

HEALTH NEEDS ASSESSMENT 2025 - 2028



Supporting general practice, commissioning health services into gaps and driving service integration.

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Terms used in this report

ASR	Age-standardised rates (ASR) are hypothetical rates that would be observed if the population being studied had the same age distribution as the standard population.
Indicator	An indicator states the level of something. In the context of this report, indicators are sets of statistics that measure the rate of something such as the rate of smoking in a particular geography.
LGA	Local government area. This term has been used interchangeably with the terms 'municipality,' Shire, City and Borough throughout the report. All of these terms reference the geographical local government area and not the municipal Council.
Measure	The term measure is used in this report to refer to the level of the indicator of interest in a geographic area. For example, the rate of smoking in the City of Ballarat is 13 per cent. The indicator is the rate of smoking. The measure is 13 per cent.
PHN	Primary Health Network.
SA1	Statistical Area 1 (SA1) is a part of the Australian Statistical Geography Standard that is used by the Australian Bureau of Statistics. SA1s are small areas with an average population of around 400 people.
SA2	Statistical Area 2 (SA2) is a part of the Australian Statistical Geography Standard that is used by the Australian Bureau of Statistics. These are medium-sized areas that represent a community that interacts together socially and economically and have an average population of around 10,000 people.
SA3	Statistical Area 3 (SA3) is a part of the Australian Statistical Geography Standard that is used by the Australian Bureau of Statistics. These are designed to provide a regional breakdown of Australia and involve populations from 30,000 to 130,000 people.
SA4	Statistical Area 4 (SA4) is a part of the Australian Statistical Geography Standard that is used by the Australian Bureau of Statistics. SA4s are the largest sub-state region in the Australia Statistical Geography Standard and represent labour markets or groups of labour markets within each state or territory. Most SA4s have a minimum of 100,000 people but can include up to 500,000 people in metropolitan areas.
WVPHN	Western Victoria Primary Health Network

Preface

Across Australia, 31 Primary Health Networks (PHNs) operate to improve the efficiency, effectiveness, and coordination of primary health services. To inform the planning and delivery of these endeavours each PHN relies on a Needs Assessment, which identifies region-specific health and service needs. This document outlines the specific health and service needs experienced by communities in the Western Victoria Primary Health Network (WVPHN) catchment.

The WVPHN region is home to diverse communities that contribute to the sought-after lifestyle offered across our regional and rural areas. To provide a well-rounded view of our region's health and wellbeing challenges, we have reviewed available quantitative data and undertaken consultation with our communities, health professionals and WVPHN staff.

The 2024 WVPHN Health Needs Assessment Report has been designed to be used in two ways:

1. It can be read from start to finish to provide a full overview of need.
2. Readers can skip to a topic and/or geography of interest for an overview of the regional or sub-regional state of need.

A new methodology has been implemented for the 2024 Health Needs Assessment and this is outlined in the 'methodology' section. This methodology was chosen as it provides a broad overview of the determinants of health and allows for quantification of need to help direct PHN resources.

The 2024 WVPHN Health Needs Assessment Report begins with an overview of the WVPHN region and our communities in Section 1. Following on from this, need is explored over six metrics:

- Population
- Social context
- Risk factors
- Access to services
- Rurality
- Health consequences

Within each category of need, findings are summarised at a regional level for our two geographic regions: Grampians Region and Barwon South West region. Most are also further summarised at a sub-regional level for each of our four sub-regions: Wimmera-Grampians, Ballarat-Goldfields, Geelong-Otway and Great South Coast sub-regions. Need is quantified for each metric and then total need is quantified considering the findings for each metric. Need is then further detailed by viewing findings through the lenses of: people (social context), risk factors and health outcomes, service access and place (geography and rurality) which draws out specific issues and areas of the catchment where there is clear need.

Throughout the Needs Assessment process, we have aimed to effectively inform all WVPHN activities and provide a key resource for anyone interested in the health and service needs of our region.

Acknowledgements

WVPHN acknowledges the Traditional Owners and custodians of the unceded lands and waterways of what we now know as western Victoria - the Wadda Wurrung, Gulidjan, Gadabanud, Keeray Wurrung, Peek Wurrung, Gunditjmara, Djab Wurrung, Wotjobaluk, Dja Dja Wurrung, Jadawadjarli, Wergaia, Jupagalk and Jaadwa peoples. We recognise their diversity, resilience, and the ongoing place that First Peoples hold in our communities. We pay our respects to the Elders, both past and present, and commit to working together in the spirit of mutual understanding, respect, and reconciliation. We support self-determination for First Nations Peoples and organisations.

We wanted to thank everyone who gave time to share their thoughts and experiences. This includes community members, health professionals and a range of services and organisations who provided input into the development of this report by sharing the challenges faced by their communities, their ideas for addressing those challenges and the existing strengths of their communities that contribute to good health.

A team of internal experts living and working across diverse areas of WVPHN catchment guided this report's development via the 2024 Health Needs Assessment Working Group. The entire staff team at WVPHN have had opportunities to contribute to the needs assessment via several mechanisms over an 18-month period. We thank all staff for their contributions.

Publicly available data sets were used to compile a substantial portion of this report. Although these have been referenced throughout, data sources include the:

- Australian Bureau of Statistics
- Australian Institute of Health and Welfare
- Australian Early Development Census
- Crime Statistics Victoria
- National Health Workforce Data Set
- Victorian Health Information Surveillance System
- Victorian Government Data Directory

In addition, many peer-reviewed journal articles were great sources of information for background and deeper understanding, as were the Grampians Health and Barwon Health Public Health Unit Catchment Plans.

We also acknowledge all those not mentioned above who work to improve the efficiency, effectiveness, and coordination of primary health services in our region. As these ongoing efforts result in changes to health and service needs over time, the WVPHN Needs Assessment undergoes regular updates and revision. If you have any feedback on this document, or relevant data you would like to be considered for inclusion in future versions, please go to <https://westvicphn.com.au/contact-us/>

Craig Wilding

Chief Executive Officer

November 2024

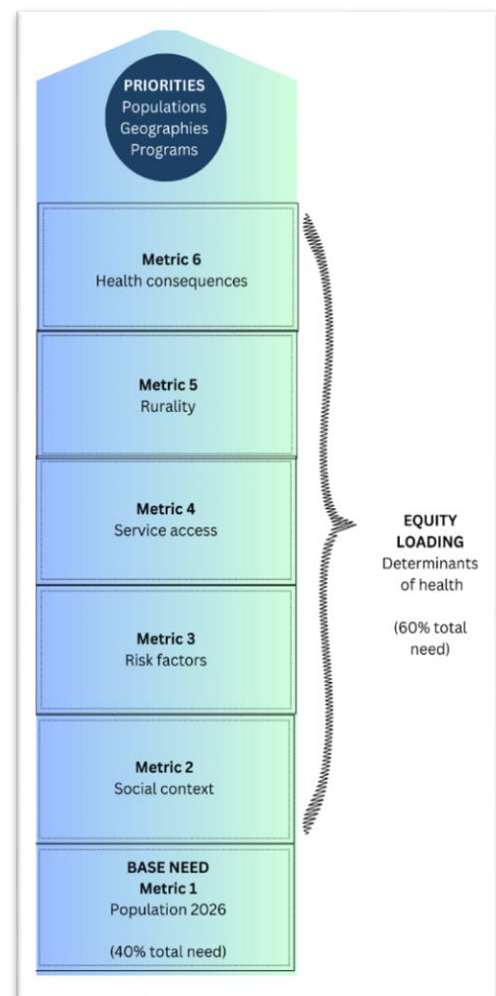
Executive summary

The WVPHN catchment is home to diverse communities that contribute to the sought-after lifestyle offered across our regional and rural areas. WVPHN is required to undertake a Health Needs Assessment every three years (with annual updates) to understand the health and service challenges facing our communities.

Methodology

A mixed methods approach was undertaken that consisted of quantitative analysis of public health data and qualitative analysis of consultation data. Need was assessed using six key metrics as shown in the figure below:

- **Population:** The population share of each of the catchment LGAs.
- **Social context:** Consideration of the social determinants of health with a particular focus on vulnerable population groups and overall level of disadvantage.
- **Risk factors:** The modifiable health risk factors that influence health including nutrition, physical activity, obesity, drug and alcohol use and hypertension.
- **Service access:** Assessment of the ease of access and effectiveness of primary health care in the WVPHN catchment considering factors such as workforce, services per capita, potentially preventable hospitalisations and non-urgent emergency department presentations.
- **Rurality:** Application of the Accessibility/Remoteness Index of Australia (ARIA+) to account for rurality. People living in rural and remote areas face unique challenges due to their geographic location and often have poorer health outcomes than people living in Metropolitan areas.
- **Health consequences:** Review of the health outcomes that result from a combination of the previous five metrics, considering factors such as rates of disease, years of life lost and avoidable deaths.



Metrics used to assess need

Metric one is the base population need which is the proportion of the catchment living in each LGA and is weighted to 40 per cent of the total quantified need. Metrics two to six are pooled together as 'determinants of health.' These

account for 60 per cent of the total quantified need and is an 'equity loading' that accounts for the differences in the level of disadvantage, risk factors, access to services, health consequences and the level of rurality of the LGA. The quantified need for each LGA helps to guide PHN resource allocation and focus. To explore this in further detail, we examine need with the following lenses to identify key issues in each category:



Consultation process

The consultation was based on three key questions:

1. What are the major health issues or problems in your community?
2. What services or other changes are needed to address these health issues?
3. What are some of the things that already exist in your community that help people to be healthier and happier?

A range of consultation tools were developed to enable people to choose how they wanted to contribute. There was an online survey, an online mapping tool that asked the same key questions included on the survey and an option to submit free text 'stories'. There was also an option for people to request a phone call or online meeting rather than provide a written response. Consultation was undertaken via group meetings including WVPHN staff workshops, Clinical and Community Advisory Council meetings and health and service network meetings. Twenty interviews were also undertaken with community members, health professionals and peak bodies.

Key findings

Findings are presented with reference to the four categories outlined above.

People

Priority groups include:

First Nations communities, particularly children and young people

There is a much higher proportion of children and young people in First Nations communities. There is a particularly high proportion of First Nations children in Ballarat, Central Goldfields, Hepburn, Moorabool, Horsham, Northern Grampians, Moyne, Southern Grampians, Warrnambool and Golden Plains LGAs. There is a high rate of First Nations young people in Ballarat, Pyrenees, Horsham, Glenelg, Greater Geelong LGAs.

Newly arrived migrants and people that speak English poorly or not at all

The highest rate of people from non-English speaking backgrounds live in Greater Geelong and Ballarat LGAs. The proportion of people from non-English speaking backgrounds that have arrived in the previous 5 years is highest in Geelong, Colac-Otway, Warrnambool, Ararat and Northern Grampians LGAs, as are the rates of people that don't speak English well or at all. There are also distinct areas with specific need regarding CALD populations. There is a diaspora of people from Myanmar and Thailand in Hindmarsh Shire and there is a population of around 500 people from Asia (including China, Taiwan, the Philippines and India) in Colac-Otway Shire.

People with disability

There are higher than average rates in the WVPHN catchment of people with mild or moderate disability at 10.2 per cent compared to the Australian average of 8.6 per cent. The rate of severe or profound disability is similar to the Australian average at the catchment level but there are high rates of severe or profound disability in Central Goldfields (adults and children), Pyrenees, Ararat, Hindmarsh, Yarriambiack, Glenelg LGAs.

Financially vulnerable people

Financial vulnerability is widespread across the catchment but particularly high in Central Goldfields, Pyrenees, Yarriambiack, Northern Grampians and Hindmarsh LGAs. Almost one in two catchment households are classified as low-income households compared with the state average of 40 per cent. More than two thirds of households in Central Goldfields Shire are classified as low income, 59 per cent in Pyrenees Shire, 57 per cent in Yarriambiack Shire and 56 per cent in Northern Grampians and Hindmarsh Shires. Sixteen of the 21 catchment LGAs have an Index of Relative Socioeconomic Disadvantage lower than the state average.

Older people

There is a large proportion of older people aged 60+ in the WVPHN catchment at 27 per cent compared with 22 per cent statewide. In the Wimmera-Grampians sub-region, 32 per cent of the population are aged 60+ and in the Great South Coast the proportion is 30 per cent. There will be significant growth in the number of people aged 60+ to 2031. In 2021, there were ~192,500 people aged 60+ in the WVPHN catchment. By 2031, this will increase to ~249,000 or almost 30 per cent. Rates of disability increase to around 50 per cent in people aged over 65+ and older people are also more likely to have more than one chronic condition. Both of these factors increase the need for services.

Young people

There are a number of issues facing young people in the WVPHN catchment. There is a higher than state average rate of mental health conditions in young people and higher youth mortality, particularly in Glenelg, Moyne and Golden Plains Shires. At a national level, suicide is the leading cause of death in young people. There is generally lower engagement of young people in education and employment in the WVPHN catchment, particularly in Yarriambiack, Central Goldfields, West Wimmera and Pyrenees Shires. The adolescent birth rates are higher in 13 of the 21 catchment LGAs with the highest rates in Yarriambiack, Northern Grampians, Ararat, Horsham and Central Goldfields. The rates in Yarriambiack and Northern Grampians Shires are three times the state average, and rates are more than twice the average in Ararat, Horsham and Central Goldfields. In terms of risk factors, there

is a national trend of an increasing number of people vaping, particularly in young people, that is likely replicated in western Victoria.

Children

There are high rates of chronic disease in children living in the WVPHN catchment with 11 per cent of children having at least one chronic condition compared with 9 per cent statewide. Rates are particularly high in Ararat, Ballarat, Central Goldfields, Golden Plains and Yarriambiack LGAs. More than 27 per cent of children are classified as either overweight or obese. Close to one in two children are overweight and one in ten are obese. There is also a higher rate of developmentally vulnerable children than the state average in 14 of the 21 catchment LGAs. Around 1 in 3 children in Central Goldfields, Northern Grampians and Hindmarsh Shires are developmentally vulnerable on at least one domain.

People that are homeless or at risk of homelessness

Homelessness is an issue in Hindmarsh, Geelong, Ballarat, Glenelg and Warrnambool LGAs. There are higher than Victorian average rates of people living in severely crowded dwellings in Hindmarsh, Yarriambiack and Horsham LGAs. Homelessness services data shows that close to 60 per cent of people receiving services in the catchment were in Geelong and Ballarat. Ballarat, Ararat, Warrnambool and Horsham LGAs are over-represented in the receipt of homelessness services relative to population.

Risk factors and health outcomes

The following were identified as key issues in terms of risk factors and health outcomes:

High levels of risk factors

There are high rates of obesity across the catchment in both children and adults. More than 55 per cent of adults are either overweight or obese, as are 27 per cent of children. Updated data available at the PHN level showed an increase in obesity between 2017 and 2022 from 25 per cent to 31 per cent. There is a national/international trend of increases in the rate of obesity since the start of COVID-19 pandemic that is likely to have been replicated in western Victoria so current rates are most likely higher. Almost two in three catchment residents are physically inactive. There is also very low compliance with vegetable intake at a rate of around five per cent. The catchment-wide rate of food insecurity increased from five per cent to 13 per cent between 2020 and 2022 and this is likely to have been sustained or grown with the cost-of-living crisis over the last two years.

There are above state average rates of daily smoking and smoking during pregnancy across the catchment. There is also a national trend of increasing numbers of people vaping (particularly young people) that is likely replicated in western Victoria. All catchment LGAs have rates of people drinking more than two drinks per day higher than the Victorian average. The rate of people drinking in a way that increases the risk of injury from a single episode of drinking is higher than the state average in all catchment LGAs except for Central Goldfields Shire. Alcohol-related ambulance attendances are higher than the state average in 14 of the 21 catchment LGAs, alcohol-related assaults are higher in 16 catchment LGAs and alcohol-related family violence incidents are higher in 18 catchment LGAs.

Illicit and pharmaceutical drug abuse is an issue across the catchment, particularly in the Wimmera Grampians sub-region. Illicit-drug-related ambulance attendances are above state average in four of the 21 catchment LGAs while pharmaceutical-drug-related ambulance attendances are higher in 12 catchment LGAs.

Rates of disease

There are high rates of disease across all age cohorts in the WVPHN catchment. One in three people in the WVPHN catchment have one or more chronic disease. The highest rates are in Central Goldfields, Yarriambiack, Hindmarsh, Northern Grampians, Pyrenees, Hepburn Ballarat, Glenelg and Queenscliffe LGAs. There is a higher than state average rate of chronic disease in young people and in children in 17 of the 21 catchment LGAs. Chronic disease has a very high impact on health outcomes, responsible for 91 per cent of non-fatal burden of disease and 78 per cent of fatal burden of disease nationally. There are particularly high rates of mental health conditions, lung disease, arthritis, cancer and circulatory disease. There are also high rates of injuries across the catchment.

