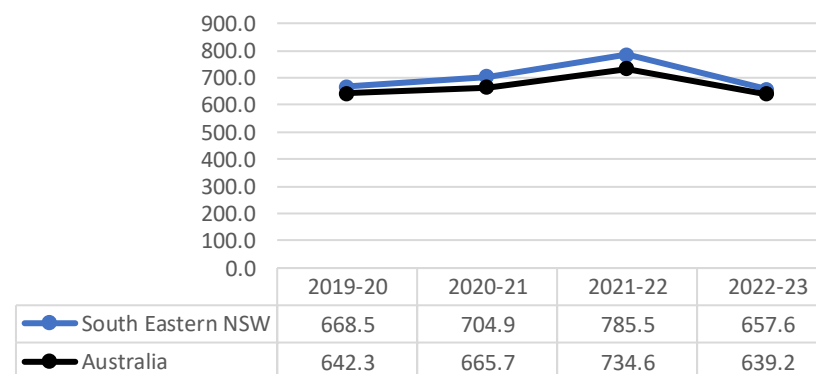
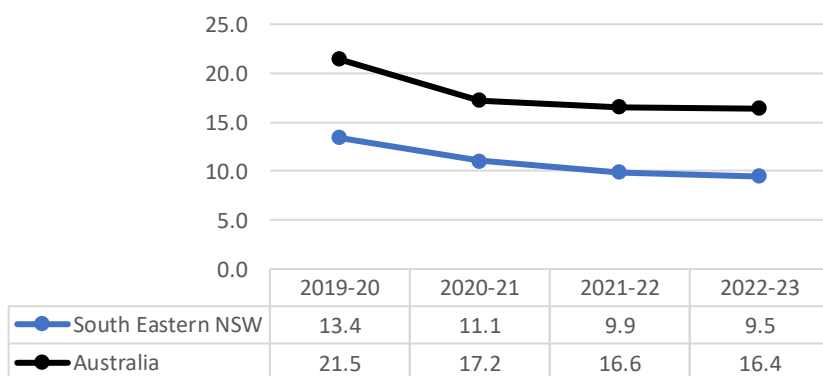
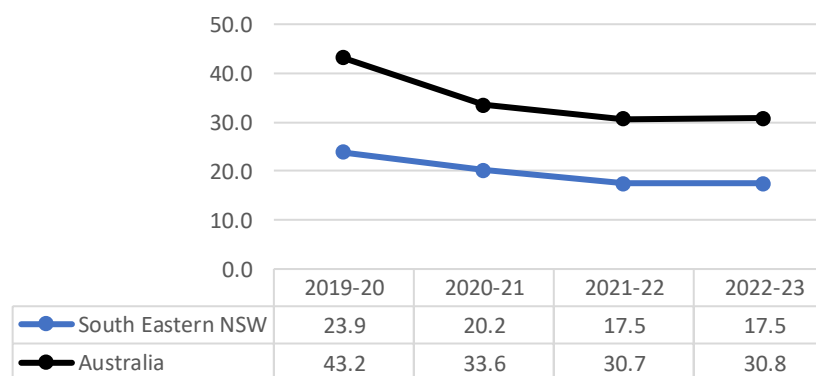
**GP attendances (total)****Percentage of people who had the service (%)****Services per 100 people****GP subtotal - After-hours****Percentage of people who had the service (%)****Services per 100 people**

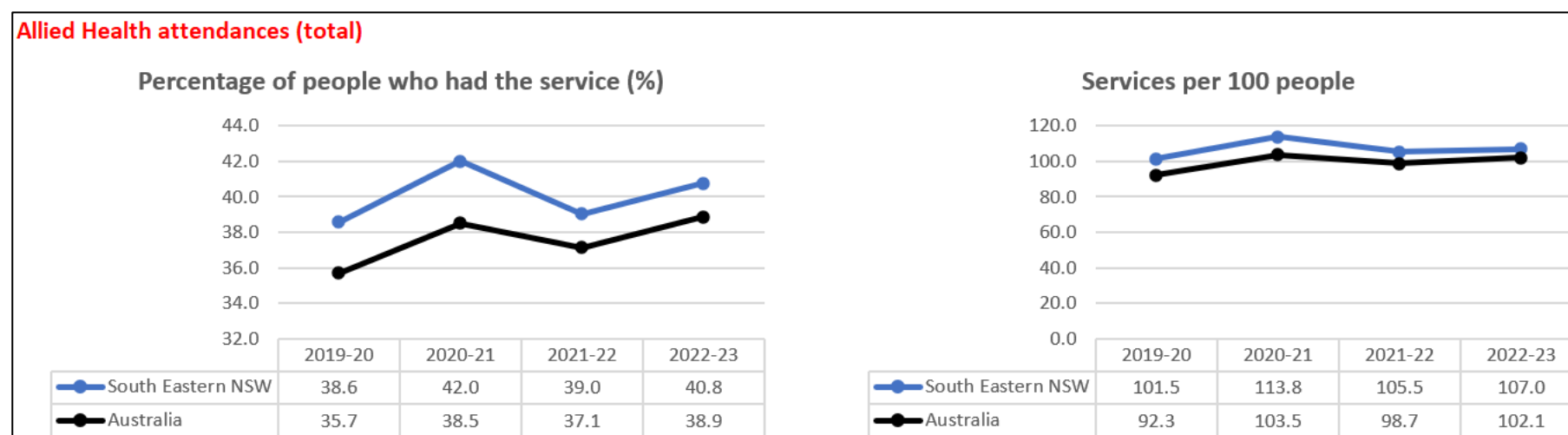
Figure 23: Trends in selected smaller categories of General Practitioner (GP) MBS service provision [33]



### 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. 694,506 Allied Health attendances (total) services were delivered with \$47,228,535 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2022-23. All key Allied health service categories<sup>nnn</sup> have been analysed and illustrated in this report.

Figure 24: Trends in overall Allied health service provision [33]



<sup>nnn</sup> 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 66: Allied health MBS service uptake<sup>ooo</sup>, 2022-23 [33]

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	1.8%	1.7%	2.0%	1.8%	1.9%	1.2%	1.9%	2.7%	1.6%	2.0%	2.0%
Other Psychologist	3.7%	2.0%	3.8%	2.4%	2.4%	1.8%	2.2%	4.0%	1.7%	3.1%	2.7%
Other Allied Mental Health	0.3%	0.2%	0.2%	0.2%	0.7%	0.1%	0.5%	0.2%	0.3%	0.3%	0.4%
<b>Allied Health subtotal - Mental Health Care</b>	<b>5.5%</b>	<b>3.7%</b>	<b>5.7%</b>	<b>4.2%</b>	<b>4.8%</b>	<b>3.0%</b>	<b>4.4%</b>	<b>6.7%</b>	<b>3.5%</b>	<b>5.2%</b>	<b>5.0%</b>
<b>Allied Health subtotal - Optometry</b>	<b>35.0%</b>	<b>32.1%</b>	<b>35.0%</b>	<b>28.7%</b>	<b>37.6%</b>	<b>25.7%</b>	<b>33.6%</b>	<b>34.4%</b>	<b>31.6%</b>	<b>33.9%</b>	<b>31.6%</b>
Audiology		0.1%	0.0%	0.2%		0.0%		0.0%	0.1%	0.1%	0.1%
Diabetes Education		0.1%	0.1%	0.2%				0.1%		0.2%	0.2%
Dietetics	1.0%	1.2%	1.0%	0.7%	1.2%	0.2%	0.6%	0.8%	1.6%	0.9%	0.9%
Occupational Therapy	0.1%	0.0%	0.1%	0.0%	0.1%		0.0%	0.1%		0.1%	0.1%
Podiatry	6.9%	4.7%	6.3%	2.0%	7.8%	2.4%	4.7%	5.1%	3.1%	5.4%	4.6%
Speech Pathology	0.2%	0.0%	0.2%	0.0%	0.1%		0.0%	0.2%	0.1%	0.1%	0.1%
Other Allied Health	0.2%	0.1%	0.2%	0.1%	0.2%		0.1%	0.2%	0.2%	0.1%	0.2%
<b>Allied Health subtotal - Other</b>	<b>8.2%</b>	<b>5.9%</b>	<b>7.6%</b>	<b>3.0%</b>	<b>9.2%</b>	<b>2.7%</b>	<b>5.4%</b>	<b>6.1%</b>	<b>4.7%</b>	<b>6.5%</b>	<b>5.8%</b>
Chiropractic Services	0.6%	0.4%	0.7%	0.1%	0.9%	0.3%	0.5%	0.4%	0.3%	0.5%	0.7%
Exercise physiology	1.0%		0.7%	0.4%	0.8%	0.2%	0.5%	0.8%	0.2%	0.7%	0.6%
Osteopathy	0.5%		0.4%	0.1%	0.8%	0.1%	0.7%	0.6%	0.1%	0.5%	0.4%
Physiotherapy	3.5%	2.6%	3.7%	1.5%	4.2%	2.1%	3.1%	3.6%	2.3%	3.3%	3.7%
<b>Allied Health subtotal - Physical Health Care</b>	<b>5.3%</b>	<b>3.5%</b>	<b>5.2%</b>	<b>2.0%</b>	<b>6.4%</b>	<b>2.5%</b>	<b>4.7%</b>	<b>5.0%</b>	<b>2.8%</b>	<b>4.8%</b>	<b>5.1%</b>
<b>Allied Health attendances (total)</b>	<b>42.8%</b>	<b>37.6%</b>	<b>42.9%</b>	<b>33.2%</b>	<b>44.9%</b>	<b>30.0%</b>	<b>40.0%</b>	<b>42.2%</b>	<b>36.9%</b>	<b>40.8%</b>	<b>38.9%</b>