Poor health outcomes

The rates of chronic disease in general are high across the catchment, however looking at specific categories of disease, many rates are similar to the state average (such as diabetes and cancer). Despite similarities in the rates of specific diseases, health outcomes are poorer in the WVPHN catchment compared to the Victorian average. Potentially preventable hospitalisations (PPHs) are above the state average in all catchment LGAs except for Golden Plains, Queenscliffe and Surf Coast LGAs. Iron deficiency anaemia, diabetes complications, chronic obstructive pulmonary disease (COPD) and congestive heart failure are the top causes of chronic PPHs, while dental conditions, urinary tract infections, convulsions and epilepsy, and cellulitis are the top causes of acute PPHs. Premature and avoidable deaths in the WVPHN catchment are also higher than one would expect for the rate of disease. Years of Life Lost (YLL) to cancer, diabetes, circulatory system disease, respiratory system disease and external causes (such as injury or poisoning) are high in the WVPHN catchment. Avoidable deaths are higher than the state average in all WVPHN catchment LGAs except for Golden Plains, Surf Coast and Queenscliffe LGAs.

Service access

The following were identified as key issues impacting on service access:

Workforce

There are significant health workforce issues in the WVPHN catchment. While the GP workforce is similar or above average in some parts of the catchment, that doesn't equate to meeting need. There is a well-recognised shortage of GPs in Victoria, a growing and ageing population that is increasing demand, an ageing GP workforce and low rates of doctors training as GPs. The overwhelming feedback received about poor access to GPs would indicate that there is unmet demand despite the rates being unremarkable compared to the state average. The provision ratios for allied health are below the state average in many cases. Our stakeholders expressed particular need for occupational therapy, physiotherapy, speech therapy, podiatry and psychology. It should be noted that provision ratios don't account for financial accessibility of services as either public or private services.

GP access

Difficulty accessing GPs in a timely and affordable manner is a key issue in the WVPHN catchment according to our stakeholders. While available data shows that the provision of GPs varies throughout most of the catchment, residents are having difficulty getting appointments and/or affording appointments with GPs. This aligns with assessment of current GP demand and supply which shows that Victoria currently has an unmet demand gap of around 370 full-time equivalent GPs. All LGAs with service per capita rates lower than the state average also have GP workforce rates lower than the average. This indicates perhaps not a lack of demand for services but a lack of capacity to meet local demand. Anecdotally and expressed via our consultation process, the cost involved in seeing a GP is prohibitive for many western Victorian residents. Lack of access to bulk-billing doctors was the clearest message received through our consultation process.

Access to allied health, medical specialists and other services

The allied health workforce is generally lower across the WVPHN catchment and there is a particular need for speech pathology, physiotherapy, occupational therapy, psychology and podiatry. Stakeholders also expressed difficulty in accessing medical specialists. This was most strongly felt in the more rural areas of the catchment where there are no specialists or visiting specialists in the local area. However, we also heard that even in our largest regional centre of Geelong there was insufficient access to some specialists (such as paediatricians) leading some to try to access services outside of the region. Stakeholders expressed the difficulties they encountered in accessing specialists including long distances to travel, long waiting lists, high fees and the financial burden involved in transport and/or accommodation required to attend appointments. We were also told of shortages in mental health services and alcohol and other drug (AOD) services.

Lack of coordinated and integrated care

Stakeholders told us that navigating the health system was difficult for most people and that this was made more difficult by a lack of knowledge of relevant services by practitioners and a lack of communication between practitioners about the patient. They told us that there is poor communication and integration between hospitals and primary care, specialists and primary care and between allied health and GPs. They also talked about the lack of connection between social services and health services for patients that are under the care of both.

Place

Geographic areas with the highest need under each metric are outlined below:

Metric 1: Population

Considering base population and the determinants of health, the highest areas of total need are the City of Greater Geelong and City of Ballarat primarily as they account for such significant proportions of the population.

Metric 2: Social context

Areas of highest need considering social context are based primarily on the Index of Relative Disadvantage (IRSD) and the proportion of the population that live in areas of the lowest IRSD decile and are:

- Central Goldfields Shire
- Rural City of Ararat
- Yarriambiack Shire
- Hindmarsh Shire
- City of Ballarat
- Colac-Otway Shire
- Glenelg Shire

Metric 3: Risk factors

Areas of highest need considering risk factors are:

- Rural City of Ararat: ranked poorly for nutrition and physical activity indicators, overweight and obesity, hypertension, alcohol, other drugs and bowel cancer screening.
- West Wimmera Shire: ranked poorly for nutrition and physical activity indicators, obesity and bowel cancer screening.
- Northern Grampians Shire: ranked poorly for nutrition and physical activity indicators, smoking, alcohol, other drugs and bowel cancer screening.
- Central Goldfields Shire: ranked poorly for smoking, overweight and obesity, hypertension and bowel cancer screening.
- Glenelg Shire: ranked poorly for nutrition and physical activity indicators, alcohol and other drugs.

Metric 4: Service access

Areas of highest need considering service access are:

- Moyne Shire: ranked poorly for access to GPs and primary care nursing.
- West Wimmera Shire: ranked poorly for access to GPs, allied health, high PPHs and high non-urgent ED presentations.
- Rural City of Horsham: ranked poorly for non-urgent emergency presentations.
- Golden Plains Shire: ranked poorly for access to GPs, allied health and primary care nursing.
- Pyrenees Shire: Ranked poorly for access to GPs and allied health.
- Hindmarsh Shire: Ranked poorly for access to allied health and primary care nursing, high PPHs and high non-urgent ED presentations.
- Glenelg Shire: Ranked poorly for access to GPs.

Metric 5: Rurality

The areas with greatest need regarding rurality are Yarriambiack, Hindmarsh, Horsham, Northern Grampians, West Wimmera, Glenelg, and Southern Grampians LGAs.

Metric 6: Health consequences

Areas of highest need considering health consequences are:

- Yarriambiack Shire: ranked poorly for rates of disease and years of life lost.
- Corangamite Shire: ranked poorly for years of life lost and avoidable deaths.
- Hindmarsh Shire: ranked poorly for years of life lost and avoidable deaths.
- Glenelg Shire: ranked poorly for years of life lost and avoidable deaths.
- Central Goldfields Shire: ranked poorly for rates of disease and avoidable deaths.

Combined determinants of need (metrics 2-6)

Areas of highest need considering all of the determinants of health are:

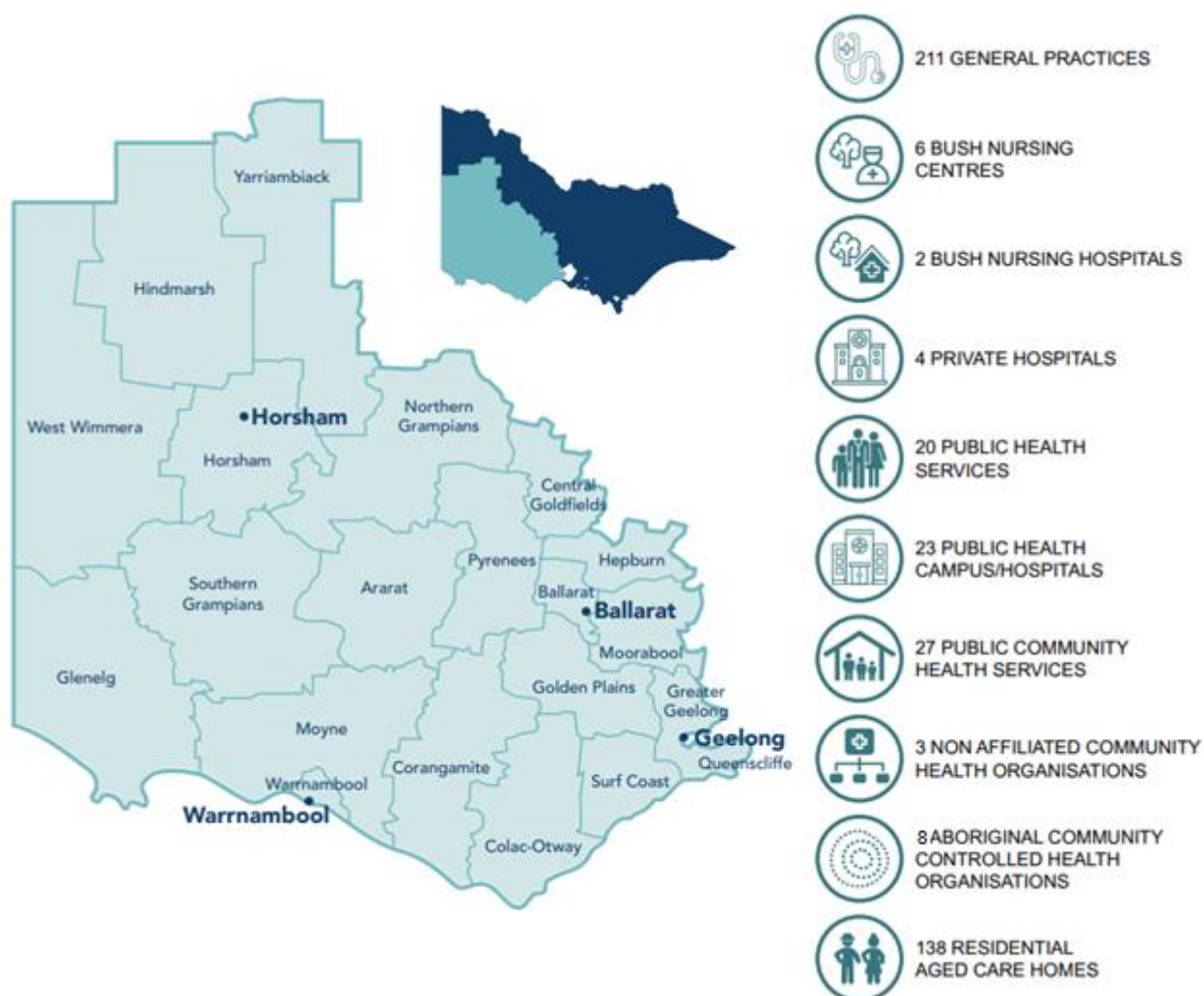
- Hindmarsh Shire
- Corangamite Shire
- Yarriambiack Shire
- Central Goldfields Shire
- Glenelg Shire
- Rural City of Ararat
- Northern Grampians Shire
- Rural City of Horsham
- City of Ballarat
- Pyrenees Shire

1. Introduction

Our catchment

The WVPHN catchment is 79,843km² in size¹ and is home to 698,009² people across two Victorian rural health regions* and 21 local government areas (LGAs)**.

Figure 1: The WVPHN region and health services



*Central Goldfields Shire is the only WVPHN LGA outside of the Grampians and Great South West Victorian Rural Health Regions. It is part of the Loddon Mallee Victorian Rural Health Region. These are Victorian government health regions.

**Only part of Moorabool Shire sits within the WVPHN catchment. The most populated area, Bacchus Marsh, is not part of the WVPHN catchment.

To enable closer investigation of need across the geographically broad and diverse catchment, the entire area is divided into two regions and four subregions as shown in Table 1:

Table 1: WVPHN regions and sub-regions

Region	Sub-region
Grampians	Ballarat Goldfields
	Wimmera Grampians
Barwon South West	Geelong Otway
	Great South Coast

Sub-regions are based around the major towns in western Victoria: Geelong, Ballarat, Warrnambool, and Horsham, respectively. The WVPHN catchment can also be divided into:

- Four Level 4 statistical areas ([SA4s](#))
- 10 Level 3 statistical areas ([SA3s](#))
- 65 Level 2 statistical areas ([SA2s](#))
- 1,371 Level 1 statistical areas ([SA1s](#))
- 21 Local Government Areas ([LGAs](#))

SA4s align with the WVPHN sub-regional boundaries for Geelong Otway, Ballarat Goldfields and Great South Coast, but there are two out-of-region SA3s included in the North West SA4. SA3s listed below align exactly with the external WVPHN boundary and LGAs align closely with the subregion boundaries (Table 2). SA2s and SA1s are not outlined in the table below due to the large number of them. It is sufficient to understand that SA2s are smaller than SA3s with an average population of around 10,000. SA1s are an even smaller area with an average population of around 400. Examination of data at this level is undertaken rarely in this report and usually just to highlight diversity within a larger area (such as diversity of the Index of Relative Socioeconomic Disadvantage within an LGA).

Table 2: SA4s SA3s and LGAs included in each sub-region

Sub-regions	SA4s	SA3s	LGAs
Geelong Otway	Geelong	Geelong Barwon-West Surf Coast-Bellarine Peninsula	City of Greater Geelong Borough of Queenscliffe Colac-Otway Shire Golden Plains Shire Surf Coast Shire
Ballarat Goldfields	Ballarat	Ballarat Creswick-Daylesford-Ballan Maryborough-Pyrenees	City of Ballarat Central Goldfields Shire Hepburn Shire Moorabool Shire** Pyrenees Shire
Great South Coast	Warrnambool and South West	Warrnambool Colac-Corangamite Glenelg-Southern Grampians	Warrnambool City Corangamite Shire Glenelg Shire Moyne Shire Southern Grampians Shire
Wimmera Grampians	North West*	Grampians	Horsham Rural City Ararat Rural City Hindmarsh Shire Northern Grampians Shire West Wimmera Shire Yarriambiack Shire

*North West SA4 also includes Murray River – Swan Hill and Mildura SA3s which are outside of the WVPHN catchment

**A portion of Moorabool Shire (around Bacchus Marsh) lays outside the Ballarat Goldfields subregion and WVPHN region.

Our strategic direction

Commonwealth direction

All 31 Australian Primary Health Networks are committed to the 11 Commonwealth government PHN priorities.

These are:

1. Population health
2. Digital health
3. Emergency preparedness
4. Emergency response
5. Health workforce
6. Mental health and suicide prevention
7. First Nations health
8. Alcohol and other drugs
9. Health services in aged care
10. Practice support
11. Medicare Urgent Care Clinics³

Western Victoria Primary Health Network Strategic Plan 2023-2025

WVPHN's Strategic Plan (Figure 2) outlines 3-year strategic objectives to work towards the organisation's vision for 'healthy communities with accessible and thriving primary care services.' Those objectives are: **Integration:** Enhance integration and collaboration between primary healthcare providers and with the broader health system to ensure 'right care, right place, right time' for consumers. **Equity:** Establish equitable access and outcomes in primary health care by using research, data and consultation to understand what matters most to the people of western Victoria. **Advocacy:** Expand our position as an advocate for the primary health sector, enabling sustainable workforce and commissioned services that achieve best health outcomes for our communities.

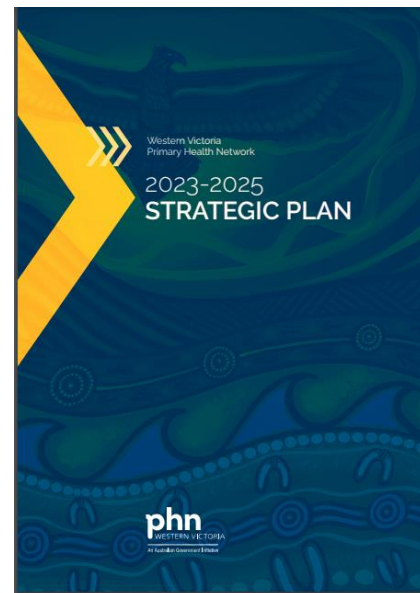


Figure 2: WVPHN Strategic Plan

2. Methodology

A new methodology has been adopted for quantifying the health and service needs in the WVPHN catchment for our 2024 Health Needs Assessment. This methodology is based on the work of the North Western Melbourne Primary Health Network and involves assessment of both quantitative and qualitative data.

Quantitative data

Need is assessed using six key metrics as shown in Figure 3:

- **Population:** The population share of each of the catchment LGAs.
- **Social context:** Consideration of the social determinants of health with a particular focus on vulnerable population groups and overall level of disadvantage.
- **Risk factors:** The modifiable health risk factors that influence health including nutrition, physical activity, obesity, drug and alcohol use and hypertension.
- **Service access:** Assessment of the ease of access and effectiveness of primary health care in the WVPHN catchment considering factors such as workforce, services per capita, potentially preventable hospitalisations and non-urgent emergency department presentations.
- **Rurality:** Application of the Accessibility/Remoteness Index of Australia (ARIA+) to account for rurality. People living in rural and remote areas face unique challenges due to their geographic location and often have poorer health outcomes than people living in Metropolitan areas.
- **Health consequences:** Review of the health outcomes that result from a combination of the previous five metrics considering factors such as rates of disease, years of life lost and avoidable deaths.

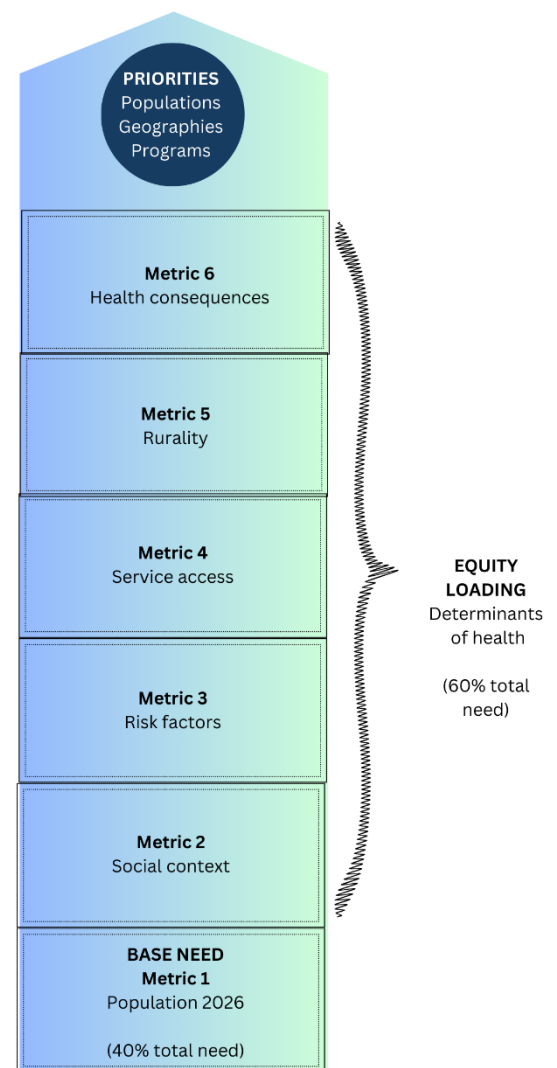


Figure 3: Metrics used to assess need

Metric one is the base population need which is the proportion of the catchment LGA living in each LGA and is weighted to 40 per cent of the total quantified need. Metrics two to six are pooled together as 'determinants of health.' These account for 60 per cent of the total quantified need and is an 'equity loading' that accounts for the differences in the level of disadvantage, risk factors, access to services, health consequences and the level of rurality of the LGA. The process for quantifying need can be found in [Appendix 1](#).

The quantified need for each LGA helps to guide PHN resource allocation and focus. To explore this in further detail, we examine need with the following lenses to identify key issues in each category (Figure 4):



Figure 4: Lenses applied to identified need

Qualitative data

A broad consultation process was undertaken to better understand the issues affecting WVPHN communities.

The consultation was based on three key questions:

1. What are the major health issues or problems in your community?
2. What services or other changes are needed to address these health issues?
3. What are some of the things that already exist in your community that help people to be healthier and happier?

A range of consultation tools were developed to enable people to choose how they wanted to contribute. There was an online survey, an online mapping tool that asked the same key questions included on the survey and an option to submit free text 'stories'. There was also an option for people to request a phone call or online meeting rather than provide a written response. Consultation based on the three key questions was also undertaken in a number of group meetings including WVPHN staff workshops, Clinical and Community Advisory Council meetings and health and service network meetings. In addition, twenty interviews were also undertaken with community members, health professionals and peak bodies.

Thematic analysis was undertaken using NVivo software.

Triangulation of data

Triangulation of need was established by assessing whether the issue was supported by health data, service data and consultation data (Figure 5).

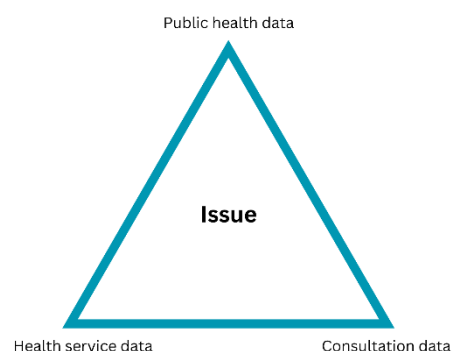


Figure 5: Triangulation of need

Prioritisation of need

To prioritise identified needs the following questions were asked:

- Is this an existing PHN priority?
- Does it align with existing PHN priorities?
- Does it align with our local public health unit priorities?
- Is there funding to address this issue?
- Will there be an impact on the community if the need remains unaddressed?
- Are other groups working to address this issue?

Needs were then assigned a priority of low, medium, or high based upon the descriptions shown in Table 3:

Table 3: Description of high, medium, and low priority

High priority	Medium priority	Low priority
The issue aligns with existing PHN priorities. There is funding or other resources available to support activities in this area and/or an opportunity to tailor funding to further address this priority.	This issue is not currently aligned to existing PHN priorities, however, has been identified as having an impact on the population and/or specific cohorts within the catchment. It is likely that the issue will continue to impact individuals and the community.	This issue is not currently aligned to existing PHN priorities, however, has been identified as having an impact on the population and/or specific cohorts. It is likely that the issue will continue to impact individuals and the community. The issue is currently being addressed by other groups or agencies.

Action planning

Actions for issues identified as high priority were developed considering current activities, opportunities for partnerships and collaboration and new activities designed to address issues within the WVPHN's scope of influence.

Limitations of data

The data presented in this report is the latest and most accurate data at the local level. Despite these efforts, there are a few limitations that should be kept in mind when interpreting insights.

- Some data is not released for several years after the collection period which fails to capture any recent changes that may have occurred. This is particularly pertinent given that the coronavirus pandemic has had a significant impact on every aspect on day-to-day life and health. In this regard, much of the data currently available was collected before or during the coronavirus pandemic and therefore may not reflect some of the health and service needs that have arisen since the introduction of stay-at-home orders and other restrictions and don't account for ongoing impacts of the pandemic on people's lives.
- Some data is based on a small proportion of the population or modelled estimates, and this produces large confidence intervals. There are several LGAs with very small populations within the WVPHN catchment

including West Wimmera Shire and the Borough of Queenscliffe. This means that some indicators for these areas are not of high quality and should be interpreted with caution.

- Some data has been allocated from residential postcodes, which may not directly align with LGA or SA3 boundaries.
- Much of the data for Moorabool Shire is at the LGA level but the most populated area of the Shire is in Bacchus Marsh and surrounds which does not fall within the WVPHN catchment. Instead, the more rural areas of the LGA fall within the WVPHN catchment. Data at the Moorabool LGA level should be interpreted with caution.
- Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).
- Other limitations relate to data availability around specific issues or cohorts.

Efforts to overcome these limitations include the triangulation of data using a broad range of indicators, undertaking qualitative analysis of consultation data to provide a more complete picture of the issues, examination of state and national-level reports on specific issues and cohorts, and the use of data at a larger geographical level to increase statistical reliability.

3. Stakeholder consultation

A stakeholder consultation process was undertaken to gain insights into health and service issues from the perspectives of residents of the WVPHN catchment, health professionals and peak bodies representing consumer groups and health professionals. The consultation process and outcomes are summarised in Figure 6.



Figure 6: Summary of consultation process and findings

Consultation results

Qualitative data was analysed using NVivo software to identify themes. The sample size did not accommodate analysis of results at a regional or sub-regional level and so are presented at a catchment level.

Health and service issues identified

There were six major health and service issues identified throughout the consultation, and there were many connections between them.

People told us of **inadequate services**. Sometimes this meant that services didn't exist at all or that there were insufficient services. They spoke of long waiting lists or the need to travel elsewhere to access required services. Services highlighted as inadequate included GPs, specialists, allied health, medical imaging and after-hours care. For those in more rural areas, there was a lack of outreach services to their local area. Some

"I had to wait to get a GP appointment. The GP sent me off for blood tests. I had to wait again to get the blood test results. The GP then referred me to a specialist. I then waited months on a waiting list to see the specialist before needing to go back to the GP for follow up."

also felt that the periods of care for specific health issues were too limited. For example, drug and alcohol rehabilitation services were not being provided for an adequate period of time for people to be discharged with confidence that they wouldn't relapse. Other examples included limited Medicare-subsidised psychology and other allied health appointments available under mental health treatment plans or chronic disease management plans. We were also told of people accessing care plans from their GPs but being unable to action them due to limited or no allied health services locally and long waiting lists.

The **social determinants of health** were identified as being a key issue for people in the WVPHN catchment, which is not surprising given the level of disadvantage across many of the catchment LGAs (detailed further under Social Context). The rising cost of living was highlighted as a major issue in accessing services with people reporting having to forego medical care and prescriptions in favour of paying for housing or food. Unstable housing and homelessness were also highlighted as a key issue in some communities. Health and digital literacy were identified as being issues for some health consumers in navigating and accessing the health system.

Physical access to services was a significant issue and links with the previous issues raised. The need to travel to access services was difficult for many people across the catchment. Public transport was often not available, and where it was available, many found that the timetables didn't support attending appointments. For some, travelling long distances on public transport wasn't viable due to ill health and/or pain. Cost of fuel and taxis also made it difficult for people to travel to appointments. People spoke about a need for more outreach services and availability of home visits. They also identified that more health services need to be provided in aged care facilities and disability care facilities.

The **coordination and integration of services** was identified as an issue in people accessing quality care. There was need for better knowledge of available services to allow for referral where required. Inadequate communication between services and even between sectors was an issue. People spoke of poor communication

between GPs, specialists, hospitals, and allied health impacting on continuity of care. There was also a desire for better communication between health, education, and social services. Although people expressed a desire for bulk billing GP services, they found that bulk billing clinics often had high turnover of staff and use of locums so that they were unable to have a primary GP. They found it difficult or even traumatic to tell their stories to a new GP frequently, particularly within the confines of a short appointment. There were frequent comments about the difficulty of navigating a complex health system as a consumer.

“There are no public funded podiatrists and so our diabetic low-income patients are not able to afford treatment even with an Enhance Primary Care Plan in place.”

Linked directly with inadequate services and physical access to services were **workforce shortages**, particularly related to GPs, allied health, and specialists. WVPHN’s GP and Allied Health Survey (carried out in early 2024) found that of 83 GP respondents, 31 per cent intended to cease working in their current roles in general practice in the next 5 years, which aligns with the national rate.⁴ Some people mentioned that health,

community and social services in their areas were operating on minimal staff due to issues in recruitment and retention of staff. This was a particular issue in the more regional and rural areas of the catchment.

Cost of service was another key theme emerging from the consultation. This was clearly linked with the social determinants of health theme. A lack of bulk billing services and community allied health meant that the only options available for many were private practitioners and the cost of this was seen as prohibitive for many of our catchment population.

Services highlighted

The main services highlighted by respondents as being difficult to access were **GPs, specialists and allied health professionals**. People reported a lack of bulk-billing services, GPs not taking new patients, lengthy waiting times for appointments and inability to have a single GP so continuity of care being compromised. Specialists were difficult to access across the catchment, even in Ballarat and Geelong where the major health services of the catchment are based. People reported long waiting times, even for private specialists. The cost of accessing specialists was also a significant barrier, as were the transport costs and sometimes accommodation required for those required to travel to attend appointments. People told us that it was difficult to access allied health services, in particular psychologists and counsellors, occupational therapists, speech pathologists and physiotherapists. Dental care was also out of reach for many due to cost. In some areas, there was no service provided locally. In others, only private providers were available and/or there were long waiting lists. Paediatric allied health was frequently raised as a service gap.

“Access to services has a huge impact on the health of people in these communities. For many people living in these areas, travelling long distances (or sometimes even short distances) is not possible or so difficult they decide it’s too hard or costly, so they just don’t access the services needed to improve their health. For those without a car or who cannot drive, the burden of travel is then placed on friends and family to drive them to appointments, projecting the costs, time and effort onto them. This means that services such as cancer screenings and specialist doctors may be either out of reach for some people living in these areas or their access is delayed which can negatively impact their health and wellbeing.”

Health conditions

Mental health was a major concern for respondents across the catchment and for all age cohorts. A gap in mental health services for primary school aged children was identified by some respondents. Youth mental health was a major concern for many, as was poor mental health in older people. People spoke of difficulty accessing and affording psychology and psychiatry services. There are long waiting lists and significant costs involved in receiving care. Access to adequate mental health care was even more difficult for those with complex mental health conditions, multiple diagnoses and co-morbidities.

Alcohol and other drug abuse was frequently raised as a major issue in catchment communities. Respondents stated that rehabilitation services were very limited and often didn't provide support long enough to prevent relapse. There is a lack of ongoing care for people that have been through rehabilitation programs with people expressing a need for ongoing connection of patients with GPs upon their exit from rehabilitation programs.

Chronic conditions were identified as an issue across the catchment, particularly heart disease, diabetes, cancer, chronic pain, respiratory conditions and sexual and reproductive health. Respondents talked of the cost and overall burden of chronic disease on individuals and their families, particularly when patients were required to travel for appointments.

Case Study

ACCESSING SERVICES IN WARRNAMBOOL

Annie* is a former Social Worker, a sole parent, a member of the LGBTIQ community, an unpaid carer and a family violence victim-survivor. She lives in Warrnambool in Victoria's south west. She has multiple complex physical and mental health conditions that result in her being unable to work. Despite having complex medical needs, Annie hasn't had a regular GP for several years. The reasons for this include financial capacity, lack of available bulk-billing appointments, lack of continuity of care and a sense that she has not been heard by the doctors she has seen.

She can't afford to pay for GP appointments and has found bulk billing to be a 'pipe dream'. She has tried to use multiple bulk billing GPs but with little success. She has faced homophobia, alcohol and drug affected clients in waiting rooms, difficulty in accessing a mental health care plan and subsequent support, questioning of her need for pain medication for her chronic pain and the prescribing of drugs that she has specifically requested be avoided due to previous poor experiences. She has found that many bulk-billing doctors have closed books. These experiences have led to a lack of trust in local GPs and in the broader health system:

"There are GPs that do bulk bill adults (I have a low-income health care card) but you can't get into see them. I have anxiety, PTSD, crippling pain – I can't explain any more [to any more doctors] for the same result of nothing changing. I've never had a regular doctor as an adult."

"The system is horrible right now. It's hopeless. I've given up. I would love to get a medical exemption for JobSeeker, but you need a GP. Same with [the] Disability Support Pension. I also have a son that should be on the Disability Support Pension or on NDIS, but I can't afford the assessments. Money, money, money... I'm far from the only person who lives like this. If you don't have the money to pay for a medical appointment, forget it. People are choosing to pay for food or medical care."

Despite having anxiety and post-traumatic stress disorder, Annie has not been able to access counselling or psychological support:

"I've had 5 mental health care plans and never been able to use any of them. So, I've given up on it. If you are poor, you are irrelevant. You don't matter."

Not only are Annie's current medical needs not being met, but she also faces longer term consequences from her inability to access care:

"I have no ongoing care for multiple chronic conditions. I would not take care where I have to have regular appointments. Attending appointments is a source of anxiety for me. Every time I see a new doctor it is starting from scratch every single time."

"I don't bother with the bowel scans. I don't bother with Breastscreen. Pap smear isn't going to happen. I don't have a GP for the results to be sent to. Medical care is as inaccessible, as is dental care...I am currently in pain, but I don't have a GP and ED will send me away."

Physical access to services is also an issue for Annie:

"I hear about services, but I don't have access to them. This is partly related to distance...I don't have a car to be able to travel to another town. Going to an appointment in Geelong is impossible. Part of that is the public transport in Warrnambool because the buses and the trains don't connect up."

"Getting to doctor's appointments by public transport is too difficult. The Victorian Patient Transport Assistance Scheme (VPTAS) is useless [to me]. It takes 6 weeks to be reimbursed so you have to have the money to travel in the first place. I can't afford a motel or travel fare. I don't have a credit card. The VPTAS is designed for people who already have money. It's not fit for purpose."

4. Metric 1 - Population

Population is the single largest determinant of health and service need and is the first metric examined to establish health and service need in the WVPHN catchment. To assess current population-based need, 2021 population data is used. To assess need for the period of this needs assessment (from mid-2025 until mid-2028) projected population in 2026 is used in quantified need.

The WVPHN area is comprised of 21 local government areas (LGAs). The population is not evenly distributed throughout the regions and sub-regions. Using Victoria In Future⁵ data, Table 4 illustrates that the City of Greater Geelong currently accounts for around 38 per cent of the catchment population. The next largest LGA is the City of Ballarat. These two LGAs account for more than 53 per cent of the catchment population, with this expected to grow to closer to 57 per cent by 2031. Warrnambool and Horsham, although significantly smaller, are the next two larger cities within the catchment. On a sub-regional level, Geelong Otway (50.3 per cent) and Ballarat Goldfields (26.5 per cent) sub-regions account for 77 per cent of the 2021 population while Wimmera Grampians (8.4 per cent) and Great South Coast (14.8 per cent) sub-regions account for 23 per cent of the 2021 population.