<sup>ooo</sup> 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 67: Allied health MBS service delivery<sup>PPP</sup>, 2022-23 [33]

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	8.98	8.52	9.53	9.92	9.58	7.61	10.81	15	8.53	10.75	11.21
Other Psychologist	17	8.38	17.95	11.23	11.25	8.57	10.81	20.45	7.67	14.55	13.27
Other Allied Mental Health	1.46	0.87	1.17	0.79	2.62	0.53	1.94	1.29	1.17	1.49	2.02
<b>Allied Health subtotal - Mental Health Care</b>	<b>27.43</b>	<b>17.76</b>	<b>28.64</b>	<b>21.93</b>	<b>23.45</b>	<b>16.7</b>	<b>23.56</b>	<b>36.75</b>	<b>17.37</b>	<b>26.8</b>	<b>26.5</b>
<b>Allied Health subtotal - Optometry</b>	<b>48.04</b>	<b>42.06</b>	<b>48.06</b>	<b>37.93</b>	<b>55.5</b>	<b>31.99</b>	<b>45.76</b>	<b>46.06</b>	<b>42.36</b>	<b>46.4</b>	<b>42.01</b>
Audiology		0.18	0.06	0.42		0.13		0.04	0.23	0.12	0.26
Diabetes Education		0.16	0.13	0.25				0.11		0.21	0.34
Dietetics	1.78	1.62	1.97	1.34	1.81	0.43	1.15	1.55	3.01	1.62	1.63
Occupational Therapy	0.23	0.09	0.29	0.08	0.31		0.06	0.33		0.22	0.31
Podiatry	22.17	12.17	20.72	5.12	21.95	6.88	13.58	15.79	8.6	16.25	13.81
Speech Pathology	0.69	0.1	0.68	0.13	0.38		0.05	0.57	0.12	0.41	0.38
Other Allied Health	0.51	0.25	0.35	0.14	0.25		0.11	0.28	0.33	0.27	0.31
<b>Allied Health subtotal - Other</b>	<b>25.23</b>	<b>14.47</b>	<b>24.09</b>	<b>7.45</b>	<b>25.38</b>	<b>7.63</b>	<b>15.12</b>	<b>18.62</b>	<b>12.34</b>	<b>19.01</b>	<b>17.01</b>
Chiropractic Services	1.97	1.19	2.46	0.29	3.03	1.05	1.67	1.46	1.03	1.79	2.38
Exercise physiology	2.86		2.04	0.94	2.06	0.43	1.19	2.23	0.55	1.82	1.45
Osteopathy	1.75		1.24	0.13	2.68	0.2	2.35	1.78	0.19	1.58	1.15
Physiotherapy	9.92	7.8	11.09	4.36	11.61	5.99	8.66	10.9	5.97	9.57	11.6
<b>Allied Health subtotal - Physical Health Care</b>	<b>16.5</b>	<b>10.66</b>	<b>16.83</b>	<b>5.73</b>	<b>19.38</b>	<b>7.67</b>	<b>13.86</b>	<b>16.38</b>	<b>7.74</b>	<b>14.77</b>	<b>16.57</b>
<b>Allied Health attendances (total)</b>	<b>117.45</b>	<b>85.04</b>	<b>117.72</b>	<b>73.09</b>	<b>123.73</b>	<b>64</b>	<b>98.35</b>	<b>117.87</b>	<b>79.9</b>	<b>107.04</b>	<b>102.12</b>

PPP 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

96,342 Nursing and Aboriginal Health Workers (total) services were delivered with \$1,812,061 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2022-23. Additionally, 709,499 Specialist attendances (total) services were delivered with \$63,054,331 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2022-23. Furthermore, 776,109 Diagnostic Imaging (total) services were delivered with \$130,520,401 spent in Medicare benefits paid for the SENSWPHN catchment residents in 2022-23. All key other health service categories<sup>qqq</sup> have been analysed and illustrated in this report.

*Table 68: Other health services MBS service uptake<sup>rrr</sup>, 2022-23 [33]*

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	0.1%	0.1%	0.1%	0.2%	0.1%	0.0%	0.2%	0.1%	0.1%	0.1%	0.2%
Nurse practitioners	0.4%	0.7%	0.6%	1.6%	0.7%	0.4%	1.4%	0.5%	1.0%	0.8%	1.4%
Practice Nurse/Aboriginal Health Worker	7.2%	6.1%	5.7%	3.0%	11.9%	5.8%	7.3%	5.6%	1.5%	6.8%	6.5%
<b>Nursing and Aboriginal Health Workers (total)</b>	<b>7.6%</b>	<b>6.8%</b>	<b>6.3%</b>	<b>4.5%</b>	<b>12.7%</b>	<b>6.2%</b>	<b>8.7%</b>	<b>6.1%</b>	<b>2.5%</b>	<b>7.5%</b>	<b>7.9%</b>
Early Intervention Services for Children	0.1%		0.1%		0.0%			0.1%		0.1%	0.1%
Psychiatry	2.7%	1.3%	2.6%	1.5%	1.7%	1.0%	1.2%	2.9%	1.5%	2.1%	1.9%
<b>Specialist attendances (total)</b>	<b>36.9%</b>	<b>37.3%</b>	<b>38.6%</b>	<b>27.8%</b>	<b>39.3%</b>	<b>25.8%</b>	<b>32.6%</b>	<b>37.0%</b>	<b>33.1%</b>	<b>35.7%</b>	<b>31.6%</b>
<b>Diagnostic Imaging (total)</b>	<b>43.6%</b>	<b>38.8%</b>	<b>43.3%</b>	<b>31.3%</b>	<b>42.1%</b>	<b>33.9%</b>	<b>39.1%</b>	<b>40.3%</b>	<b>40.1%</b>	<b>40.0%</b>	<b>39.0%</b>

<sup>qqq</sup> Other health service categories include: -

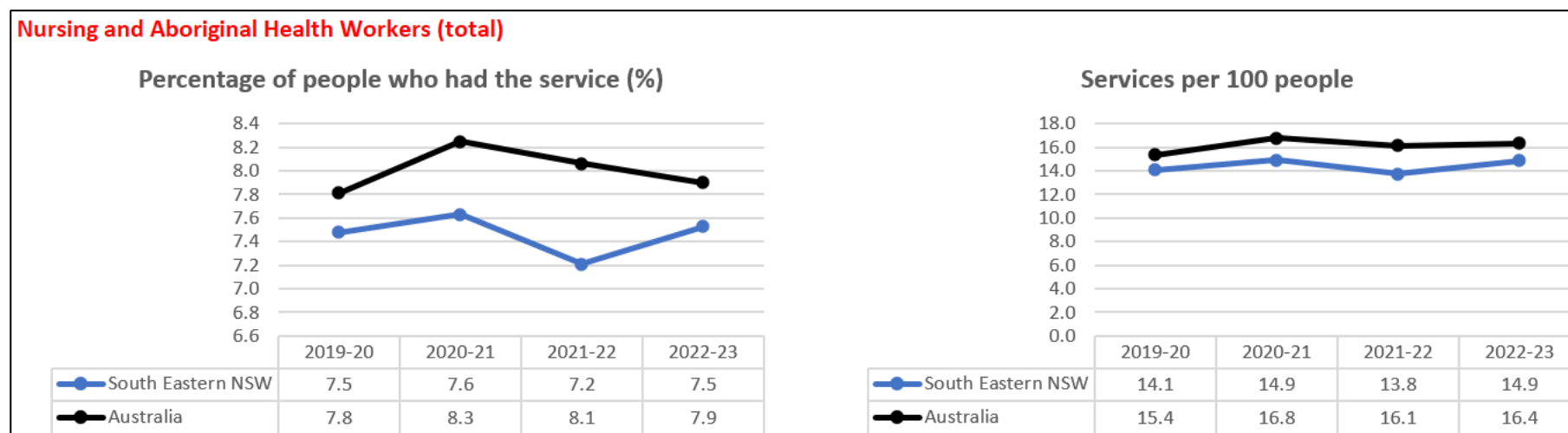
- **Nursing and Aboriginal Health Workers (total)** include services provided by Practice Nurses, Aboriginal Health Workers, Midwives, and Nurse Practitioners
- **Diagnostic Imaging services (total)** include Medicare-subsidised diagnostic imaging procedures such as X-rays, computerised tomography scans, 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.