Table 4: Population in 2021 and projected population in 2031 by LGA and sub-region⁶

Region	Sub-region	LGA	Total population (2021)	Percentage of WVPHN population (2021)	Projected population (2031)	Percentage of WVPHN projected population (2031)
Grampians	Ballarat Goldfields	Ballarat	113,480	15.91%	134,600	16.24%
		Central Goldfields	13,380	1.88%	14,090	1.70%
		Hepburn	16,470	2.31%	18,000	2.17%
		Moorabool*	37,890	5.31%	49,490	5.97%
		Pyrenees	7,610	1.07%	8,040	0.97%
		Ballarat Goldfields sub-region	188,830	26.48%	224,220	27.06%
	Wimmera Grampians	Ararat	11,820	1.66%	12,040	1.45%
		Hindmarsh	5,650	0.79%	5,270	0.64%
		Horsham	20,370	2.86%	20,810	2.51%
		Northern Grampians	11,880	1.67%	11,690	1.41%
		West Wimmera	3,970	0.56%	3,730	0.45%
		Yarriambiack	6,510	0.91%	6,110	0.74%
		Wimmera Grampians sub-region	60,200	8.44%	59,650	7.20%
Barwon South West	Great South Coast	Corangamite	16,030	2.25%	15,590	1.88%
		Glenelg	20,050	2.81%	20,110	2.43%
		Moyne	17,290	2.42%	18,540	2.24%
		Southern Grampians	16,490	2.31%	16,140	1.95%
		Warrnambool	35,420	4.97%	37,440	4.52%
		Great South Coast sub-region	105,280	14.76%	107,820	13.01%
	Geelong Otway	Colac-Otway	22,300	3.13%	23,320	2.81%
		Golden Plains	24,880	3.49%	30,170	3.64%
		Greater Geelong	270,770	37.97%	334,580	40.37%
		Queenscliffe	3,230	0.45%	3,480	0.42%
		Surf Coast	37,620	5.28%	45,510	5.49%
		Geelong Otway sub-region	358,800	50.31%	437,060	52.74%
		WVPHN	713,110		828,750	
		VIC	6,548,000		7,803,000	

* The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment

Over time to 2031, the population will grow in both Geelong Otway and Ballarat Goldfields sub-regions, with the most significant growth anticipated in Greater Geelong, Golden Plains, Surf Coast and Ballarat LGAs. Very significant growth is also expected in Moorabool Shire, but this is expected to be around the Bacchus Marsh area which falls outside of the WVPHN catchment. Overall, the bulk of population growth will occur in the Geelong-Otway sub-region.

Population losses are expected in some of the smaller municipalities within the catchment, particularly in Hindmarsh, Yarriambiack and West Wimmera that are all within the Wimmera Grampians sub-region. Catchment

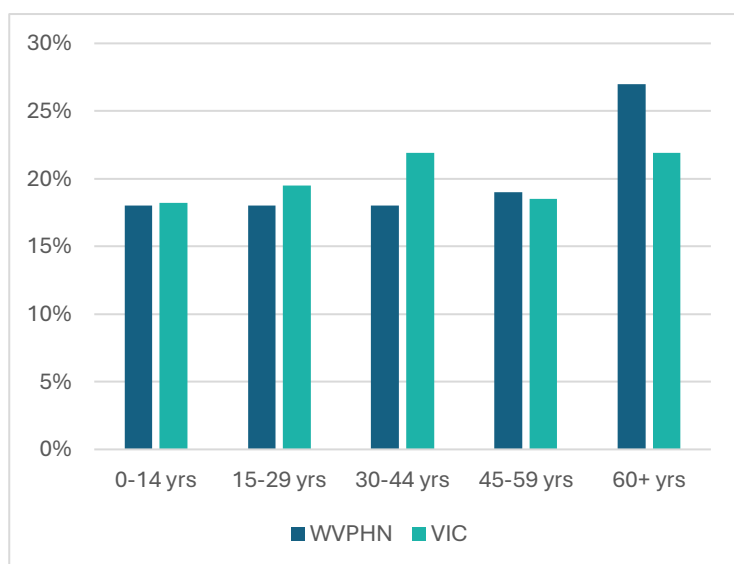


Figure 7: Proportion of population by age group - WVPHN vs Victoria

population share is anticipated to fall from 8.4 per cent to 7.2 per cent in the Wimmera Grampians sub-region.

Looking to 2031, there will be an even greater concentration of the population around the cities of Greater Geelong and Ballarat. The share of population is anticipated to fall in all other LGAs except Surf Coast Shire.

The 2021 population and forecast populations for 2026 and 2031 are broken down by age cohort and LGA and are included in [Appendix 2](#). The age profile of the catchment differs from the Victorian averages, as shown in Figure 7.

The population in western Victoria is older

than the Victorian average with a smaller proportion of people aged 15-44 years and a larger proportion of people aged 45+ years. This is most pronounced in those aged 60+ years where 27 per cent of the population are aged 60+ years compared with the Victorian average of 22 per cent.⁷ The largest proportions of the population aged 60+ years live in the Wimmera Grampians (32 per cent) and the Great South Coast (30 per cent) sub-regions which are also the most rural and isolated parts of the catchment. Thirty-two percent of the Wimmera Grampians sub-region are aged 60+ years, with a rate of 38 per cent in Yarriambiack Shire, 36 per cent in Hindmarsh Shire and West Wimmera Shire and 35 per cent in the Northern Grampians Shire. In the Ballarat Goldfields sub-region there is a greater proportion of people aged 60+ years in Central Goldfields (39 per cent), Hepburn (37 per cent) and Pyrenees Shires (35 per cent). All LGAs in the Geelong Otway sub-region have a greater proportion of older residents than the Victorian average except for Golden Plains Shire (21 per cent). More than half of all residents (54 per cent) in the Borough of Queenscliffe are aged 60+ years. All LGAs in the Great South Coast sub-region have between 27 and 34 per cent of the population aged 60+ years, compared with the Victorian average of 22 per cent.

27 per cent of the WVPHN population are aged 60+, compared with 22 per cent of the Victorian population. In our most rural parts of the catchment, the Wimmera Grampians and Great South Coast sub-regions the proportion is 32 per cent and 30 per cent respectively.

Quantified need – Population

The quantified need for the population metric is the proportion of the WVPHN population of each LGA using projected population for 2026. This is shown in order of quantified need from greatest need to lowest need in Table 5.

Table 5: Quantified base need

LGA	Base need
Greater Geelong	39.2%
Ballarat	16.2%
Moorabool*	5.6%
Surf Coast	5.5%
Warrnambool	4.7%
Golden Plains	3.5%
Colac-Otway	3.0%
Horsham	2.7%
Glenelg	2.6%
Southern Grampians	2.3%
Moyne	2.2%
Hepburn	2.1%
Corangamite	2.1%
Central Goldfields	1.8%
Northern Grampians	1.6%
Ararat	1.5%
Pyrenees	1.0%
Yarriambiack	0.8%
Hindmarsh	0.7%
West Wimmera	0.5%
Queenscliffe	0.4%

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment

Table 6: Quantified need based upon 2026 projected population by LGA

Region	Sub-region	LGA	Total population (2021)	Projected population (2026)	Base need (Percentage of WVPHN projected population 2026)
Grampians	Ballarat Goldfields	Ballarat	113,480	124,170	16.2%
		Central Goldfields	13,380	13,740	1.8%
		Hepburn	16,470	17,250	2.2%
		Moorabool*	37,890	42,740	5.6%
		Pyrenees	7,610	7,820	1.0%
	Wimmera Grampians	Ararat	11,820	11,920	1.6%
		Hindmarsh	5,650	5,450	0.7%
		Horsham	20,370	20,540	2.7%
		Northern Grampians	11,880	11,790	1.5%
		West Wimmera	3,970	3,840	0.5%
		Yarriambiack	6,510	6,290	0.8%
Barwon South West	Great South Coast	Corangamite	16,030	15,800	2.1%
		Glenelg	20,050	20,040	2.6%
		Moyne	17,290	17,920	2.3%
		Southern Grampians	16,490	16,240	2.1%
		Warrnambool	35,420	36,350	4.7%
	Geelong Otway	Colac-Otway	22,300	22,730	3.0%
		Golden Plains	24,880	27,280	3.5%
		Greater Geelong	270,770	301,370	39.2%
		Queenscliffe	3,230	3,370	0.4%
		Surf Coast	37,620	42,070	5.5%

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

5. Metric 2 – Social context

The social context refers to the social factors that determine health outcomes including housing, income, gender, age, cultural background and disability. When the environments that people live, work, play or receive support in are not suited to their needs, discrimination and disadvantage can occur. Some of the groups in the population that often experience poorer health and social outcomes include:

- First Nations people
- LGBTIQ+ people
- Culturally and linguistically diverse communities
- Older people
- Young people
- Children and families
- Financially vulnerable people
- People that are homeless or at risk of homelessness
- People with disability
- People with severe mental illness
- People with chronic disease

First Nations people

WVPHN acknowledges the Wadda Wurrung, Gulidjan, Gadubanud, Keeray Wurrung, Peek Wurrung, Gunditjmara, Djab Wurrung, Wotjobaluk, Dja Dja Wurrung, Jadawadjarli, Wergaia, Jupagalk and Jaadwa peoples as the Traditional Owners and custodians of the land we now work within.

WVPHN has adopted the First Nations Health Principles of:

- Self-determination.
- Honouring First Nations ways of knowing, being and doing.
- Aligning with Closing the Gap Priority Reforms.
- Historical acceptance and truth telling.
- A focus on strengths.

WVPHN collaboration with the Western District ACCO Collective

In the primary health space, Western District ACCO Collective (WDAC) will self-determine, initiate, and lead conversations about the health and wellbeing needs of First Nations communities in western Victoria. WVPHN has expressed its commitment to being led by WDAC to understand these needs and work collaboratively in partnership to address them.

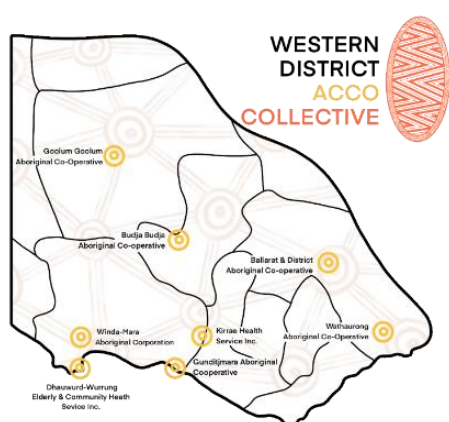


Figure 8: Member organisations of WDAC

WDAC formalises the long-standing solidarity and partnership of Western District Aboriginal Community Controlled Organisations (ACCOs), coming together to advocate for the self-determination of our rural and regional western Victoria Communities. Together, WDAC represents the largest regional Victorian Aboriginal population. Twenty-eight per cent of Victoria's Aboriginal people live in western Victoria, on 38 per cent of Victoria's beautiful Country. WDAC's membership includes Ballarat and District Aboriginal Co-operative, Budja Budja Aboriginal Co-operative, Dhaunurd Wurrung Elderly & Community Health Service, Goolam Goolam Aboriginal Co-operative, Gunditjmara Aboriginal Co-operative, Kirrae Health Service, Wathaurong Aboriginal Co-operative, and Winda-Mara Aboriginal Co-operative (Figure 8).

WDAC is accountable to the self-determined needs and aspirations of their Western Districts' families, Communities and ACCOs, advocating for the support of government and regional partners, to:

- Be a powerful voice advocating at regional, state, and national forums for our families, Communities and ACCOs.

- Use Aboriginal ways of knowing, being and doing to lead, design and facilitate the solutions to achieve equity and beyond for our Communities.
- Hold government and partners to account at local and regional levels, to ensure that all Aboriginal funding is self-determined and led by Aboriginal families, Communities and ACCO's.
- Support whole-of-Community approaches to address the ongoing harm of systemic racism that disproportionately impacts Aboriginal Communities.
- Achieve ongoing, equitable and significant funding for our ACCOs' infrastructure, workforce, Community strengthening, and services that we deliver 'our way'.

Western District ACCO Collective: Community priorities, needs and aspirations

During 2024, WDAC have worked in partnership with the Australian Institute of Health and Welfare and Deakin Rural Health to undertake a regional data project to build the evidence base for the highly effective wraparound ACCO model of care, and to develop strategy to address current and future needs and aspirations of our Communities across the western region of Victoria.

WDAC's detailed analysis and WDAC advocacy of this data are presently underway, to be shared directly by WDAC with Commonwealth and State government. Emerging priorities that WDAC has shared for this Health Needs Assessment include:

- **Self-determining outcomes-based funding models** that reflect the true value and cost of the specialist and critical Victorian ACCO models of culturally and Community centred, wraparound engagement and services that can achieve health and wellbeing equity for our families and Communities. Our ACCOs go 'above and beyond' in their service of Community members throughout their lives, of which only a small proportion is funded, in a siloed, short-term, and inflexible manner, which does not support the growth of our important self-determining ACCOs.
 - The cost of running bulk billing **General Practitioners and oral health** services are key examples where ACCOs require government support to fund wages that can compete with private sector to attract these critical workforces to services Aboriginal and broader regional and rural Communities.
 - A further example is the additional resourcing required to grow ACCOs' (*largely self-funded*) **health promotion and community strengthening** work that supports the prevention, early intervention, and intergenerational healing to improve health and wellbeing outcomes across our Communities.
- **Resources to build Western Victorian ACCO workforces**, with a focus on First Nations people. WDAC and our Western District ACCOs have the organisational infrastructure, trusted relationships, and experience to facilitate professional learning and qualifications that prepare

Community members to progress in their chosen career pathways, be that in health, working on Country or in service to Community in any of our wraparound service areas.

- **Support for ACCO-led Community Housing models** to meet the high demands for Community Housing and Community home ownership schemes in Western Victoria. ACCOs in this region have successfully sustained Community Housing tenancies (with wraparound services) for decades, accountable to the Cooperative's Community Controlled Governance and the Public Tenancies Act. Housing registration requirements do not readily align with self-determination of our ACCOs and are a current barrier to ACCOs accessing State housing funding.
- **Growing Western Victorian ACCOs locally-based continuum of care for our Elders and Community members living with disability** who wish to remain on Country, connected to culture, family and Community. Our Western Victorian ACCOs have trusted intergenerational relationships and knowledge of our Community's needs. With growing Community populations and numbers of Elders in particular, our Community needs local, on-Country Aged Care packages, ACCO-led respite, Elders housing, and residential aged care facilities.
- **Development of ACCO-led residential detox, rehabilitation, and healing services** in Western Victoria. Community members currently travel large distances to receive culturally-centred residential alcohol and other drug (AOD) services, with success in reaching their goals often undermined by waiting times for admission and their healing being disconnected from family and Community.

Demographics of First Nations people in western Victoria

First Nations people make up 1.5 per cent of the WVPHN catchment population, which is above the state average of 1 per cent. There are larger populations of First Nations people in Glenelg (2.9 per cent), Southern Grampians (2.4 per cent), Central Goldfields Shires (2.3 per cent) and in Warrnambool City (2 per cent). There is lower than state average First Nations residents in Surf Coast and Queenscliffe municipalities (Table 7).⁸

36 per cent of the First Nations population are aged 0-14 years compared with 18 per cent of the total catchment population.

The First Nations population is younger than the non-Indigenous population (Table 8). Thirty-six per cent of First Nations people in the WVPHN catchment are aged 0-14 years⁹ compared with 18 per cent of the total catchment population.¹⁰ Eighteen per cent of the First Nations population are aged 15-24 years compared with 11 per cent of the total catchment population. There is a similar proportion of First Nations adults aged 25-44 years (24 per cent) compared with the total catchment population (25 per cent), but fewer First Nations people are aged 45+ (23 per cent) compared with the average of the catchment population (34 per cent).

Table 7: Number and proportion of population that are First Nations by LGA

LGA	Proportion of population that are First Nations 2021 (%) ¹¹	Number of First Nations people 2021 ¹²
Glenelg	2.9	588
Southern Grampians	2.4	389
Central Goldfields	2.3	304
Warrnambool	2	699
Northern Grampians	1.9	229
Ararat	1.9	225
Pyrenees	1.9	144
Ballarat	1.8	2,094
Horsham	1.8	361
Moyne	1.7	300
Yarriambiack	1.7	535
Hindmarsh	1.6	91
WVPHN	1.5	12,537
Golden Plains	1.5	376
Moorabool*	1.5	558
Colac-Otway	1.4	309
Greater Geelong	1.3	3,562
Corangamite	1.2	200
West Wimmera	1.2	282
Hepburn	1.1	180
Victoria	1.0	78,696
Surf Coast	0.6	239
Queenscliffe	0.3	11

Data about First Nations people in the catchment (particularly in the smaller LGAs) must be interpreted with caution due to the small number of people. For example, there are only 91 identified First Nations people living in Hindmarsh Shire. When we break this down into age groups, we have very small numbers in each group.

Table 8: Proportion of population by age - First Nations population vs Total catchment population¹³

Population	0-14 years (%)	15-24 years (%)	25-44 years (%)	45+ years (%)
First Nations population	35.7	17.6	24.1	22.7
Total catchment population	18.0	11.3	24.6	33.7

Regional and sub-regional summary

A summary of findings at a regional and sub-regional level is shown below.