<sup>rrr</sup> 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 69: Other health services MBS service delivery<sup>sss</sup>, 2022-23 [33]

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	0.39	0.26	0.49	0.55	0.83	0.13	1.97	0.59	0.19	0.71	0.82
Nurse practitioners	0.95	1.99	1.11	3.85	1.58	0.95	2.49	1.17	2.11	1.69	3.93
Practice Nurse/Aboriginal Health Worker	12.87	9.61	10.82	4.91	23.87	9.86	13.19	10.01	2.45	12.44	11.6
<b>Nursing and Aboriginal Health Workers (total)</b>	<b>14.2</b>	<b>11.87</b>	<b>12.42</b>	<b>9.31</b>	<b>26.28</b>	<b>10.94</b>	<b>17.66</b>	<b>11.77</b>	<b>4.76</b>	<b>14.85</b>	<b>16.35</b>
Early Intervention Services for Children	0.1		0.06		0.04			0.05		0.05	0.05
Psychiatry	9.26	3.52	9.17	5.01	6.14	3.23	4.28	10.66	4.9	7.35	7.95
<b>Specialist attendances (total)</b>	<b>118.19</b>	<b>111.2</b>	<b>123.21</b>	<b>72.32</b>	<b>123.96</b>	<b>63.68</b>	<b>88.42</b>	<b>121.43</b>	<b>89.9</b>	<b>109.35</b>	<b>97.84</b>
<b>Diagnostic Imaging (total)</b>	<b>142.65</b>	<b>108.6</b>	<b>139.44</b>	<b>76.1</b>	<b>130.07</b>	<b>79.76</b>	<b>102.3</b>	<b>126.34</b>	<b>111.44</b>	<b>119.62</b>	<b>106.41</b>

Figure 25: Trends in overall Nursing and Aboriginal Health Workers service provision [33]



<sup>sss</sup> 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 26: Trends in overall Specialist service provision [33]

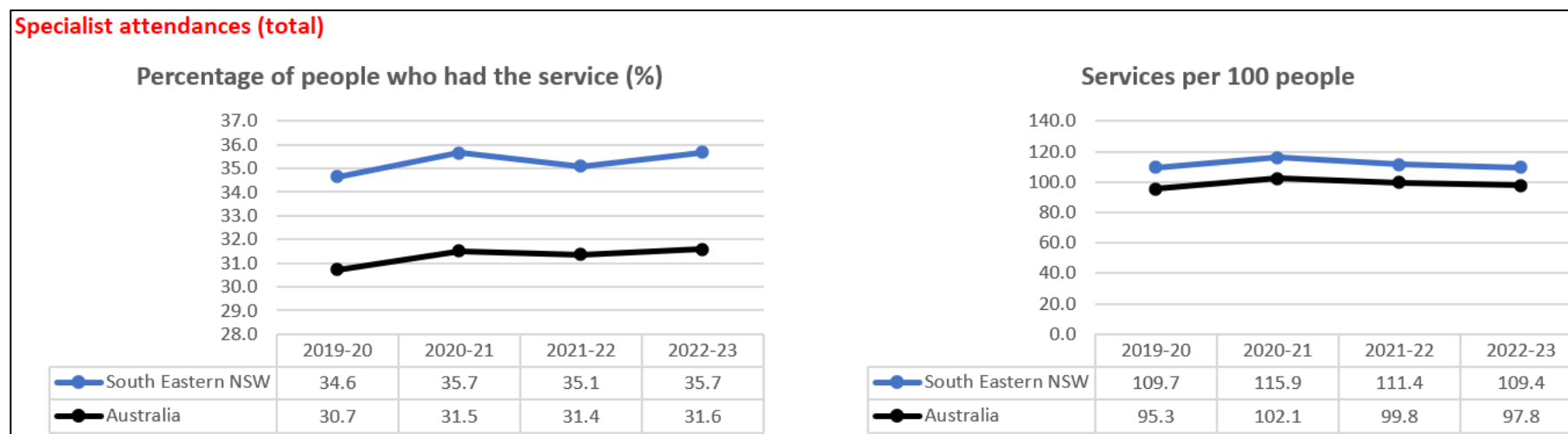
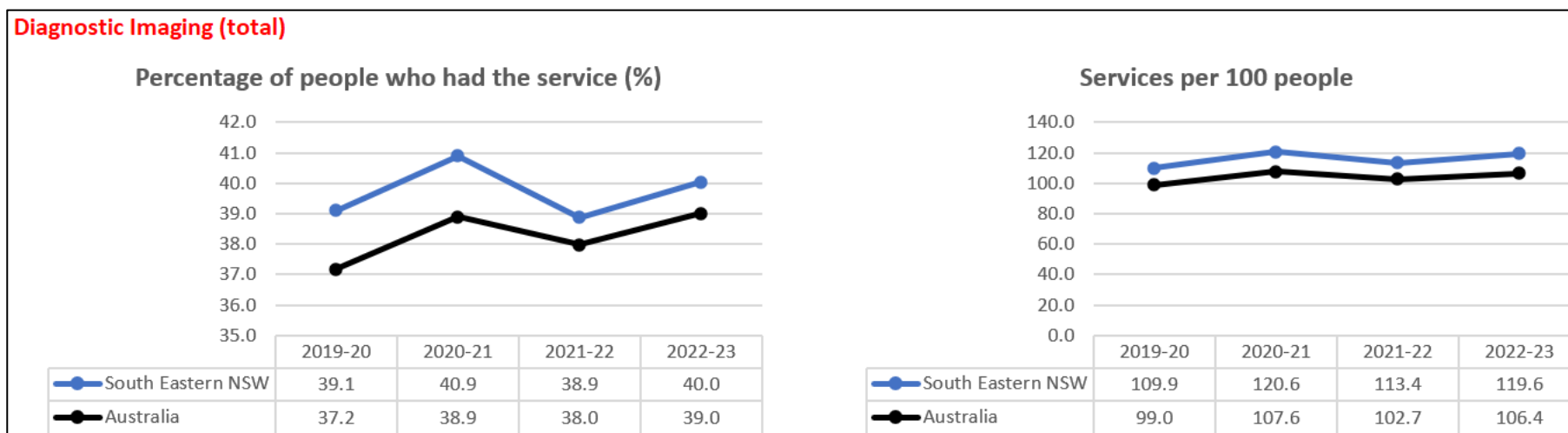


Figure 27: Trends in overall Diagnostic Imaging service provision [33]



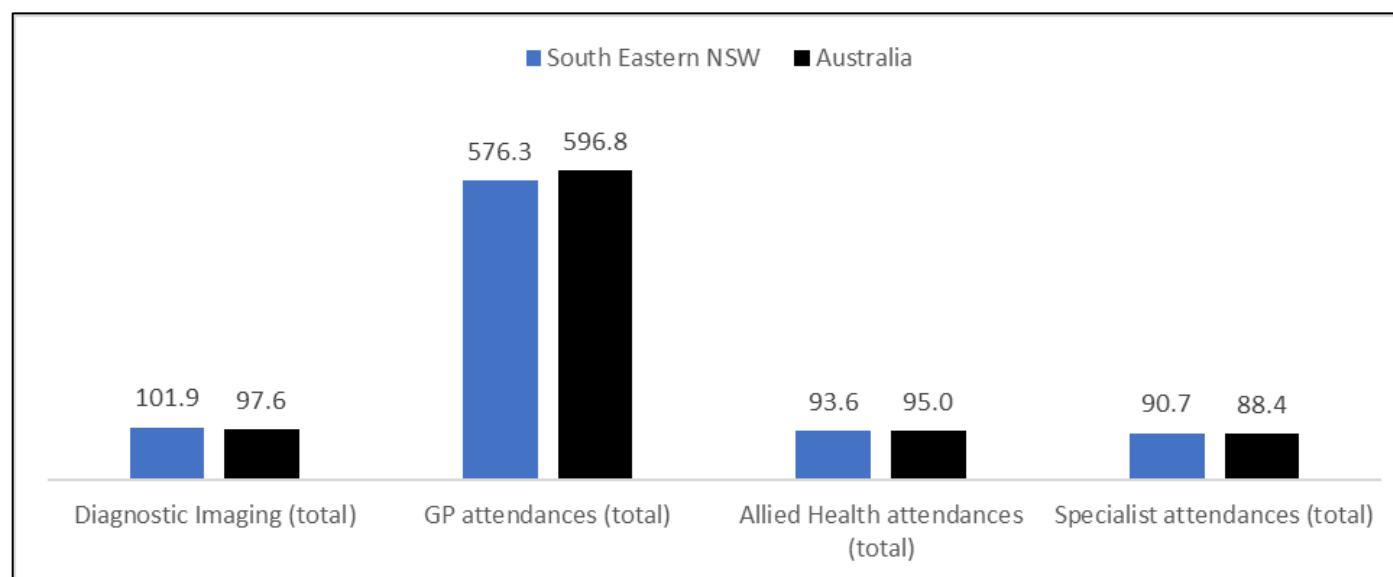
### 5.2.4. Demographic attribute-specific insights

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 70: Services delivered to persons aged 65 years and over as a proportion of total MBS services delivered to all persons of the resident population, 2022-23 [33]*

Service	Dapto - Port Kembla	Goulburn - Mulwaree	Kiama - Shellharbour	Queanbeyan	Shoalhaven	Snowy Mountains	South Coast	Wollongong	Young - Yass	SENSWPHN	Australia
GP attendances (total)	37.2%	38.3%	39.5%	28.0%	49.0%	39.8%	50.7%	37.3%	38.2%	<b>40.7%</b>	33.6%
Nursing and Aboriginal Health Workers (total)	57.5%	55.2%	67.2%	47.4%	62.2%	73.5%	55.2%	64.6%	53.8%	<b>60.5%</b>	53.7%
Allied Health attendances (total)	39.7%	43.3%	41.1%	27.2%	51.0%	40.0%	51.9%	34.8%	38.0%	<b>41.5%</b>	34.2%
Specialist attendances (total)	43.3%	48.7%	46.2%	31.9%	55.2%	47.2%	58.0%	43.8%	44.1%	<b>47.2%</b>	41.1%
Diagnostic Imaging (total)	38.5%	41.4%	41.7%	31.2%	50.5%	40.1%	50.2%	39.3%	41.2%	<b>42.3%</b>	35.4%

*Figure 28: Age-standardised rates<sup>ttt</sup> of overall total services delivered per 100 people, 2022-23 [33]*



<sup>ttt</sup> **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 2022 estimates [34] the SENSWPHN catchment had:

- 78 Residential Aged Care Facility (RACF) services; 68 home care services and 136 home support outlets
- The occupancy rate for residential aged care in the SENSWPHN catchment was 84.4%
- There was lower than the NSW state average and also lower than the Australian national average for the rate of residential care places per 1,000 persons aged 70 years and over. 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. However, the utilisation figures of most care types are higher for the SENSWPHN catchment. This is reflective of the mismatch between supply meeting with the high/increasing demand in the catchment.

Figure 29: Trends in overall places of residential aged care per 1,000 persons aged 70 years and over [34]

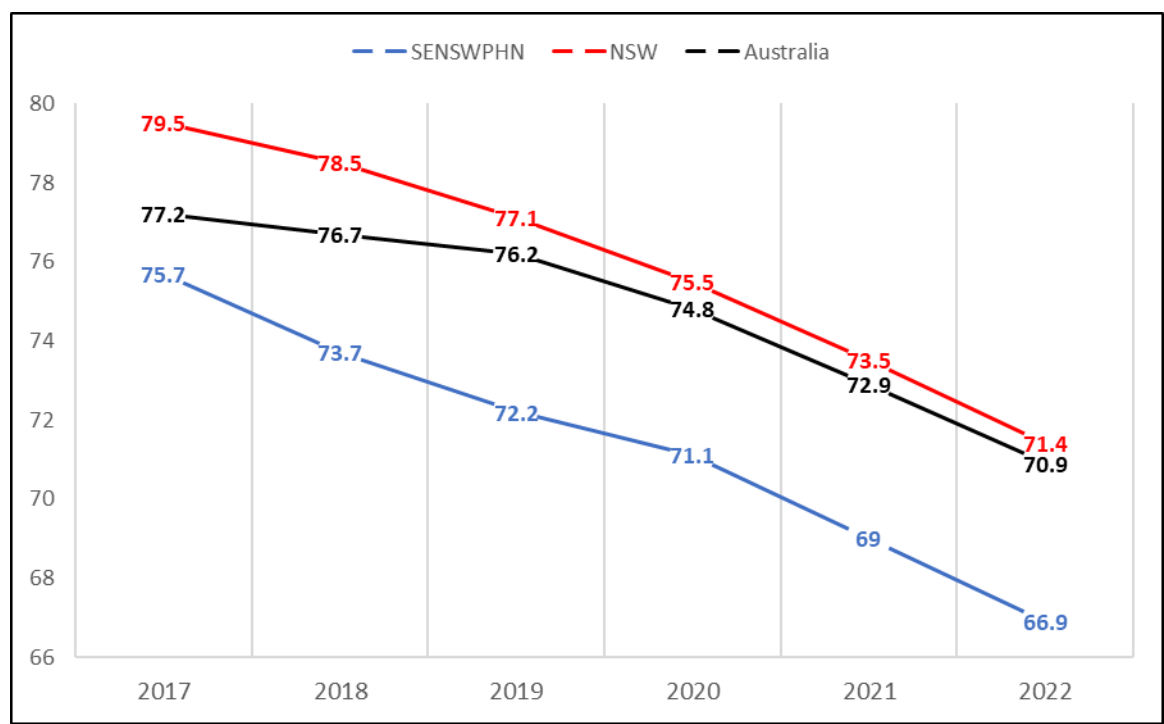
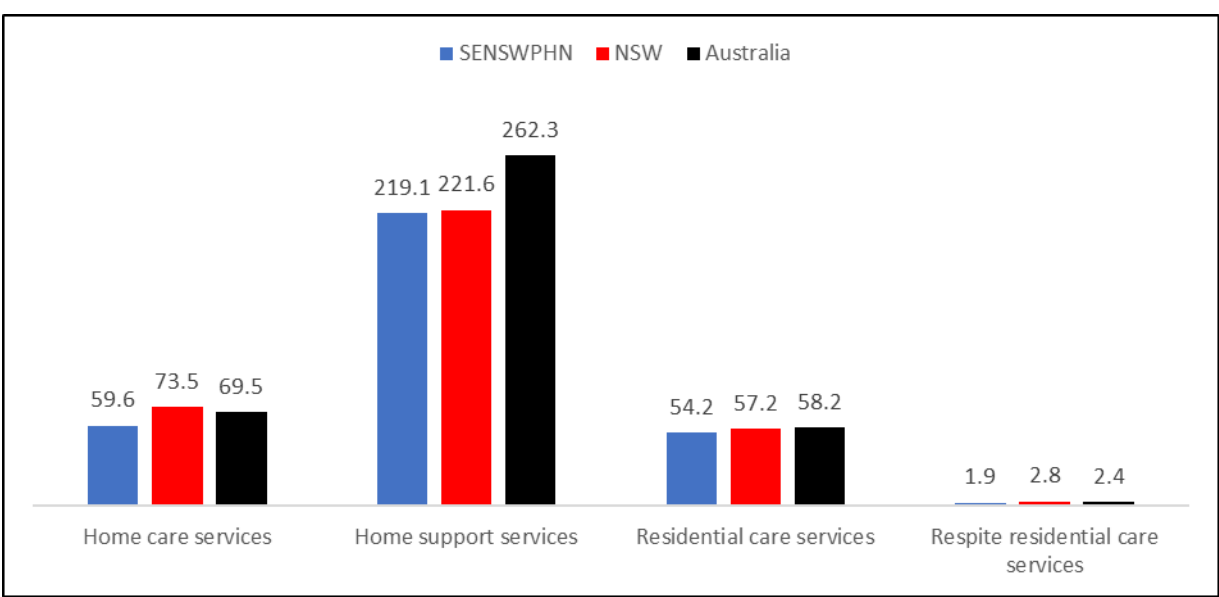


Figure 30: Utilisation of care types per 1,000 persons aged 70 years and over, 2022 [34]





- 51.9% of people using permanent residential aged care in the catchment had a diagnosis of dementia
- Among persons who used home support services:
  - 2.7% were identified as Aboriginal;
  - 26.1% were born outside of Australia;
  - 6.7% spoke a preferred language other than English;
  - 85.1% of did not have a carer;
  - 24% had some form of disability; and
  - 47.3% lived alone.

As per 2022-23 figures, a total of 105,381 occasions of MBS funded/subsidised GP services were delivered to 7,857 persons within residential aged care facilities in the SENSWPHN catchment [33]. This equated to 13.4 GP attendance per residential aged-care patients<sup>uuu</sup> for the catchment which was the seventh-lowest figure among all 31 PHNs for and was substantially lower than the Australian national average figure of 16.8 GP attendance per residential aged-care patient.

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<sup>uuu</sup> **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.