Grampians region

First Nations people comprise 1.7 per cent of the population in the Grampians region, compared with 1.5 per cent of the WVPHN catchment. Ballarat is home to the largest population of identified First Nations people with about 2,100 people in the municipality. The highest population share (in per cent) is in Central Goldfields Shire where First Nations people make up 2.3 per cent of the population (equivalent to 304

people), followed by Ararat (n=225), Northern Grampians (n=229) and Pyrenees (n=144) at 1.9 per cent. More than a third of the First Nations population (34 per cent) are aged 0-14 years, 15 per cent are aged 15-24 years and 22.5 per cent are aged 25-44 years (Table 9). There is a bigger cohort of First Nations people aged 55+ years in the Grampians region at 18 per cent compared with the WVPHN First Nations average of 13 per cent (Table 9).

Wimmera Grampians sub-region

First Nations people comprise 1.7 per cent of the population in the Wimmera Grampians sub-region, compared with 1.5 per cent of the WVPHN catchment. The largest First Nations population is in Yarriambiack (n=535). There is a high proportion of First Nations children in Northern Grampians (41 per cent) and Horsham (40 per cent) compared with the total catchment average of 36 per cent. This is not consistent across the sub-region though, with other LGAs in the sub-region averaging 25 per cent of the First Nations population being aged 0-14 years. On the other end the age spectrum, 21 per cent of the First Nations population in the Wimmera Grampians sub-region are aged 55+ years compared with the catchment average of 13.2 per cent (Table 9).

Ballarat Goldfields sub-region

First Nations people comprise 1.7 per cent of the population in the Wimmera Grampians sub-region, compared with 1.5 per cent of the WVPHN catchment. The largest First Nations population by a large margin is in Ballarat (n=2,094). Table 8 shows that there is a larger proportion of First Nations children living in Ballarat Goldfields (37 per cent) compared with Wimmera Grampians sub-region (30 per cent).

Barwon South West region

First Nations people comprise 1.5 per cent of the population in the Barwon South West region, with twice the rate of First Nations residents in the Great South Coast sub-region compared with the Geelong Otway sub-region. The City of Greater Geelong is home to the largest population of First Nations people across the region with about 3,500 people in the municipality. The highest population share (in per cent) is in Glenelg Shire where First Nations people make up 2.9 per cent of the population (equivalent to 588 people), followed by Southern Grampians Shire (2.4 per cent; n=389). One third of the First Nations population (33 per cent) are aged 0-14 years, 14 per cent are aged 15-24 years and 24 per cent are aged 25-44 years. Twelve per cent are aged 45-54 years and 17 per cent were aged 55+ years (Table 9).

Geelong Otway sub-region

There is a lower proportion of First Nations people in the Geelong-Otway sub-region (1 per cent) compared with the WVPHN average (1.5 per cent), primarily due to low First Nations populations in Queenscliffe and Surf Coast. The First Nations age profile in the Geelong-Otway sub-region is generally older than seen in other regions within the WVPHN catchment (Table 9). Geelong-Otway has the lowest proportion of First Nations children aged 0-14 years at 28 per cent compared with the WVPHN rate of 36 per cent. Twelve per cent of First Nations people in Geelong-Otway are aged 15-24 years compared with the WVPHN average of 18 per cent. There are much greater proportions of First Nations people aged 35+ years. Seventeen per

cent are aged 35-44 years, 16 per cent are aged 45-54 years and 18 per cent are aged 55+ years compared with the WVPHN averages of 10 per cent, 10 per cent and 13 per cent.

Great South Coast sub-region

The greatest proportion of First Nations residents live in the Great South Coast sub-region at 2 per cent of the total population. Almost 3 per cent of people living in Glenelg identify as First Nations (n=588), while the largest population in number lives in the City of Warrnambool (n=699). The Great South Coast has the greatest proportion of First Nations children across all sub-regions at 39 per cent of the First Nations population. There is a lower proportion of First Nations people aged 35+ years in the Great South Coast compared with Geelong Otway sub-region, and the Grampians and Barwon South West regions (Table 9).

Table 9: Age profile of First Nations population by region, sub-region and LGA¹⁴

Region	Sub-region	LGA	Proportion of First Nations people 2021 (% of total population)	Proportion of First Nations population aged 0-14 years 2021 (% First Nations population)	Proportion of First Nations population aged 15-24 years 2021 (% First Nations population)	Proportion of First Nations population aged 25-34 years 2021 (% First Nations population)	Proportion of First Nations population aged 35-44 years 2021 (% First Nations population)	Proportion of First Nations population aged 45-54 years 2021 (% First Nations population)	Proportion of First Nations population aged 55+ years 2021 (% First Nations population)
Grampians	Ballarat Goldfields	Ballarat	1.8	38.6	19.3	15.5	8.6	7.5	10.5
		Central Goldfields	2.3	41.9	13.2	13.2	5.9	9.0	16.9
		Hepburn	1.1	38.9	13.5	9.1	9.1	11.5	17.8
		Moorabool*	1.5	37.9	15.0	14.8	11.5	8.9	11.8
		Pyrenees	1.9	28.5	18.6	9.3	9.3	17.4	16.9
		Ballarat Goldfields sub-region**	1.7	37.2	15.9	12.4	8.9	10.9	14.8
	Wimmera Grampians	Ararat	1.9	21.2	16.7	20.5	13.4	11.5	16.7
		Hindmarsh	1.6	24.0	17.3	5.8	10.6	13.5	28.9
		Horsham	1.8	39.6	18.3	11.1	9.5	10.4	11.1
		Northern Grampians	1.9	41.0	7.8	8.5	10.3	12.2	20.3
		West Wimmera	1.2	29.3	10.3	5.2	22.4	8.6	24.1
		Yarriambiack	1.7	24.8	16.3	14.7	10.1	9.3	24.8
		Wimmera-Grampians sub-region**	1.7	30.0	14.4	11.0	12.7	10.9	21.0
		Grampians region**	1.7	33.6	15.2	11.7	10.8	10.9	17.9
Barwon South West	Great South Coast	Corangamite	1.2	35.1	16.2	13.6	4.8	8.8	21.5
		Glenelg	2.9	35.6	18.1	11.4	8.8	8.3	17.8
		Moyne	1.7	41.4	13.5	13.2	8.2	8.7	14.9
		Southern Grampians	2.4	42.7	16.4	10.2	6.4	10.4	13.9
		Warrnambool	2.0	38.0	14.3	17.0	9.4	9.7	11.6
		Great South Coast sub-region**	2.0	38.6	15.7	13.1	7.5	9.2	16.0
	Geelong Otway	Colac-Otway	1.4	31.7	17.2	10.7	13.1	11.2	16.1
		Golden Plains	1.5	43.5	13.4	12.2	8.5	9.4	12.9
		Greater Geelong	1.3	32.6	20.1	15.9	11.0	9.5	10.9
		Queenscliffe	0.3	0.0	0.0	0.0	36.4	36.4	27.3
		Surf Coast	0.6	29.8	10.7	12.1	14.3	11.8	21.3
		Geelong Otway sub-region**	1.0	27.5	12.3	10.2	16.7	15.6	17.7
		Barwon South West region**	1.5	33.0	14.0	11.6	12.1	12.4	16.8
		WVPHN	1.5	35.7	17.6	14.3	9.8	9.5	13.2
		VIC	1.0	33.3	18.5	15.6	10.4	9.6	12.6

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

LGBTIQA+ people

The number of people that identify as LGBTIQA+ is poorly recorded in Australia. The Census only collects information about same sex de facto relationships and marriages which does not provide any data on sex characteristics (including intersex characteristics), gender identity or sexual orientation outside of same sex de facto relationships and marriages.

Data analysed from the Victorian Population Health Survey has estimated the rate of people identifying as LGBTIQA+ by LGA (Table13). This data needs to be interpreted with caution due to the low number of respondents from many LGAs and that the data is from 2017. Data here is likely to be an underestimation of the proportion of community members identifying as LGBTIQA+.

Regional and sub-regional summary

Grampians region

There are higher rates of people identifying as LGBTIQA+ in the Grampians region, primarily due to high rates in Ballarat and Hepburn municipalities.

Wimmera Grampians sub-region

All LGAs in the Wimmera Grampians sub-region have lower than average rates of people identifying as LGBTIQA+.

Ballarat Goldfields sub-region

The Ballarat Goldfields sub-region includes the LGAs of Ballarat and Hepburn that have the two highest proportions of people identifying as LGBTIQA+ at 9.6 per cent and 7.5 per cent respectively, compared with the Victorian average of 5.7 per cent.

Barwon South West region

The proportion of people identifying as LGBTIQA+ in the Barwon South region is lower than the Victorian average (5.7 per cent) in all LGAs except for Colac-Otway (6.6 per cent) and Surf Coast (5.9 per cent).

Geelong Otway sub-region

The Geelong-Otway sub-region has a significant population of people identifying as LGBTIQA+, mostly in the City of Greater Geelong. Although the rate in Geelong is lower than the Victorian average, the population share of the city means that there are at least 13,500-strong LGBTIQA+ community there. The Geelong Otway sub-region also includes Colac-Otway (6.6 per cent) and Surf Coast (5.9 per cent) Shires which both have rates higher than the Victorian average (5.7 per cent).

Great South Coast sub-region

All LGAs in the Great South Coast sub-region have lower than average rates of people identifying as LGBTIQA+.

Table 13: Proportion of the population identifying as LGBTIQ+ by LGA (%) 2017

Region	Sub-region	LGA	People identifying as LGBTIQ+ (as proportion of total population) ¹⁵
Grampians	Ballarat Goldfields	Ballarat	9.6 [^]
		Central Goldfields	5.2 [^]
		Hepburn	7.5
		Moorabool*	4.0 [^]
		Pyrenees	3.8 [^]
		Ballarat Goldfields sub-region**	6.02[^]
	Wimmera Grampians	Ararat	2.2 [^]
		Hindmarsh	3.2 [^]
		Horsham	3.3 [^]
		Northern Grampians	5.1 [^]
		West Wimmera	2.5 [^]
		Yarriambiack	1.8 [^]
		Wimmera Grampians sub-region**	3.0[^]
		Grampians region**	4.52[^]
Barwon South West	Great South Coast	Corangamite	4.0 [^]
		Glenelg	3.8 [^]
		Moyne	2.5 [^]
		Southern Grampians	1.5 [^]
		Warrnambool	3.0 [^]
		Great South Coast sub-region**	2.96[^]
	Geelong Otway	Colac-Otway	6.6 [^]
		Golden Plains	^{^^}
		Greater Geelong	5.0 [^]
		Queenscliffe	4.2 [^]
		Surf Coast	5.9 [^]
		Geelong Otway sub-region**	5.42[^]
		Barwon South West**	4.19[^]
		WVPHN	N/A
		VIC	5.7

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

[^] Relative Standard error quite high – interpret with caution.

^{^^} Relative Standard Error high making data unreliable so not reported.

Culturally and linguistically diverse communities

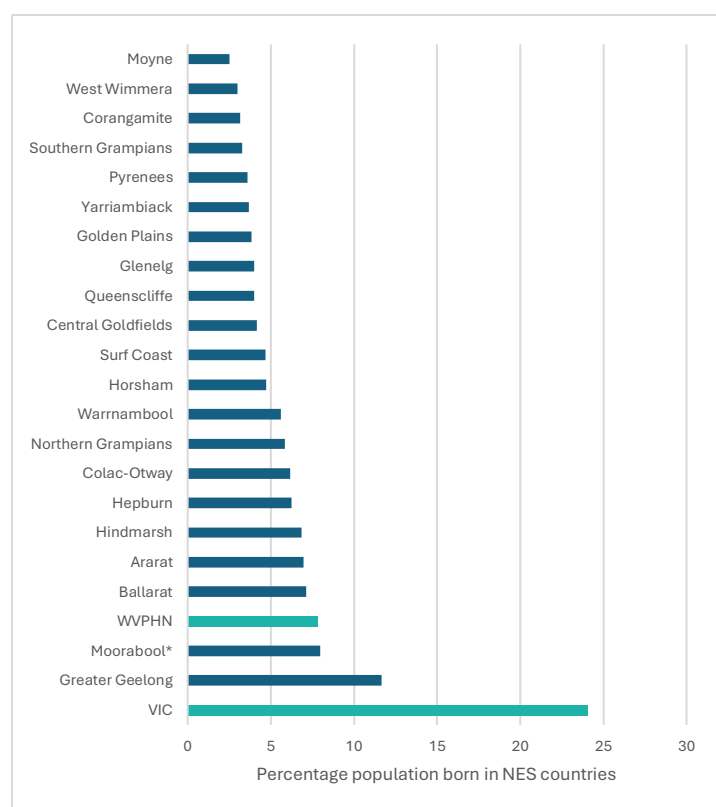


Figure 13: Proportion of population born in non-English speaking countries by LGA (%)

There is less cultural diversity in regional Victoria than in metropolitan areas and this is true of the WVPHN catchment where only 7.8 per cent of people were born in non-English speaking countries compared with the Victorian average of 24 per cent (Figure 13).¹⁶ The most culturally diverse LGA is Geelong where 12 per cent of the population were born in non-English speaking countries, with India being the most common country of origin. Moorabool Shire is the next most diverse LGA, but this is mostly concentrated around the Bacchus Marsh area, outside of the WVPHN catchment.¹⁷ As expected of larger regional centres, Ballarat is also one of the more culturally diverse LGAs with 7 per cent of residents born in non-English speaking countries, alongside Ararat (7 per cent) and Warrnambool (6 per cent).

There are also some smaller Shires with relatively high populations of people from non-English speaking countries in Hindmarsh (7 per cent), Colac-Otway (6 per cent) and Northern Grampians (6 per cent).¹⁸ There is a significant diaspora of people from Myanmar and Thailand in Hindmarsh Shire following a deliberate effort to resettle Karen refugees in the municipality to boost the local population, revitalise the Shire and provide a workforce for local industry. India, China and the Philippines are the most common non-English speaking countries of origin across the WVPHN catchment. Geelong, Colac-Otway, Warrnambool, Ararat and Northern Grampians have more people who have moved to Australia from non-English speaking countries within the last 5 years, and unsurprisingly also have higher rates of poor proficiency in English compared with other catchment LGAs (Table 14). Hindmarsh Shire is the municipality with the greatest proportion of overseas-born residents with poor English proficiency at 2 per cent compared with the WVPHN average of 0.8 per cent.

Table 14: Indicators of cultural diversity by LGA¹⁹

Region	Sub-region	LGA	Proportion of population born in non-English-speaking countries (%)	Proportion of population born in a NES country resident in Australia for less than five years (%)	Proportion of population speaking another language at home that speak English not well or not at all (%)
Grampians	Ballarat Goldfields	Ballarat	7.13	1.4	0.4
		Central Goldfields	4.16	0.5	0.1
		Hepburn	6.25	0.6	0.3
		Moorabool*	7.98	1	0.5
		Pyrenees	3.58	0.1	0.1
		Ballarat Goldfields sub-region**	5.82	0.72	0.28
	Wimmera Grampians	Ararat	6.95	1.8	0.5
		Hindmarsh	6.86	1.4	2
		Horsham	4.73	1.1	0.5
		Northern Grampians	5.85	1.8	0.8
		West Wimmera	3	0.7	0.1
		Yarriambiack	3.68	0.5	0.2
		Wimmera Grampians sub-region**	5.18	1.22	0.68
		Grampians region**	5.50	0.97	0.48
Barwon South West	Great South Coast	Corangamite	3.15	0.6	0.2
		Glenelg	3.99	0.8	0.1
		Moyne	2.5	0.6	0.1
		Southern Grampians	3.28	0.5	0.2
		Warrnambool	5.6	1.9	0.8
		Great South Coast sub-region**	3.70	0.88	0.28
	Geelong Otway	Colac-Otway	6.17	2	1.2
		Golden Plains	3.83	0.2	0.2
		Greater Geelong	11.66	2.2	1.3
		Queenscliffe	4	0	0.2
		Surf Coast	4.69	0.6	0.2
		Geelong Otway sub-region**	6.07	1	0.62
		Barwon South West region**	4.89	0.94	0.45
		WVPHN	7.82	1.6	0.8
		VIC	24.05	4.1	3.8

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Regional and sub-regional summary

Grampians region

The LGA average of people born in non-English speaking countries for the Grampians region is 5.5 per cent, but this is overinflated due to the inclusion of the full Moorabool Shire population when the most diverse region of that Shire is outside of the WVPHN catchment. Relative to the rest of the catchment, there are greater populations of people born in non-English speaking countries in Ballarat, Ararat, Hindmarsh, Hepburn and Northern Grampians LGAs. Northern Grampians, Ararat and Ballarat LGAs have a greater proportion of new arrivals, and Hindmarsh Shire has the largest proportion of people with poor English proficiency. Across the region, there are 1,100 people that speak English poorly or not at all. Around 450 of this group live in the City of Ballarat, 102 in Horsham Rural City, 113 in Hindmarsh Shire and 95 in Northern Grampians Shire.