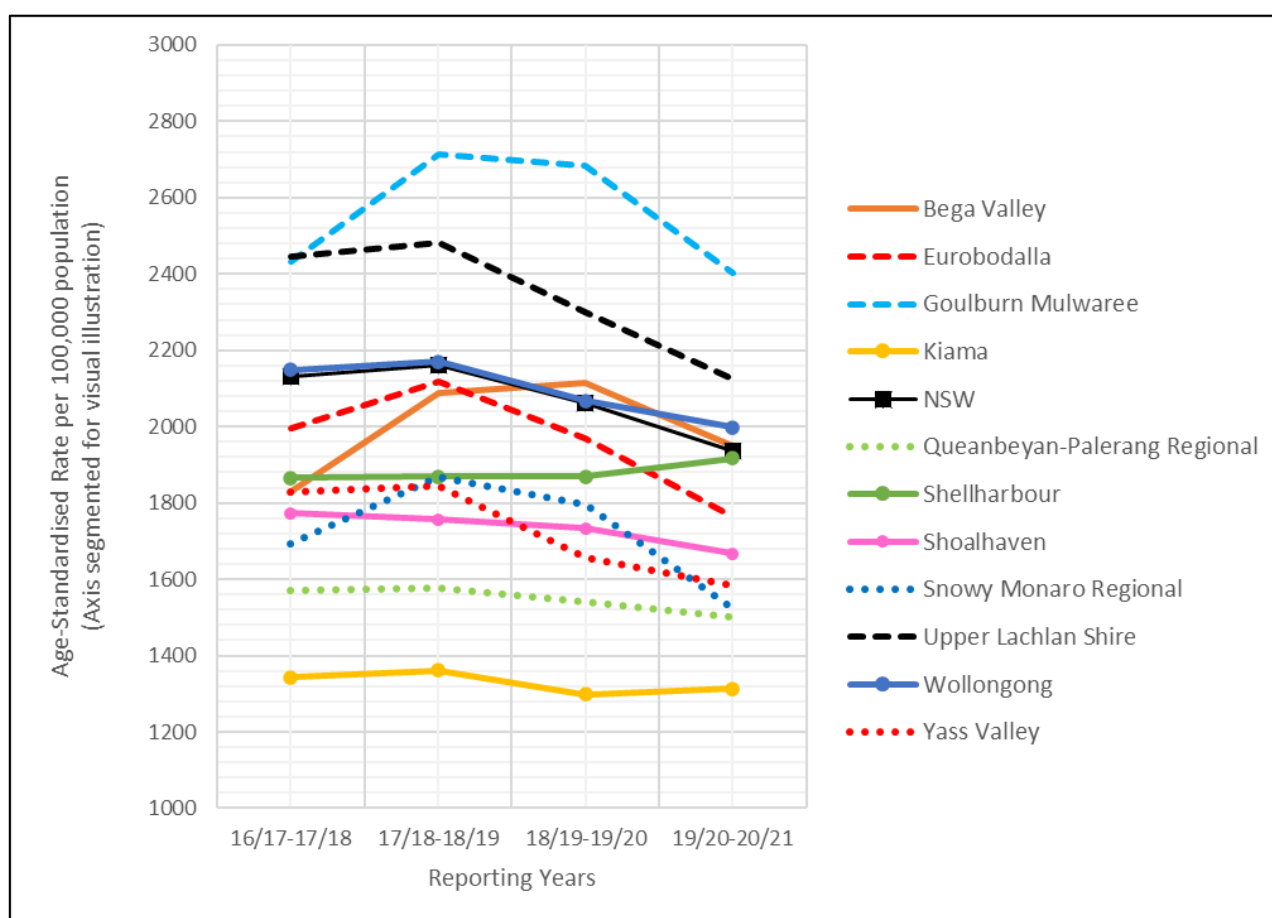
## 5.4. Brief health service usage insights of selected topics closely related to primary care

### 5.4.1. Potentially Preventable Hospitalisation (PPH)

'Potentially Preventable Hospitalisations' (PPH) are defined<sup>vvv</sup> 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 category<sup>www</sup>.

Overall age-standardised<sup>xxx</sup> hospitalisation rates for the SENSWPHN catchment<sup>vvv</sup> for PPH overall and all of its sub-categories were lower than NSW state average rates [35]. While overall PPH rates are declining there are some regions that have higher rates than the NSW state average figures.

Figure 31: Trends in regional age-standardised rates per 100,000 population<sup>zzz</sup> of total Potentially Preventable Hospitalisation (PPH) [35]



<sup>vvv</sup> 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).

<sup>www</sup> 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.

<sup>xxx</sup> **Age-standardised rates** are standardised to a specific standard age structure to facilitate comparison between populations of differing age structure 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.

<sup>vvv</sup> Figures are based on where a person resides, rather than where they are treated or the admitting hospital.

<sup>zzz</sup> 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 71: Age-standardised rates of PPH per 100,000 population by PPH categories, 2020-21 [35]

Boundaries	Acute conditions	Chronic conditions	Vaccine-preventable conditions	Total
Illawarra Shoalhaven	973.7	804.9	122.3	1888.6
Southern NSW	909.8	925.6	110.7	1934.2
<b>SENSWPHN</b>	<b>948.3</b>	<b>841.7</b>	<b>118.5</b>	<b>1896.4</b>
NSW	992.8	819.1	199.2	1988.9

The LHD level comparison of hospitalisation rates for all individual conditions included within the definition of PPH, shows how the respective LHDs vary according to the respective PPH condition of interest being examined.

Table 72: Age-standardised rates of PPH per 100,000 population by PPH conditions<sup>aaaa</sup>, 2020-21 [35]

Condition	Illawarra Shoalhaven	Southern NSW	SENSWPHN	NSW
Angina	60.1	58.9	59.7	62.4
Asthma	52.1	70	57.7	78.8
Bronchiectasis	9.9	8	9.4	14.8
Cellulitis	211.2	255.4	226.4	237.9
Congestive cardiac failure	134.7	136.6	135.7	139.7
Convulsions and epilepsy	107.6	118.2	110.9	119.6
COPD	146.5	177.1	157.2	130.2
Dental conditions	408.9	136	316.6	279.8
Diabetes complications	150.4	152.1	150.3	126.9
Ear, nose and throat infections	77.5	123.7	92.3	136.2
Eclampsia	0	0	0	0.4
Gangrene	35	22.3	30.8	25.5
Hypertension	20.4	20.8	20.3	36.2
Iron deficiency anaemia	156.9	161.9	155.8	166.5
Nutritional deficiencies	3.1	1.7	2.7	1.8
Other vaccine-preventable conditions	28.9	24.1	27.1	72.5
Pelvic inflammatory disease	12.5	8.5	11.3	13.4
Perforated/bleeding ulcer	12.7	14.8	13.4	15.6
Pneumonia (not vaccine-preventable)	1.2	3.2	1.9	3
Pneumonia and influenza (vaccine-preventable)	15.4	40	23.7	15.4
Rheumatic heart diseases	9.9	3.6	7.8	8.7
Urinary tract infections, including pyelonephritis	186.7	221.9	197.7	218.8

<sup>aaaa</sup> 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.

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<sup>bbbb</sup> was analysed for all predominant PPH defined conditions across the SENSWPHN catchment. This revealed that as of the latest period for the SENSWPHN catchment, COPD was the biggest contributor to the total health services burden due to potentially preventable hospitalisations.

Figure 32: Total bed days of PPH in the SENSWPHN catchment by PPH conditions, 2020-21 [35]

Illawarra Shoalhaven		Southern NSW		SENSWPHN	
Congestive cardiac failure	5660	Cellulitis	3266	Congestive cardiac failure	8087
COPD	5221	COPD	2731	COPD	7952
Diabetes complications	5201	Congestive cardiac failure	2427	Cellulitis	7754
Cellulitis	4488	Urinary tract infections,...	2367	Diabetes complications	7038
Urinary tract infections,...	3989	Diabetes complications	1837	Urinary tract infections,...	6356
Gangrene	2294	Gangrene	836	Gangrene	3130
Dental conditions	1981	Pneumonia and influenza...	674	Dental conditions	2374
Iron deficiency anaemia	1398	Convulsions and epilepsy	636	Convulsions and epilepsy	2029
Convulsions and epilepsy	1393	Iron deficiency anaemia	540	Iron deficiency anaemia	1938
Other vaccine-preventable...	1051	Other vaccine-preventable...	490	Other vaccine-preventable...	1541
Angina	848	Dental conditions	393	Pneumonia and influenza...	1317
Pneumonia and influenza...	643	Ear, nose and throat...	387	Angina	1153
Asthma	604	Asthma	368	Asthma	972
Ear, nose and throat...	503	Angina	305	Ear, nose and throat...	890
Bronchiectasis	481	Perforated/bleeding ulcer	207	Perforated/bleeding ulcer	674
Perforated/bleeding ulcer	467	Hypertension	172	Bronchiectasis	611
Rheumatic heart diseases	428	Rheumatic heart diseases	136	Rheumatic heart diseases	564
Hypertension	315	Bronchiectasis	130	Hypertension	487
Nutritional deficiencies	214	Pneumonia (not vaccine-...	110	Nutritional deficiencies	307
Pelvic inflammatory disease	103	Nutritional deficiencies	93	Pneumonia (not vaccine-...	147
Pneumonia (not vaccine-...	37	Pelvic inflammatory disease	39	Pelvic inflammatory disease	142
Eclampsia	0	Eclampsia	0	Eclampsia	0

<sup>bbbb</sup> **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.

Hospitalisation rates for PPH in total are almost 2.5 times higher for Aboriginal<sup>§</sup> persons in NSW compared to the rates in the non-Indigenous population in NSW with rates being almost 3 times higher for the chronic conditions category of PPH.

While PPH rates by Aboriginality<sup>§</sup> are not available for PHN catchment regions (or any smaller administrative boundaries), at the NSW state level the age-standardised rates for PPH for the Aboriginal population are over 2 times higher than rates amongst non-Indigenous population for several conditions such as COPD, Diabetes complications, Convulsions and epilepsy, Other vaccine-preventable conditions, Pelvic inflammatory disease, Cellulitis, Congestive cardiac failure, Perforated/bleeding ulcer, Angina, Gangrene, Iron deficiency anaemia and Pneumonia and influenza (vaccine-preventable).

#### 5.4.2. Low urgency care emergency department presentations

'Low Urgency Care' is defined<sup>cccc</sup> 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 SENSOWPHN catchment had a higher than Australian national rate for low urgency care ED presentations and overall proportion of all ED presentations in the catchment that were categorised as low urgency care was higher than the national Australian figures [36] with a substantial proportion presenting during the after-hours period<sup>dddd</sup>.

Table 73: ED presentations for low urgency care by time period of presentation, 2021-22 [36]

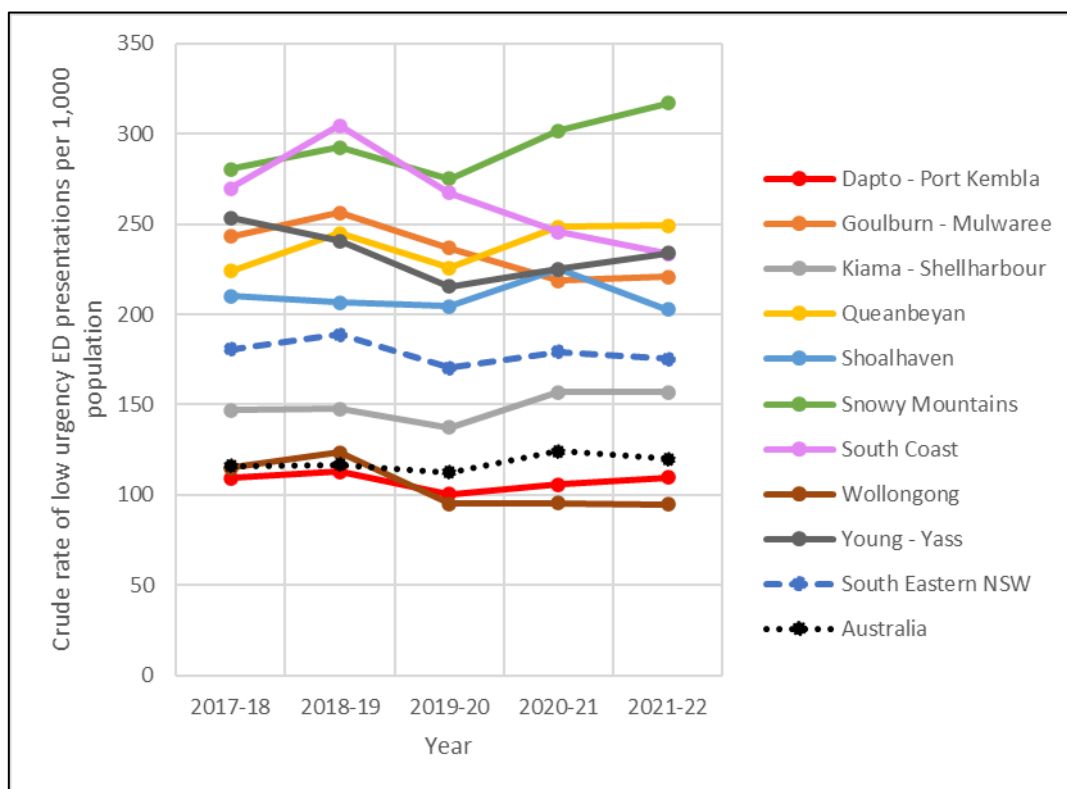
Areas Version 2	Age Standardised Rate per 1,000 Population			After-hours low urgency care ED presentations as % of all low urgency care ED presentations
	After-hours	In usual hours	Total	
Dapto - Port Kembla	56.2	59.7	115.9	48.3%
Goulburn - Mulwaree	102.9	129.9	232.8	43.3%
Kiama - Shellharbour	77.4	89.5	166.9	46.1%
Queanbeyan	112.8	142.8	255.5	44.2%
Shoalhaven	101.6	128.5	230.1	43.4%
Snowy Mountains	121.9	202.8	324.7	36.8%
South Coast	106.5	171.2	277.7	37.2%
Wollongong	48.4	50.3	98.7	49.0%
Young - Yass	102	146.4	248.4	40.6%
<b>SENSOWPHN</b>	<b>81.9</b>	<b>104.5</b>	<b>186.4</b>	<b>43.1%</b>
<i>Australia</i>	<i>55.9</i>	<i>68.5</i>	<i>124.4</i>	<i>44.5%</i>

<sup>cccc</sup> 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).

<sup>dddd</sup> **After-hours** includes Sundays, public holidays, weekdays before 8am and from 8pm, and Saturdays before 8am and after 1pm

The trends in the rates of low urgency care ED presentations for the SENSWPHN catchment show some variability across the years especially in some pockets.

Figure 33: Trends in area-level rate of ED presentations for low urgency care per 1,000 population



Using age-standardised rates<sup>eeee</sup> of ED presentations for low urgency care per 1,000 population, the SENSWPHN was reported to have the 8<sup>th</sup> highest rates among all reportable<sup>ffff</sup> PHN catchments in Australia. Crude rates were higher for the younger age groups.

Table 74: Crude rate of ED presentations for low urgency care per 1,000 population by demographic attributes, 2021-22 [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	139.4	165.3	129.1	77.5	121.3	59.7	111.7	107.6	109.7
Goulburn - Mulwaree	261.2	341.6	235.5	166.6	232.2	178.5	212.9	228.3	220.8
Kiama - Shellharbour	194.9	225	184.7	121.6	172.8	92.5	153.5	160.1	156.7
Queanbeyan	338.1	347.8	244.1	171.2	255.5	205.9	254.5	243.8	249.1
Shoalhaven	267.8	324.8	255.8	156.6	231.9	126.4	202.7	203	202.8
Snowy Mountains	368	420.4	297.4	256.7	313.9	328.7	316.7	317.5	317.1
South Coast	311.2	399	299.8	189.7	267.7	156.1	228.2	238.9	233.6
Wollongong	114.7	134	110.2	77.1	105.4	46.9	91.6	98.1	94.9
Young - Yass	298.3	348.4	242.6	167.5	244.6	193.2	234.1	233.6	234
<b>SENSWPHN</b>	<b>223</b>	<b>249.5</b>	<b>196</b>	<b>137</b>	<b>190.1</b>	<b>121.1</b>	<b>173.2</b>	<b>177.6</b>	<b>175.5</b>
<i>Australia</i>	<i>169.8</i>	<i>157.3</i>	<i>124.7</i>	<i>90.7</i>	<i>129.4</i>	<i>74.4</i>	<i>117.9</i>	<i>122.2</i>	<i>120.1</i>

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

<sup>eeee</sup> **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.

<sup>ffff</sup> 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.