Wimmera Grampians sub-region

The Wimmera Grampians sub-region includes some of the more diverse small LGAs in the WVPHN catchment including Hindmarsh, Ararat and Northern Grampians. Horsham Rural City also has one of the higher non-English speaking background populations in the catchment. Five per cent of the population there were born in non-English speaking countries, with a growing population from India, the Philippines, Thailand and Myanmar. Ararat, Northern Grampians and Hindmarsh LGAs have the highest rates of recent arrivals of people from non-English speaking countries at 1.8 per cent, 1.8 per cent and 1.4 per cent respectively.

Ballarat Goldfields sub-region

The most culturally diverse municipality in the Ballarat Goldfields sub-region is the City of Ballarat where 7 per cent of residents were born in non-English speaking countries, followed by Hepburn Shire at 6 per cent. Moorabool Shire is technically the most diverse LGA, but this is mostly concentrated around the Bacchus Marsh area, outside of the WVPHN catchment.²⁰ The City of Ballarat has the greatest proportion of people in the sub-region from non-English speaking countries that have arrived in the previous 5 years (1.4 per cent).

Barwon South West region

The LGA average of people born in non-English speaking countries for the Grampians region is 5 per cent, but this varies from 2.5 per cent in Moyne shire to 12 per cent in the City of Greater Geelong. The City of Greater Geelong has both the greatest proportion and number of people born in non-English speaking countries with increasing populations from India, the Philippines, China and Southern Africa. All other LGAs in the Barwon South West region have lower proportions of people of non-English speaking backgrounds than the WVPHN average with Warrnambool and Colac-Otway having the highest rates at 6 per cent of their respective populations. Warrnambool, Colac-Otway and Geelong LGAs have the highest rates of those arriving in Australia in the previous 5 years at around 2 per cent of the non-English speaking background arrivals. Unsurprisingly, these are also the LGAs with the highest regional rates of poor English proficiency. Across the region, there are 4,300 people that speak English poorly or not at all. Around 3500 of this group live in the City of Greater Geelong, 285 in the City of Warrnambool and 270 in Colac-Otway Shire.

Geelong Otway sub-region

The Geelong-Otway sub-region is the most culturally diverse sub-region in the WVPHN catchment, owing to the relatively high proportion of people of non-English speaking backgrounds in the City of Greater Geelong. Major languages spoken at home in Geelong include:

- Mandarin
- Punjabi
- Italian
- Croatian
- Filipino/Tagalog
- Macedonian
- Greek
- Hindi
- Karen
- Arabic

There is a population of around 3,500 people with poor English proficiency living in the City of Greater Geelong. There is also significant diversity in Colac-Otway relative to its size with more than 500 people from Asia making the area their home. Main languages other than English spoken at home include Mandarin and Filipino/Tagalog. There is approximately 270 people living in Colac-Otway Shire who speak English not well or not at all.

Great South Coast sub-region

The Great South Coast average LGA rate of people from non-English speaking countries is 4 per cent compared with an WVPHN average of almost 8 per cent. All LGAs in the sub-region have less than the average proportion of people from non-English speaking backgrounds. The City of Warrnambool is the most culturally diverse LGA with almost 6 per cent of residents from non-English speaking backgrounds with growing communities from Vietnam, the Philippines, India, China, South Africa and Sri Lanka between the 2016 and 2021 censuses. Main non-English languages spoken at home are Mandarin, Filipino/Tagalog, Vietnamese and Sinhalese. There are approximately 285 people in the City of Warrnambool with poor English proficiency.

Older people

There is a greater proportion of people aged 45+ years in the WVPHN catchment and this is most pronounced in the 60+ years cohort. This pattern exists across all regions and sub-regions, except for those aged 45-59 years in the Geelong Otway sub-region which was equal to the state average.

Twenty-seven per cent of the WVPHN catchment population is aged 60+. The highest rate is in Queenscliffe LGA where 54 per cent of the population is 60+ years. (Table 17 and Figure 16). This is followed by Central Goldfields (39 per cent), Yarriambiack (38 per cent), Hepburn (37 per cent), Hindmarsh (36 per cent) and West Wimmera (36 per cent). By 2026, we expect there to be around 220,000 people aged 60+ years in the WVPHN catchment. These are high rates when compared with the state average of 22 per cent. By 2031, we can expect this to grow to almost 250,000 people accounting for 30 per cent of the catchment population (Figure 15).

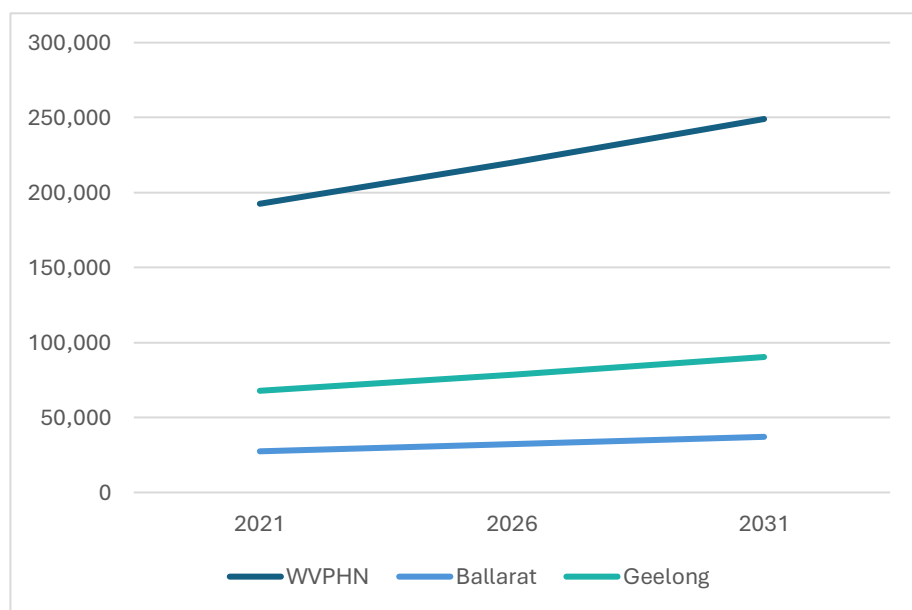


Figure 15: Population aged 60+ in 2021 and forecast in 2026 and 2031 in WVPHN catchment and Ballarat and Geelong LGAs (number of persons)

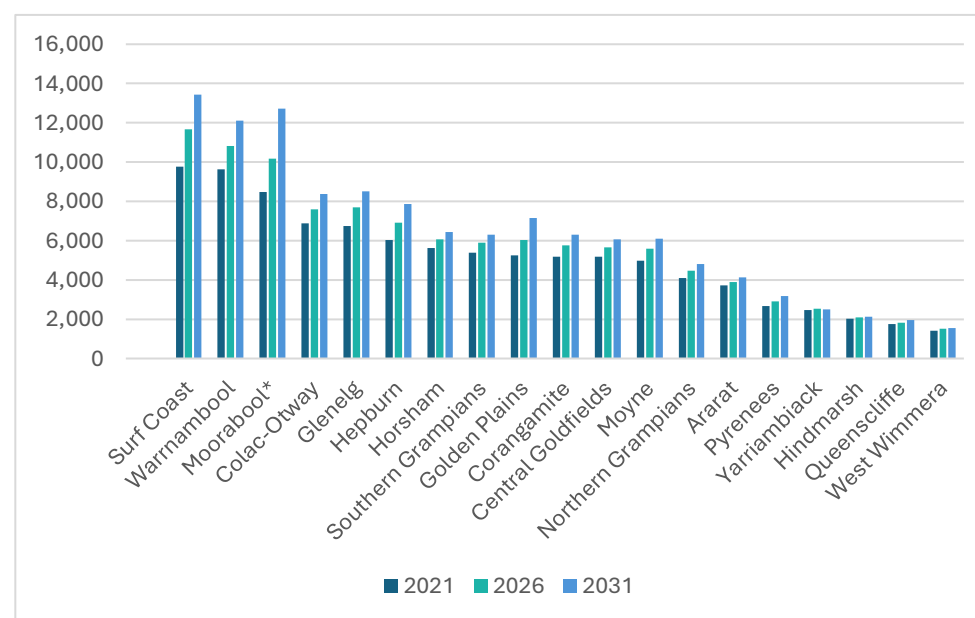


Figure 16: Population aged 60+ in 2021 and forecast in 2026 and 2031 by remaining LGAs (number of persons)

With ageing comes a range of health, social and service needs. The WVPHN catchment has a lower rate of severe or profound disability in people aged 65+ than the Victorian average of 20 per cent across all catchment LGAs, although Ballarat, Central Goldfields, Geelong, Ararat and Hindmarsh LGAs are similar to the Victorian rate. The WVPHN average rate of older people with two or more chronic diseases is just above the Victorian average of 28 per cent but this ranges from a low of 20 per cent in Queenscliffe to 32 per cent in Ballarat.

The Commonwealth Home Support Program (CHSP) is a program that provides low-level support services to help older people to live safely and independently at home. There is a greater proportion of people aged 65+ years using the CHSP in the WVPHN catchment compared to the Victorian average which aligns with the greater proportion of older people in the catchment. West Wimmera Shire had the highest rate of CHSP recipients at 1.8 times the Victorian average, followed by Corangamite, Yarriambiack and Hindmarsh Shires where the rate is around 1.7 times the Victorian average. The rate of CHSP participation is lowest in Queenscliffe, despite having the highest proportion of people aged 60+ years.

The next step up in aged care support in the home is 'home care'. In 2022-2023 there were 8,390 people receiving home care services in the WVPHN catchment or 6 per cent of people aged 65+ years. The LGAs with the highest rate of home care clients are Moorabool, Warrnambool and Southern Grampians although it should be noted that only part of the Moorabool Shire is included in the WVPHN catchment. There is lower than Victorian average participation in Home Care in Central Goldfields, Queenscliffe, Surf Coast, Golden Plains and West Wimmera LGAs despite high proportions of older people in Queenscliffe, Central Goldfields and West Wimmera municipalities.

The rate of people using residential aged care in the WVPHN catchment is similar to the Victorian average although this varies with the highest rate seen in Moorabool Shire at 12 per cent of people aged 65+ years and the lowest rate in Pyrenees Shire at 2.69 per cent. The rate in Hindmarsh, Yarriambiack, West Wimmera, Warrnambool and Central Goldfields were substantially higher than the Victorian average and align with the proportion of people aged 60+ in those LGAs, except for Warrnambool where the rate is higher than might be expected.

The Victorian average of residential care places provided is 77 per 1,000 people aged 70+ years and the federal government's targets have ranged from around 61 to 78 places per 1,000 over recent years. There are some catchment LGAs where there is substantially higher provision than the average or federal targets including Hindmarsh (119 places per 1,000) and Yarriambiack (115 places per 1,000). Other municipalities that provide well over the Victorian average include the City of Greater Geelong, Northern Grampians Shire and the City of Warrnambool. There is a potential undersupply of residential aged care places in Pyrenees, Moyne, Golden Plains, Horsham, Ararat and Hepburn. This is perhaps most concerning in Hepburn, Pyrenees and Ararat where greater than 30 per cent of residents are aged 60+ years. Occupancy data shows that 86 per cent of residential aged care places in the Grampians aged care region are filled while this falls to 80 per cent for the Barwon South West region.²¹

Table 17: Indicators related to ageing and aged care by LGA

Region	Sub-region	LGA	Proportion of population aged 60+ years (%) ²²	People with severe or profound disability – 65+ years (% of total population aged 65+) ²³	People aged 65+ years with 2 or more chronic diseases (% of total population aged 65+) ²⁴	Rate of utilisation of Commonwealth Home Support Program 2022/2023 by people aged 65+ (ASR per 1,000) ²⁵	Proportion of population aged 65+ years using Home Care 2023 (%) ²⁶	Proportion of population aged 65+ years using residential care 2023 (%) ²⁷	Residential care places per 1,000 population aged 70 years and over 2023 ²⁸
Grampians	Ballarat Goldfields	Ballarat	24.18	19.77	31.80	40.60	6.00	5.00	82.11
		Central Goldfields	38.64	18.85	31.40	42.90	1.41	5.22	75.24
		Hepburn	36.60	13.43	26.70	36.50	4.58	4.41	69.93
		Moorabool*	22.40	18.55	30.90	36.30	13.30	12.32	72.10
		Pyrenees	35.05	16.36	30.10	45.00	4.67	2.69	40.25
		Ballarat Goldfields sub-region	26.37	17.39	30.18	40.26	6.00	5.93	67.93
	Wimmera Grampians	Ararat	31.51	18.27	28.10	49.00	5.24	4.86	69.25
		Hindmarsh	35.98	18.07	27.60	57.80	5.10	7.27	118.88
		Horsham	27.63	17.22	28.30	51.80	7.06	4.26	68.18
		Northern Grampians	34.56	15.24	27.10	49.20	4.04	4.67	86.28
		West Wimmera	35.54	14.55	26.90	62.00	3.70	5.45	80.05
		Yarriambiack	37.73	16.63	29.10	57.20	5.19	5.56	115.47
		Wimmera Grampians sub-region	32.16	16.66	27.85	54.50	5.10	5.33	89.69
		Grampians region	27.80	17.03	29.02	47.38	5.50	5.63	78.81
Barwon South West	Great South Coast	Corangamite	32.33	16.28	25.60	58.70	6.04	3.60	74.39
		Glenelg	33.70	17.41	27.20	38.30	7.61	3.95	74.90
		Moyne	28.80	13.57	23.00	48.70	5.62	3.06	47.90
		Southern Grampians	32.72	15.92	26.58	32.70	8.27	4.69	76.77
		Warrnambool	27.20	17.22	26.90	37.00	9.84	5.27	86.04
		Great South Coast sub-region	30.34	16.08	25.86	43.08	7.48	4.11	72.00
	Geelong Otway	Colac-Otway	30.79	16.77	24.90	31.40	5.09	3.80	72.72
		Golden Plains	21.09	15.91	27.60	34.10	3.66	2.71	49.40
		Greater Geelong	25.03	18.47	28.80	33.80	5.89	5.00	87.26
		Queenscliffe	54.42	10.03	20.20	13.40	2.94	**	0.00
		Surf Coast	25.95	11.90	22.00	32.70	3.56	4.11	78.33
		Geelong Otway sub-region	25.47	14.62	24.70	29.08	4.23	3.91	57.54
		Barwon South West region	26.60	15.35	25.30	36.08	5.85	4.01	64.77
		WVPHN	26.99	17.35	28.20	38.3	5.72	4.63	78.82
		VIC	21.90	20.26	27.60	34.00	6.06	4.57	76.76

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Regional and sub-regional summary

Grampians region

There is a higher proportion of people aged 60+ years (28 per cent) in the Grampians region compared with the Victorian average (22 per cent). The highest rates are in Central Goldfields (39 per cent), Yarriambiack (38 per cent), Hepburn (37 per cent), Hindmarsh (36 per cent), West Wimmera (36 per cent), Pyrenees (35 per cent) and Northern Grampians (35 per cent) LGAs. There is a greater proportion of people aged 65+ with severe or profound disability and two or more long term conditions compared with the Barwon South West region. The areas with the highest rates of disability include Ballarat, Central Goldfields, Moorabool, Ararat and Hindmarsh. More than 30 per cent of people aged 65+ in Ballarat, Central Goldfields, Moorabool

and Pyrenees LGAs have two or more chronic conditions. There are much higher rates of CHSP use in the Grampians region compared with the WVPHN average while the use of Home Care services is slightly lower than the WVPHN and Victorian averages. The proportion of the aged population in residential care is higher in the Grampians region than the WVPHN and Victorian averages, with the highest rates in Moorabool (12 per cent) and Hindmarsh (7 per cent) Shires. Yarriambiack and Hindmarsh have the highest provision of residential care places at around 1.5 times the Victorian average.

Wimmera Grampians sub-region

Close to two in five residents in Yarriambiack Shire are aged 60+, this is more than a third of residents in West Wimmera, Hindmarsh and Northern Grampians Shires compared with the Victorian average of 22 per cent. Older residents in Ararat and Hindmarsh are more likely to experience profound or severe disability than the general WVPHN catchment senior population. Yarriambiack, Horsham and Ararat LGAs have higher rates of older people with two or more chronic conditions than the Victorian average. The Wimmera Grampians sub-region has the highest LGA average of CHSP utilisation in the WVPHN catchment with the rate of participation in West Wimmera Shire 1.8 times the Victorian average. Participation in the CHSP is 1.7 times the Victorian average in Hindmarsh and Yarriambiack and around 1.5 times the average in the remaining sub-regional LGAs. Participation in Home Care is perhaps unexpectedly lower in the Wimmera Grampians compared with other sub-regions and is lower than the WVPHN average in all LGAs except for Horsham. West Wimmera Shire has a much higher participation in the CHSP compared with the WVPHN and Victorian average but participation in Home Care is 35 per cent lower than the WVPHN average. Residential aged care utilisation is above the state and WVPHN averages in all sub-regional LGAs except for Horsham. Residential aged care provision is above the state and WVPHN averages in four of the six LGAs with much higher provision in Hindmarsh and Yarriambiack Shires. This is most likely a reflection of the minimum number of beds required to run a viable service despite the populations of both municipalities being quite small.