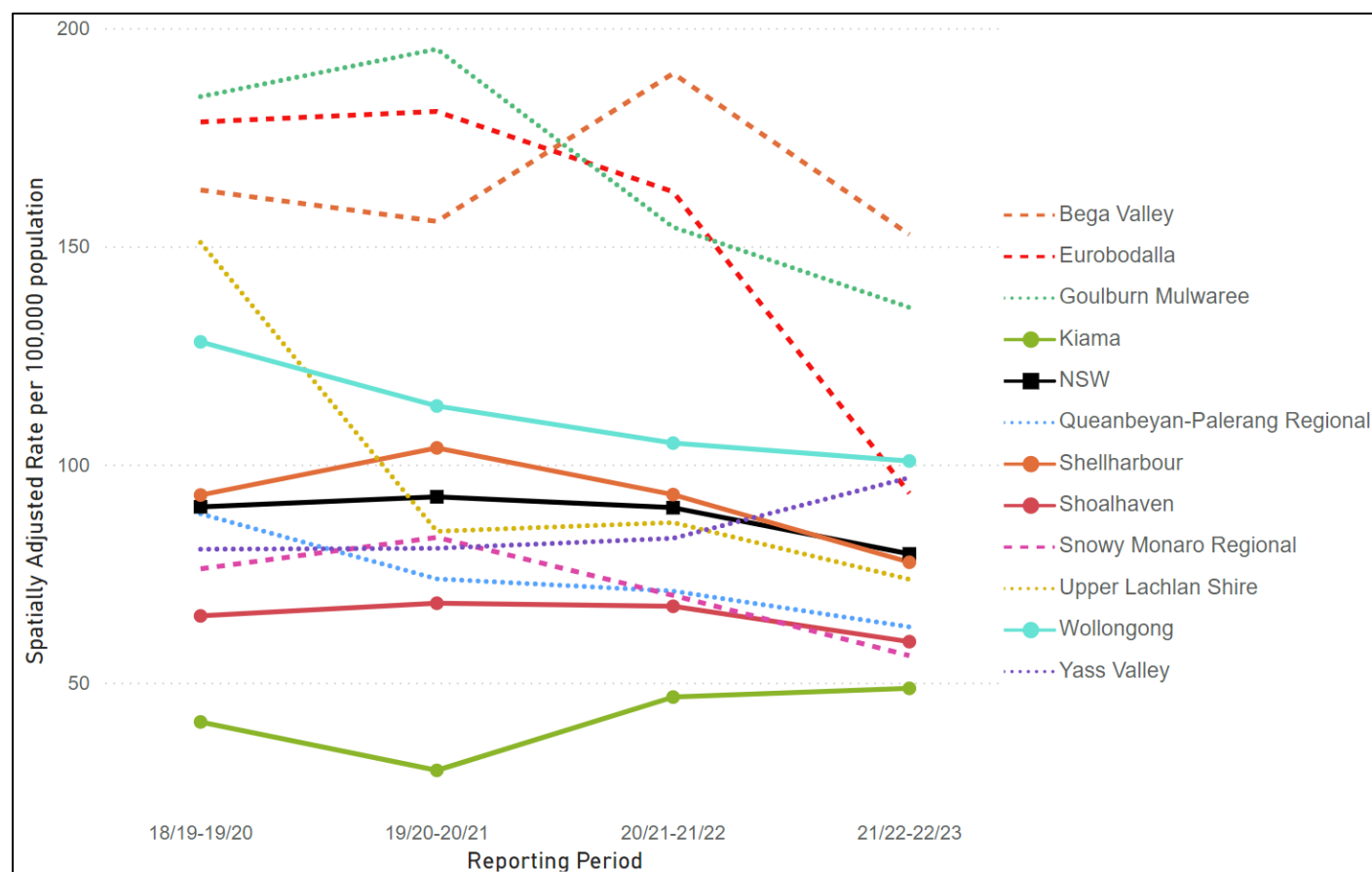
### 5.4.3. Intentional self-harm hospitalisation

Intentional self-harm hospitalisations<sup>gggg</sup> are defined as those reported to have resulted from purposefully self-inflicted poisoning or injury and include attempted suicide<sup>hhhh</sup>.

As per latest estimates, the SENSWPHN had the 4<sup>th</sup> highest age-standardised rates of intentional self-harm hospitalisation among all 10 PHNs in NSW with rates among females being 1.6 times higher than males [35].

Regional figures show some concerning trends for some regions or some regions that have higher rates than the NSW state average figures [35].

*Figure 34: Trends in regional age-standardised rates per 100,000 population of intentional self-harm hospitalisation [35]*



While intentional self-harm hospitalisation figures by Aboriginality<sup>g</sup> 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 times higher among Aboriginal<sup>g</sup> persons compared to non-Indigenous persons with this ethnicity-based disparity being higher within males. However overall rates even within Aboriginal<sup>g</sup> persons continue to be higher in females than males.

<sup>gggg</sup> 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).

<sup>hhhh</sup> 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.



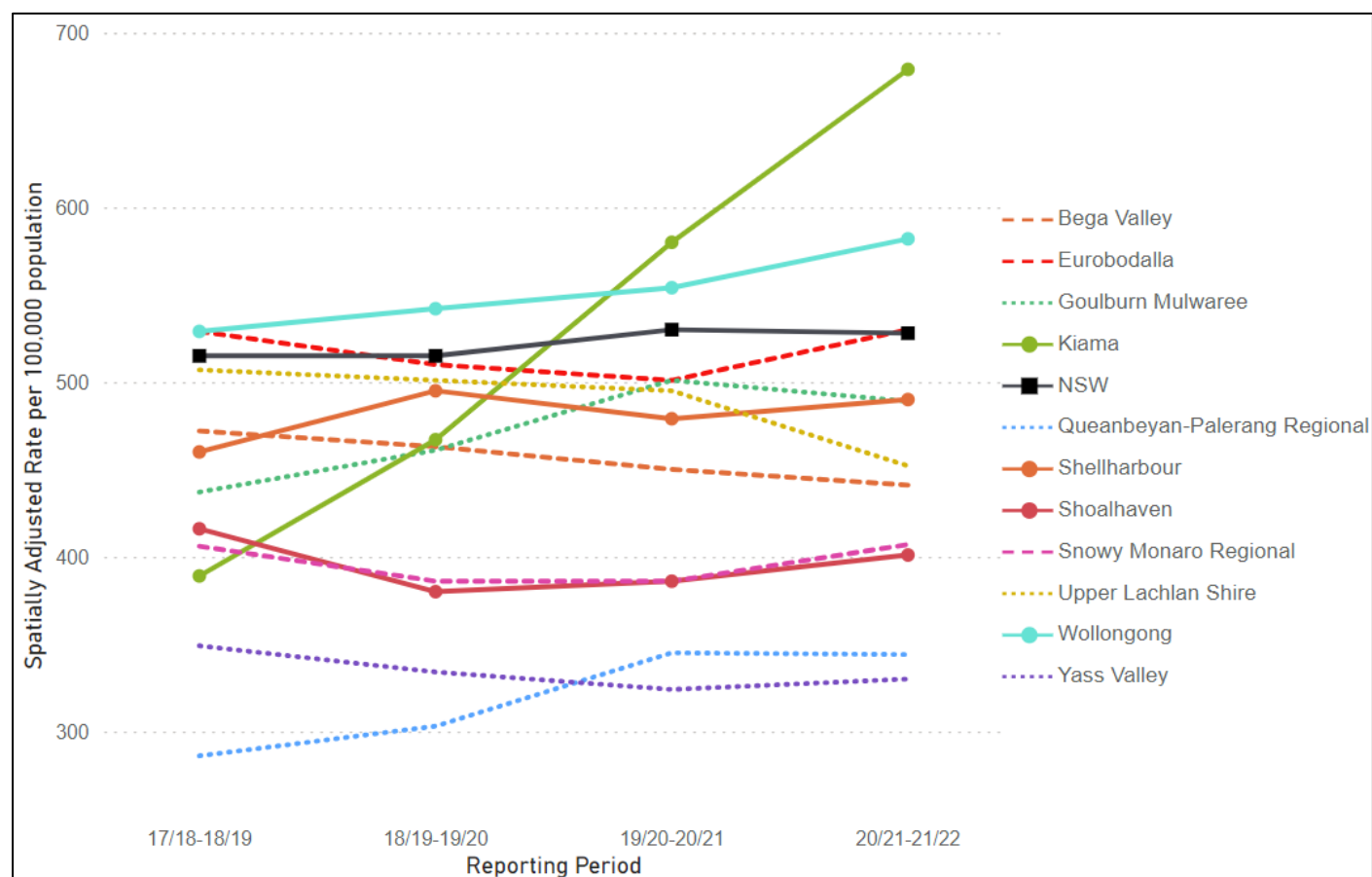
#### 5.4.4. Alcohol attributable hospitalisation

Alcohol attributable hospitalisations<sup>iii</sup> are a means to capture the burden that risky alcohol consumption has on hospitalisations.

As per latest estimates, the SENSWPHN had the 4<sup>th</sup> 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 for some regions or some regions that have higher rates than the NSW state average figures [35].

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



While alcohol attributable hospitalisation figures by Aboriginality<sup>§</sup> 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 over 2 times higher among Aboriginal<sup>§</sup> persons compared to non-Indigenous persons with this ethnicity-based disparity being higher within males.

<sup>iii</sup> 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).