Ballarat Goldfields sub-region

Central Goldfields and Hepburn Shires have the greatest proportion of people aged 60+ in the Ballarat Goldfields region at 39 per cent and 37 per cent respectively, well above the WVPHN average of 27 per cent. There are higher than WVPHN average rates of profound or severe disability in older people in Ballarat, Central Goldfields and Moorabool LGAs. Rates of two or more chronic conditions in older people are above the Victorian and WVPHN averages in all sub-regional LGAs except for Hepburn Shire. Utilisation rates for the CHSP are higher than the Victorian and WVPHN averages in Pyrenees and Central Goldfields Shires and in the City of Ballarat. There is generally low utilisation of Home Care services in the sub-region, except for Moorabool Shire. There is very low utilisation of Home Care in Central Goldfields, despite having a relatively high population of older people with disability and multiple chronic conditions. Use of residential aged care is similar to the WVPHN and Victorian averages in all sub-regional LGAs except for Moorabool Shire where utilisation is very high and Pyrenees Shire where utilisation is low. Residential aged care provision is also low in Pyrenees Shire.

Barwon South West region

The age profile of the Barwon South West region is similar to the WVPHN averages but there is significant variation between the regional LGAs. More than half of the population in the Borough of Queenscliffe is aged 60+ years compared with only 21 per cent of the population in Golden Plains Shire. In the Barwon South West region, all regional LGAs have lower rates of profound or severe disability in older people than the Victorian average, and only the City of Greater Geelong has rates of disability notably higher than the WVPHN average. Geelong is also the only regional LGA that has a higher rate of multiple chronic conditions in older people than the Victorian and WVPHN averages. There is a much higher participation in the CHSP in the Great South Coast sub-region than in the Geelong Otway sub-region. There are particularly high rates of use in Corangamite and Moyne Shires and low utilisation in the Borough of Queenscliffe. Home Care services are more commonly used in the Great South Coast region with the highest rates in Warrnambool, Southern Grampians and Glenelg LGAs. There are lower rates of residential aged care use in the Barwon South West region compared with the Grampians region with particularly low rates in Golden Plains, Moyne, Corangamite and Glenelg LGAs. There is low provision of residential aged care places in Moyne and Golden Plains Shires.

Geelong Otway sub-region

There is a greater proportion of people aged 60+ in Queenscliffe and Colac-Otway LGAs and a lower than WVPHN average rate of older people in Golden Plains, Greater Geelong and Surf Coast LGAs. The City of Greater Geelong has the highest sub-regional rate of profound or severe disability in older people, while Surf Coast and Queenscliffe LGAs have the lowest rates in the WVPHN catchment. The same pattern is seen regarding the proportion of older people with two or more chronic diseases. Participation in the CHSP and Home Care utilisation is lower than the WVPHN average across the sub-region except for the City of Greater Geelong. In terms of residential aged care provision, there is no provision in the Borough of Queenscliffe despite a high population of older people. There is a higher provision rate in the City of Greater Geelong and a low provision rate in Golden Plains Shire.

Great South Coast sub-region

The proportion of people aged 60+ is higher than the WVPHN and Victorian averages across all LGAs in the Great South Coast sub-region. The rate of profound or severe disability in older people does not vary notably from the WVPHN average in any sub-regional LGAs except in Moyne where the rate is 22 per cent lower than the average. The proportion of older people with two or more chronic conditions is lower than the WVPHN average in all sub-regional LGAs, with the rate in Moyne Shire 18 per cent lower than the WVPHN average. There is a high rate of CHSP use in Corangamite and Moyne Shires, and well above WVPHN and Victorian average use of Home Care services in Warrnambool, Southern Grampians and Glenelg LGAs. There is a low rate of residential aged care utilisation in Corangamite, Moyne and Glenelg LGAs and low provision of residential aged care places in Moyne Shire.

Young people

Young people aged 15-24 years comprised 11 per cent of the population in the WVPHN catchment in 2021, compared with 12 per cent of the wider Victorian population.²⁹ This varies throughout the catchment from a high of 13 per cent in the City of Ballarat to a low of 7 per cent in the Borough of Queenscliffe. There is generally lower engagement of young people in education or employment in the WVPHN catchment compared with the Victorian average. There is low participation in secondary schooling at 15

years of age in Central Goldfields, West Wimmera and Pyrenees Shires but higher than Victorian average participation in Queenscliffe and Surf Coast LGAs. The proportion of young people either in education or employment is low in Yarriambiack, Central Goldfields and Pyrenees Shires and higher than the Victorian average in Surf Coast and Queenscliffe LGAs. There is a higher rate of young people reporting long term mental health conditions with the rate in Central Goldfields Shire 1.6 times the Victorian average. The only catchment LGAs with a rate lower than the Victorian average are Hindmarsh, West Wimmera, Corangamite, Moyne and Surf Coast Shires. Youth mortality is higher across the catchment compared with the Victorian average with notably high rates in Glenelg, Moyne and Golden Plains Shires. The leading cause of death in people aged 15-24 years is injury, accounting for 73 per cent of deaths.³⁰ Just over half of those injury-related deaths result from intentional injuries and suicide is the leading single cause of death in this age group.³¹ Males in this age group are more than twice as likely to die compared with females.³² Adolescent birth rates are higher than the Victorian average in 13 of the 21 catchment LGAs. During the 2019-2020 period, the highest rates were seen in Yarriambiack, Northern Grampians, Ararat, Horsham and Central Goldfields LGAs, all within the Grampians region. The rates in Yarriambiack and Northern Grampians Shires are more than 3 times the Victorian average while the rates in Ararat, Horsham and

The AIHW found that there was a significant increase in mental health conditions in Australian young people between 2007 and 2020-2022 and that this was largely driven by increased prevalence among females.

Central Goldfields are more than twice the Victorian average.

Data shows that access to early medical abortion and long-acting reversible contraceptive devices is limited in the Grampians region. The region has the lowest rate of GP prescribers and pharmacy dispensers of early medical abortion drugs in the state and five of the 11 regional LGAs have no provision of medical abortion. Supply of intra-uterine devices meets only half of patient demand in the region and in four of the 11 LGAs demand for contraceptive implants outstrips supply of the service.³³

The adolescent birth rate is higher than the Victorian average in 13 of 21 catchment LGAs

Table 18: Indicators relating to young people by LGA

Region	Sub-region	LGA	Proportion of population aged 15-24 years 2022 (%) ³⁴	Proportion of young people participating full time in secondary education at age 16 years 2021 (%) ³⁵	Proportion of 15-24 year olds earning or learning 2021 (%) ³⁶	Proportion of 15-24 year olds reporting a long-term mental health condition 2021 (%) ³⁷	Youth mortality - deaths of people aged 15-24 years 2017-2021 (average annual ASR per 100,000) ³⁸	Adolescent birth Jan 19 – Dec 2020 (2-year rate per 1,000) ³⁹
Grampians	Ballarat Goldfields	Ballarat	12.6	84.65	85.22	15.9	37.64	14.27
		Central Goldfields	9.3	69.5	76.09	17.4	0	19.03
		Hepburn	7.5	83.11	82.21	14.6	..	5.2
		Moorabool**	11.0	82.37	87.08	11.9	..	4.26
		Pyrenees	8.8	67.47	77.16	13.7	0	9.65
		Ballarat Goldfields sub-region**	9.9	77.42	81.55	14.70	7.53	10.48
	Wimmera Grampians	Ararat	9.4	80.2	79.04	13.6	..	19.32
		Hindmarsh	9.0	86.57	83.85	9.9	0	11.01
		Horsham	11.5	78.3	83.03	13	41.59	19.23
		Northern Grampians	9.4	76.99	82.86	14.1	..	25.46
		West Wimmera	7.4	64.71	84.39	8.3	0	15.92
		Yarriambiack	8.9	80.52	76.06	14.2	..	25.97
		Wimmera Grampians sub-region**	9.3	77.88	81.54	12.18	6.93	19.49
		Grampians region	9.6	77.65	81.55	13.44	7.23	14.98
Barwon South West	Great South Coast	Corangamite	10.5	79.71	85.41	8.9	..	3.89
		Glenelg	9.8	76.42	81.84	12.9	104.76	13.8
		Moyne	10.8	81.55	87.34	10.1	68.73	3.58
		Southern Grampians	10.5	82.32	84.25	13.9	..	14.84
		Warrnambool	11.3	85.64	87.15	13.1	22.83	4.6
		Great South Coast sub-region**	10.6	81.13	85.20	11.78	39.26	8.14
	Geelong Otway	Colac-Otway	9.9	84.68	87.13	10.7	..	3.13
		Golden Plains	11.4	82.85	87.52	11.8	67.83	7.83
		Greater Geelong	11.9	87.39	86.8	14.2	30.26	9.05
		Queenscliffe	6.9	103.33	91.71	13.1	0	0
		Surf Coast	9.9	89.14	90.47	10.5	28.82	2.13
		Geelong Otway sub-region**	10.0	89.48	88.73	12.06	25.38	4.43
		Barwon South West region**	10.3	85.30	86.96	11.92	32.32	6.29
		WVPHN	11.2	84.38	85.8	13.7	36.88	N/A
		VIC	12.2	88.55	87.52	10.6	30.23	8.22

.. Not applicable

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Regional and sub-regional summary

Grampians region

The proportion of 15-24 year olds in the Grampians region varies from a low of seven per cent in West Wimmera Shire to a high of 13 per cent in the City of Ballarat. The Grampians region generally performed more poorly on all the examined indicators, except for youth mortality. Engagement in education and employment is particularly low in Central Goldfields, Pyrenees, West Wimmera and Yarriambiack Shires. The rate of mental health conditions in young people is above the Victorian average in all Grampians LGAs

except for West Wimmera and Hindmarsh Shires, with the highest rates in the WVPHN catchment in the City of Ballarat and Central Goldfields Shire. The AIHW found that there was a significant increase in mental health conditions in young people between 2007 and 2020-2022 and that this was largely driven by increased prevalence among females.⁴⁰ Youth mortality data showed no deaths of young people between 2017 and 2021 in Central Goldfields, Pyrenees, Hindmarsh and West Wimmera Shires while the rates in Ballarat and Horsham were above the Victorian average. The adolescent birth rate is particularly high in some parts of the Grampians region including Yarriambiack and Northern Grampians Shires where the rate is more than three times the Victorian average, and in Ararat, Horsham and Central Goldfields LGAs where the rate is more than double the Victorian average. Of the 12 LGAs with rates higher than the Victorian average, nine sit within the Grampians region.

Wimmera Grampians sub-region

The Wimmera Grampians region includes some of the catchment LGAs with the lowest proportions of young people including West Wimmera (7 per cent), Yarriambiack (9 per cent) and Hindmarsh (9 per cent) Shires. Engagement in secondary school at 15 years of age is lowest in West Wimmera Shire at 65 per cent and below the WVPHN average in Northern Grampians, Horsham, Ararat and Yarriambiack LGAs. Engagement in earning or learning activities is lowest in Yarriambiack Shire but is also below the WVPHN and Victorian averages in all other sub-regional LGAs. Yarriambiack Shire and Northern Grampians Shires have a higher rate of mental health conditions in young people than the WVPHN average (14 per cent), but West Wimmera Shire and Hindmarsh Shire have lower than Victorian average rates and represent two of the three-lowest rates in the WVPHN catchment. The adolescent birth rate is high in the Wimmera Grampians region with four of the top five highest rates in sub-regional LGAs. The rate in Yarriambiack and Northern Grampians Shires are more than three times higher than the Victorian average. All six LGAs have rates higher than the Victorian average with Hindmarsh Shire having the lowest rate at 1.3 times the Victorian average.

Ballarat Goldfields sub-region

The City of Ballarat is the only catchment LGA that has a higher proportion of young people than the Victorian average with 13 per cent of the population aged between 15 and 24 years or around 14,000 people. Ballarat is also the only sub-regional LGA with a rate of school attendance at 15 years above the WVPHN average. Pyrenees and Central Goldfields Shires are ranked second and third lowest in the WVPHN catchment for school attendance at 15 years and for engagement in education or employment by those aged 15-24 years. All Ballarat Goldfields LGAs have a lower rate of engagement with education and employment than the WVPHN average with Central Goldfields Shire having the second-lowest rate in the WVPHN catchment. Central Goldfields, Ballarat and Hepburn LGAs have the top three highest rates of mental health conditions in young people in the WVPHN catchment. Central Goldfields Shire has the highest rate of adolescent birth in the sub-region at 2.3 times the Victorian average. The rates in Ballarat and Pyrenees Shires are also higher than the Victorian average.

Barwon South West region

There are generally higher proportions of people aged 15-24 years in the Barwon South West region compared with the Grampians region. However, this ranges from a high of 12 per cent in the City of Greater Geelong to a low of 7 per cent in the Borough of Queenscliffe. The 2021 Census found that there were more than 32,000 people aged 15-24 living in the City of Greater Geelong. The Barwon South West region performs better in all youth-related indicators examined except for youth mortality. Participation in secondary schooling at 15 years is highest in the WVPHN catchment in Queenscliffe and Surf Coast but lower than the WVPHN average in Golden Plains, Southern Grampians, Moyne, Corangamite and Glenelg Shires. Similarly, engagement in learning or earning is highest in the WVPHN catchment and above the Victorian average in Queenscliffe and Surf Coast LGAs while rates are below the Victorian average but higher than the WVPHN average in Golden Plains, Moyne, Warrnambool, Colac-Otway and Greater Geelong LGAs. The rate of young people reporting a mental health condition is higher than the WVPHN average in the City of Greater Geelong and Southern Grampians Shire, and lower than the WVPHN average but above the Victorian average in Queenscliffe, Warrnambool, Glenelg and Colac-Otway LGAs. Youth mortality between 2017 and 2021 was almost 3.5 times the Victorian rate in Glenelg Shire and more than 1.8 times the average in Moyne and Golden Plains Shires. Adolescent births were above the Victorian average in Southern Grampians, Glenelg and Geelong LGAs.

Geelong Otway sub-region

The City of Greater Geelong has the second highest proportion of young people in the WVPHN catchment at 12 per cent with Golden Plains Shire comprised of 11 per cent of people aged 15-24 years. Around 10 per cent of the population in Surf Coast and Colac-Otway Shires are aged 15-24 years while Queenscliffe has the lowest proportion of young people at only 7 per cent. Queenscliffe and Surf Coast LGAs have the highest rates of engagement in secondary school, education and employment in the WVPHN catchment. They also show the lowest rates of adolescent birth. Golden Plains Shire is the only sub-regional LGA with a rate of full-time secondary school attendance lower than the WVPHN average and all LGAs have higher rates of youth engagement in earning or learning than the WVPHN average. The City of Greater Geelong is the only sub-regional LGA with a rate of young people with mental health conditions higher than the WVPHN average but all LGAs except Surf Coast Shire have a higher rate than the Victorian average. The adolescent birth rate is higher than the Victorian average in the City of Greater Geelong but lower in all other sub-regional LGAs with Queenscliffe, Surf Coast and Colac-Otway LGAs having the three lowest rates in the WVPHN catchment.

Great South Coast sub-region

The City of Warrnambool is the only sub-regional LGA that has a higher proportion of young people than the WVPHN average at 11 per cent with all remaining LGAs comprising between 10 and 11 per cent of people aged 15-24 years. Full-time attendance at school at 15 years is below the Victorian average across the entire sub-region with Warrnambool the only LGA with a rate higher than the WVPHN average. Moyne and Warrnambool LGAs have the highest sub-regional rates of engagement with earning or learning at rates

lower than the Victorian average but higher than the WVPHN average of 86 per cent. Glenelg Shire has one of the lowest rates in the WVPHN catchment of full-time secondary school attendance at 15 and engagement in earning or learning. Southern Grampians Shire is the only sub-regional LGA with a rate of mental health conditions in young people higher than the WVPHN average, followed by Warrnambool and Glenelg LGAs. Moyne and Corangamite Shires have rates of mental health conditions lower than the Victorian average.

Children and families

Eighteen per cent of the WVPHN catchment population is aged 0-14 years, which is the same as the Victorian average and equates to around 124,000 people as counted in the last Census. This varies across the catchment from a high of 22 per cent in Golden Plains Shire to a low of 9.5 per cent in the Borough of Queenscliffe (Table 19).

It is well established that the pre-natal and early childhood periods impact significantly on the long-term health outcomes of children. There are high rates of smoking

during pregnancy across the WVPHN catchment with only Hindmarsh and Surf Coast Shires having rates lower than the Victorian average. Almost one in four pregnant people in Central Goldfields Shire smoke, with a rate of around one in four in Pyrenees, Ballarat, Glenelg and Yarriambiack LGAs. The WVPHN catchment performs well in terms of patients accessing antenatal care in the first 10 weeks of pregnancy with an average not attending care of 27 per cent compared with the Victorian rate of 36 per cent. There are clusters of LGAs within the catchment where there is lower utilisation of early antenatal care including West Wimmera, Hindmarsh and Yarriambiack Shires in the Wimmera Grampians sub-region and Corangamite, Warrnambool, Moyne and Glenelg LGAs in the Great South Coast sub-region. The rate of low birthweight babies is the same at a catchment level as the Victorian average (6 per cent) but there are high rates in Central Goldfields (12 per cent), Hindmarsh (10 per cent), Corangamite (10 per cent), West Wimmera (9 per cent) and Ballarat (8 per cent) LGAs.