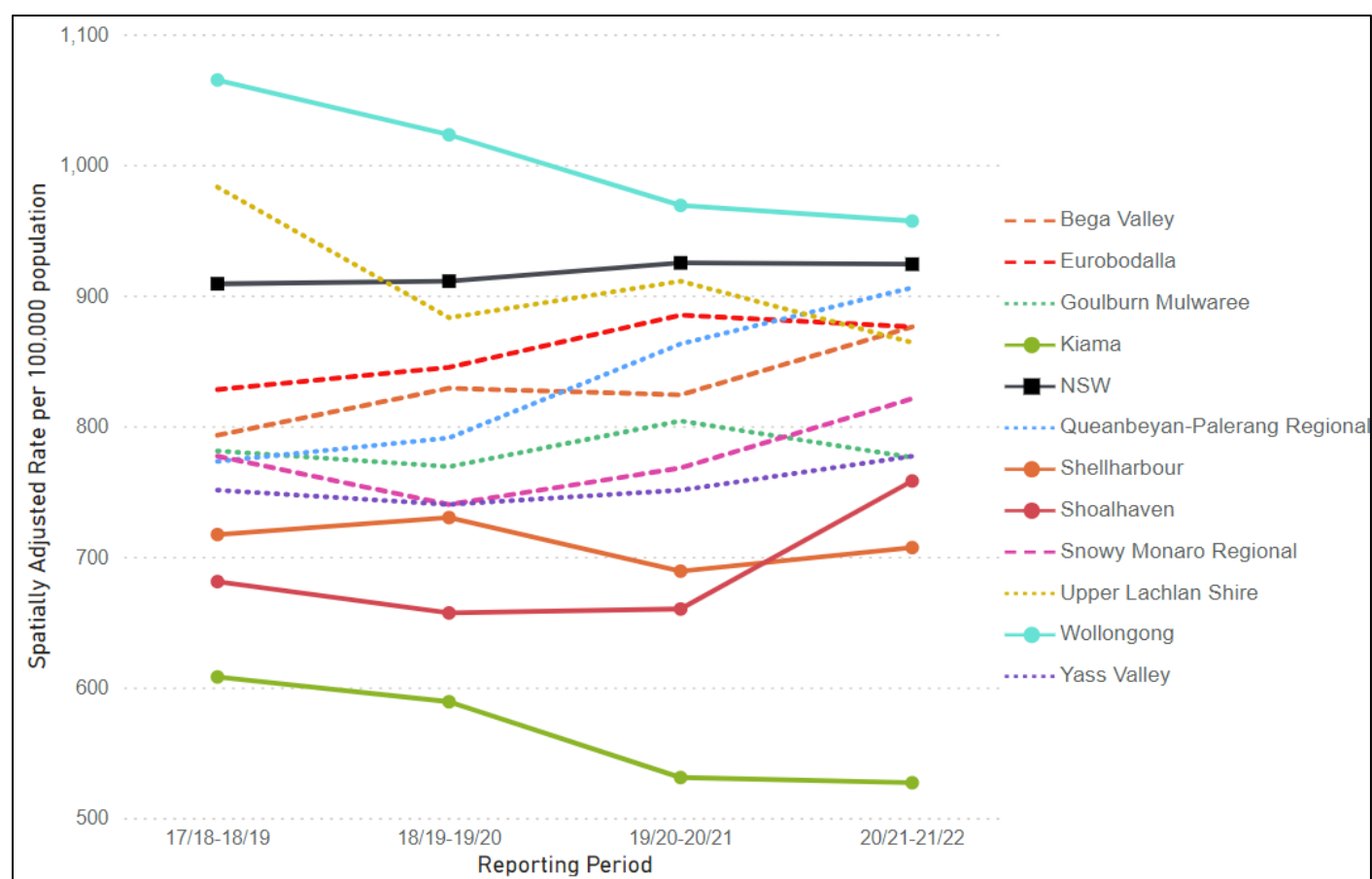
### 5.4.5. Fall related hospitalisation

Falls especially within the population aged 65 years and over has been assessed for its overall contribution to hospitalisation burden<sup>iiii</sup>.

As per latest estimates, the SENSWPHN seems to have relatively low rates compared to the other PHNs in NSW with rates among males being higher than females [35]. Persons aged 65 years and over accounted for almost 66% of all fall related hospitalisations for the SENSWPHN; with over 74% of them having fall related injury as the principal diagnosis.

While at a regional level the rates cannot be split by age group, from an overall population perspective as per latest estimates there are concerning trends for some regions or some regions that have higher rates than the NSW state average figures [35].

Figure 36: Trends in regional age-standardised rates per 100,000 population of total fall related hospitalisation [35]



While fall related hospitalisation figures by Aboriginality<sup>§</sup> are not available for PHN catchment regions (or any smaller administrative boundaries), at the NSW state level the latest figures suggest that fall related hospitalisation rates are 1.4 times higher among Aboriginal<sup>§</sup> persons compared to non-Indigenous persons with this ethnicity-based disparity being higher within males.

<sup>iiii</sup> This indicator excludes ED-only episodes, excludes rehabilitation admissions and focuses on total fall related hospitalisations including where fall related Injury is the principal diagnosis as well as where fall is associated with other external primary diagnosis.

## 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. Australian Bureau of Statistics (ABS). *Australian Statistical Geography Standard (ASGS) Edition 3*. 2021 [cited 2022 7/09/2022].
6. 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*. 2024 [cited 2024 08/05/2024].
7. Australian Bureau of Statistics (ABS). *Regional Population by Age and Sex*. 2023 02/09/2024].
8. NSW Department of Planning and Environment. *NSW state and Local Government Area (LGA) population and household projections*. 2022 [cited 2022 10/08/2022].
9. Australian Bureau of Statistics (ABS). *Census of Population and Housing, Australia, 2021 - Data Packs*. 2021 [cited 2022 12/18/2022].
10. Public Health Information Development Unit (PHIDU). *Social Health Atlas of Australia: Local Government Areas (online)*. 2023 [cited 2023 24/07/2023].
11. Public Health Information Development Unit (PHIDU). *Social Health Atlas of Australia: Primary Health Networks (online)*. 2023 [cited 2023 24/07/2023].
12. Australian Bureau of Statistics (ABS). *Socio-Economic Indexes for Areas (SEIFA), Australia*. 2021 [cited 2023 06/06/2023].
13. 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].
14. Jobs and Skills Australia. *Small Area Labour Markets*. 2024 [cited 2024 23/05/2024].
15. Australian Government Department of Families Housing Community Services and Indigenous Affairs (FaHCSIA), *The Road Home. A National Approach to Reducing Homelessness*. 2008, FaHCSIA: Canberra.
16. Australian Bureau of Statistics (ABS). *Census of Population and Housing, Australia, 2021 - Table Builder: Estimating Homelessness*. 2021 [cited 2023 07/07/2023].
17. Tourism Research Australia (TRA). *Local Government Area Profiles*. 2020 [cited 2021 30/08/2021].
18. Australian Government Department of Education and Training. *Australian Early Development Census (AEDC)*. 2021 [cited 2022 18/05/2022].
19. NSW Bureau of Crime Statistics and Research (BoCSaR). *NSW Crimes Ranking Dataset*. 2024 [cited 2024 25/07/2024].
20. Australian Bureau of Statistics (ABS), *Basic Community Profiles: G02*, ABS, Editor. 2021, ABS: Canberra.
21. 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.
22. 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.
23. NSW Ministry of Health - Centre for Epidemiology and Evidence. *Adult Population Health Survey*. NSW Population Health Survey 2024 [cited 2024 13/06/2024].
24. Dementia Australia, *Dementia Prevalence Data 2024-2054*. 2023, modelled by the National Centre for Monitoring Dementia (NCMD) at the Australian Institute of Health and Welfare (AIHW): Canberra.
25. Deloitte Access Economics, *The cost of pain in Australia*. 2019, Painaustralia.
26. Australian Institute of Health and Welfare (AIHW). *Mortality Over Regions and Time (MORT) books*. 2024 [cited 2024 12/06/2024].
27. Australian Institute of Health and Welfare (AIHW). *National cancer screening programs participation data*. 2023 [cited 2023 20/01/2023].
28. Australian Government Department of Health (DoH). *Australian Immunisation Register (AIR) data*. 2022 [cited 2022 28/04/2022].

29. Australian Institute of Health and Welfare (AIHW). *Health checks and follow-ups for Aboriginal and Torres Strait Islander people*. 2023 [cited 2024 23/07/2024].
30. NSW Ministry of Health - Centre for Epidemiology and Evidence. *NSW Perinatal Data Collection*. 2024 [cited 2024 1/08/2024].
31. Australian Government Department of Health. *National Health Workforce Dataset (NHWDS)*. 2024 [cited 2024 15/09/2024].
32. Bodenheimer, T., et al., *The 10 Building Blocks of High-Performing Primary Care*. The Annals of Family Medicine, 2014. **12**(2): p. 166-171.
33. Australian Institute of Health and Welfare (AIHW). *Medicare-subsidised GP, allied health and specialist health care across local areas*. 2023 [cited 2024 11/03/2024].
34. Australian Institute of Health and Welfare (AIHW). *My Aged Care Region Tool Report for South Eastern NSW PHN*. GEN Aged Care 2024 [cited 2024 15/05/2024].
35. NSW Ministry of Health - Centre for Epidemiology and Evidence. *NSW Combined Admitted Patient Epidemiology Data*. 2024 [cited 2024 08/05/2024].
36. Australian Institute of Health and Welfare (AIHW). *Use of emergency departments for lower urgency care*. 2024 [cited 2024 08/05/2022].