There are geographic clusters within the catchment where there is lower utilisation of early antenatal care including West Wimmera, Hindmarsh and Yarriambiack Shires in the Wimmera-Grampians sub-region and Corangamite, Warrnambool, Moyne and Glenelg LGAs in the Great South Coast sub-region

The rate of developmentally vulnerable children is higher than the state average in 14 of 21 catchment LGAs while the rate of children with one or more long term health conditions is higher in 17 of 21 catchment LGAs.

There are high rates of developmentally vulnerable children in the WVPHN catchment. The proportion of children that are developmentally vulnerable on one or more domains is higher than the Victorian average in 14 of the 21 catchment LGAs with the highest rates in Central Goldfields, Northern Grampians and Hindmarsh Shires where around one third of children are classified as vulnerable on one or more domains. The Borough of Queenscliffe and Surf Coast Shire have the lowest rates of vulnerable children although the number of children aged 5 is very small in Queenscliffe. The rate of children with profound or severe disability is around 4-5 ASR per 100

throughout the catchment except for Central Goldfields Shire where the rate is 6.9 which is 35 per cent higher than the WVPHN average. The rate of long-term health conditions in children is higher than the Victorian average in 17 of 21 catchment LGAs with the highest rate seen in Yarriambiack Shire at 15 ASR per 100 at 1.7 times the Victorian average. Around 2 in 100 children in the WVPHN catchment accessed a mental health care plan through their GP in 2022 but this rate was notably higher in the Borough of Queenscliffe and Yarriambiack Shire. Rates of obesity in children are high in Victoria with eight per cent of

Victorian children classified as obese. The rate of childhood obesity in WVPHN is even more dire with most municipalities between 10 and 11 per cent. The rate in Queenscliffe is reported to be 19 per cent but this data is not of high quality, most likely due to small sample size. The catchment does perform well in terms of the proportion of children that are fully immunised with 18 of the 21 catchment LGAs having higher immunisation rates than the Victorian average. The lowest rates of immunisation are seen in some of the more affluent areas in the catchment including Queenscliffe, Hepburn and Surf Coast LGAs.

Family violence and children

WVPHN catchment LGAs comprise 7 of the 20 Victorian LGAs with the highest rates of family violence incidents.* Children are present at around 37 per cent of family violence incidents attended by police in Victoria.* The impacts of children exposed to family violence can be severe and long-lasting and include:

- Lower educational attainment
- Reduced social participation
- Physical and psychological disorders
- Suicidal ideation
- Behavioural difficulties
- Homelessness
- Future victimisation and/or violent offending themselves.^

* Crime Statistics Victoria, Victoria Police data tables 2023 <https://www.crimestatistics.vic.gov.au/family-violence-data/family-violence-data-tables>

^ Australian Institute of Health and Welfare (2022) *Australia's children*, AIHW, Australian Government, accessed 15 October 2024.

Table 19: Child-related indicators by LGA⁴¹

Region	Sub-region	LGA	Proportion population aged 0-14 years 2022 ⁴²	Proportion of women smoking during pregnancy (% of all pregnant women) ⁴³	Proportion of low birthweight babies (% of all babies born) ⁴³	Proportion of women that did not attend antenatal care within the first 10 weeks 2019-2021 (%)	Proportion of children fully immunised at 5 years 2021 (%)	Proportion of children developmentally vulnerable on one or more domains (% of children)	Children aged 0-14 years with severe or profound disability living in households (ASR per 100)	People aged 0-14 years reporting they had one or more long term health condition/s (ASR per 100)	Proportion of children 2-17 years that are obese 2017-2018 (ASR per 100)
Grampians	Ballarat Goldfields	Ballarat	18.8	21.40	8.30	16.40	98.20	21.70	5.30	12.80	11.00
		Central Goldfields	14.6	24.30	11.70	30.30	99.20	33.60	6.90	12.01	10.60
		Hepburn	14.0	10.90	4.20	21.80	93.20	19.40	5.50	10.58	10.90
		Moorabool*	20.1	10.20	5.50	29.40	96.80	22.00	4.50	10.54	9.50
		Pyrenees	15.0	21.40	2.90	20.20	98.40	19.40	5.20	11.36	10.50
		Ballarat Goldfields sub-region	16.5	17.64	6.52	23.62	97.16	23.22	5.48	11.46	10.50
	Wimmera Grampians	Ararat	15.5	14.00	4.70	25.50	96.20	26.90	5.10	12.06	10.10
		Hindmarsh	15.3	5.10	10.00	37.90	96.40	32.60	4.60	8.98	10.80
		Horsham	18.6	14.30	6.70	21.10	98.40	22.20	5.00	9.71	10.70
		Northern Grampians	15.1	16.00	6.70	25.50	99.20	33.30	5.10	10.06	10.60
		West Wimmera	17.4	7.7^	8.8^	41.6^	100.00	29.00	4.30	7.51	10.50
		Yarriambiack	15.2	19.70	2.90	43.70	100.00	20.70	5.20	14.82	10.80
		Wimmera Grampians sub-region	16.2	12.80	5.17	25.62	98.37	27.45	4.88	10.52	10.58
		Grampians region	16.4	15.22	5.84	24.62	97.76	25.34	5.18	10.99	10.54
Barwon South West	Great South Coast	Corangamite	16.5	13.50	9.50	46.40	96.20	24.90	4.60	9.14	10.40
		Glenelg	15.5	20.00	5.90	47.30	96.90	24.20	5.10	9.40	10.70
		Moyn	19.0	13.60	5.70	66.00	97.60	16.70	4.90	9.68	10.80
		Southern Grampians	16.8	16.10	7.00	34.30	97.50	22.80	5.00	10.02	10.70
		Warrnambool	17.4	12.70	7.00	67.10	99.10	17.40	4.50	10.97	10.80
		Great South Coast sub-region	17.0	15.18	7.02	52.22	97.46	21.20	4.82	9.84	10.68
	Geelong Otway	Colac-Otway	16.9	8.50	3.80	29.20	96.10	20.20	5.00	8.03	11.10
		Golden Plains	21.9	7.90	5.20	17.90	99.20	22.40	5.00	11.91	10.40
		Greater Geelong	17.7	8.10	6.30	22.30	96.80	19.30	5.10	10.91	9.00
		Queenscliffe	9.5	10.5^	0^	20.7^	93.10	3.60	5.10	8.04	18.6^
		Surf Coast	19.8	1.90	5.00	26.70	94.50	13.70	4.30	7.99	10.50
		Geelong Otway sub-region	17.16	7.38	4.06	23.36	95.94	15.84	4.90	9.38	11.92
		Barwon South West region	17.08	11.28	5.54	37.79	96.70	18.52	4.86	9.61	11.3
		WVPHN	17.8	10.70	6.30	26.80	97.30	20.10	5.10	10.81	10.10
		VIC	18.0	7.50	6.30	36.40	96.00	19.90	Not reported	8.55	8.00
		Australia	N/A	N/A	N/A	N/A	N/A	N/A	4.5	N/A	N/A

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

^ High standard error – data should be interpreted with caution.

Regional and sub regional summary

Grampians region

The proportion of children living in the Grampians region varies from a high of 20 per cent in the WVPHN catchment within Moorabool Shire (although many of these live outside of the WVPHN catchment) to a low of 14 per cent in Hepburn Shire, compared with the Victorian average of 18 per cent. There is a higher rate of smoking during pregnancy in the Grampians region compared with the Barwon South West region with 10 of 11 regional LGAs with higher rates than the Victorian average and eight of the 11 with higher rates

than the WVPHN average. Four of the five catchment LGAs with the highest rates sit within the Grampians region with almost one quarter of pregnant people smoking in Central Goldfields and around 20 per cent smoking in Pyrenees, Ballarat and Yarriambiack LGAs. The rate of pregnant people not accessing antenatal care in the first 10 weeks of pregnancy is higher than the Victorian average in Hindmarsh, Yarriambiack and West Wimmera Shires, although the data for West Wimmera Shire must be interpreted with caution due to poor data quality. Four of the five LGAs with the highest rates of low birthweight babies are Grampians regional LGAs with the highest rates in Central Goldfields (12 per cent) and Hindmarsh (10 per cent) Shires compared with the Victorian average of 6 per cent.

The proportion of developmentally vulnerable children is higher in the Grampians region than in the Barwon South West region. One third of children in Central Goldfields, Northern Grampians and Hindmarsh Shires are developmentally vulnerable on one or more domains. Nine of the 11 regional LGAs have rates higher than the Victorian and WVPHN averages. Central Goldfields Shire has the highest rate of children with profound or severe disability at 1.35 times the WVPHN average and 1.5 times the Australian average. Four of the five LGAs with the highest rates of children with long term health conditions sit within the Grampians region with the rate in Yarriambiack Shire 1.7 times the Victorian average and the rates in Ballarat, Ararat and Central Goldfields LGAs around 1.4 times the Victorian average. There are lower rates of children accessing mental health care plans in the Grampians region compared with the Barwon South West region. The City of Ballarat and Yarriambiack Shire have the highest rates in the Grampians region, with seven of the 11 regional LGAs having lower rates than the WVPHN average. Nine regional LGAs have higher rates of childhood obesity than the WVPHN average although this is relatively uniform across the catchment at around 10-11 per cent. The region does perform well in childhood immunisation with all regional LGAs except Hepburn Shire having higher rates than the Victorian average. Yarriambiack and West Wimmera Shires have 100 per cent of children being fully immunised at age five.

Wimmera Grampians sub-region

There are generally lower proportions of children aged 0-14 years in Wimmera Grampians LGAs than the WVPHN average of 18 per cent with rates of around 15 per cent in Ararat, Hindmarsh, Yarriambiack and Northern Grampians LGAs and 17 per cent in West Wimmera Shire. Horsham Rural City is the only municipality (and the most populated municipality) with a rate higher than the average at 19 per cent.

The Wimmera Grampians sub-region performs similarly to the Grampians region regarding the child-related indicators examined but there is significant variation between sub-regional LGAs with poorer outcomes for children in the far north west of the sub-region. The rates of smoking in pregnancy vary from a high of 20 per cent in Yarriambiack Shire to a low of five per cent in Hindmarsh Shire, showing significant disparity between neighbouring municipalities with similar levels of disadvantage. There is a lower than Victorian average rate of people accessing early antenatal care in West Wimmera, Yarriambiack and Hindmarsh Shires which are again neighbouring municipalities and some of the more isolated areas of the WVPHN catchment. Three of the six sub-regional LGAs have higher rates of low birthweight babies than the Victorian average with the rate in Hindmarsh Shire 1.6 times the Victorian average and West Wimmera

Shire 1.4 times the average.

There are high rates of developmentally vulnerable children in Northern Grampians (33 per cent), Hindmarsh (33 per cent) and West Wimmera (29 per cent) Shires compared to the Victorian average of 20 per cent. All six sub-regional LGAs have a higher rate of vulnerable children than the Victorian average. The rates of children with severe or profound disability doesn't vary much from the Australian average of 4.5 ASR per 100 throughout the region, with the highest rate seen in Yarriambiack Shire (5.2 ASR per 100). There are higher rates of children with long term health conditions, however. West Wimmera Shire is the only sub-regional LGA with a rate lower than the Victorian average of 8.55 ASR per 100. Yarriambiack Shire again has the highest rate at almost 15 ASR per 100, 1.7 times the state average while the rate in Ararat Rural City is 1.4 times the average. Yarriambiack Shire is also the only sub-regional LGA with a higher than WVPHN average rate of children accessing a mental health care plan at a rate 1.75 times the average. The highest sub-regional rates of childhood obesity are in Yarriambiack, Hindmarsh, Horsham and Northern Grampians LGAs at 11 per cent compared with the state average of 8 per cent. All sub-regional LGAs have immunisation rates at 5 years of age higher than the Victorian average with Yarriambiack and West Wimmera Shires achieving 100 per cent of children being fully immunised at age 5 years in 2021.

Ballarat Goldfields sub-region

There is significant variation in the age profile of Ballarat Goldfields LGAs with 19 per cent of the population aged 0-14 years in the City of Ballarat, 20 per cent in Moorabool Shire, and only 14-15 per cent in the remaining three municipalities. The WVPHN average is 18 per cent.

There are high rates of smoking during pregnancy with Central Goldfields (24 per cent), Pyrenees (21 per cent) and Ballarat (21 per cent) the LGAs with the highest rates in the WVPHN catchment. Utilisation of early antenatal care is above the Victorian average throughout the sub-region. In Central Goldfields and Moorabool Shires, around 30 per cent of pregnant people did not access antenatal care in the first 10 weeks of pregnancy compared with the Victorian average of 36 per cent. In Hepburn and Pyrenees Shires, the rate is around 20-21 per cent, while in the City of Ballarat only 16 per cent of people did not access early antenatal care. Central Goldfields Shire has the highest rate of low birthweight babies in the WVPHN catchment at 12 per cent, around twice the state average of 6 per cent. The rate of low birthweight babies is also above the Victorian average in the City of Ballarat but below the average in all other sub-regional LGAs.

There is a high rate of children developmentally vulnerable on one or more domains in Central Goldfields Shire with a rate of 34 per cent compared to the Victorian average of 20 per cent. Central Goldfields Shire also has the highest rate of children with severe or profound disability at almost 7 per cent compared with the Australian average of 4.5 per cent. The rate of children reporting long term health conditions is also above average in Central Goldfields Shire (12 per cent) compared with the state average of 8.6 per cent. The rate is also above state average in the City of Ballarat (13 per cent), Pyrenees Shire (11 per cent), Hepburn Shire (11 per cent) and Moorabool Shire (11 per cent). The rate of children accessing a mental health care plan is higher than the WVPHN average in Ballarat, Hepburn and Central Goldfields LGAs.

There are also higher rates of childhood obesity in Ballarat, Hepburn, Central Goldfields and Pyrenees compared to the WVPHN and Victorian averages. There is generally good immunisation coverage at 5 years of age with above state average rates in Central Goldfields, Pyrenees, Ballarat and Moorabool LGAs but there is much lower coverage in Hepburn Shire (93 per cent) compared with the WVPHN average (97 per cent).

Barwon South West region

There are above state average proportions of children aged 0-14 years in Golden Plains (22 per cent), Surf Coast (20 per cent) Moyne (19 per cent) Shires compared with the Victorian and WVPHN averages (18 per cent). There is a notably low proportion of children in Queenscliffe (10 per cent).

There are higher than state average (7.5 per cent) rates of smoking during pregnancy across the entire region except for Surf Coast Shire. The highest rates are seen in Glenelg (20 per cent) and Southern Grampians (16 per cent), Moyne (14 per cent), Corangamite (14 per cent) and Warrnambool (13 per cent) Shires. Attendance at early antenatal care varies significantly across the region with a smaller proportion of women not attending care in Golden Plains (18 per cent), Greater Geelong (22 per cent), Surf Coast (27 per cent), Colac Otway (29 per cent) and Southern Grampians (34 per cent) compared with the state average (36 per cent). Data also indicates that there is a low proportion of people not attending early antenatal care in the Borough of Queenscliffe. Although the data is of poor quality, the relative level of advantage and proximity to health services in Geelong provides support that this is likely to be the case. There is a cluster of LGAs in the Great South Coast where there is a much larger proportion of people not attending early antenatal care stretching from Corangamite to Glenelg along the coast. The rates of non-attendance at early antenatal care are well above the state average of 36 per cent in Warrnambool (67 per cent), Moyne (66 per cent), Glenelg (47 per cent) and Corangamite (46 per cent) LGAs. The proportion of low birthweight babies is highest and above the state average (6.3 per cent) in Corangamite (9.5 per cent), Warrnambool (7 per cent) and Southern Grampians (7 per cent) LGAs.

There is significant variation in the rates of developmentally vulnerable children across the region with a rate of zero in the Borough of Queenscliffe (noting a very small population of children in their first year of primary school) and below state average (20 per cent) rates in Moyne Shire and the City of Greater Geelong, alongside much higher rates in Corangamite (25 per cent), Glenelg (24 per cent), Southern Grampians (23 per cent) and Golden Plains (22 per cent) Shires. The rate of children with severe or profound disability is similar to the Victorian average across the region with the lowest regional rate in Surf Coast Shire. There are higher rates of long-term health conditions in Golden Plains (12 per cent), Warrnambool (11 per cent) and Greater Geelong (11 per cent) compared with the state average (8.6 per cent). There are high rates of children accessing mental health care plans in the Barwon South West region, particularly in Queenscliffe, Moyne, Warrnambool and Surf Coast LGAs where rates are above the WVPHN average. The rate of childhood obesity is around 10-11 per cent throughout the region, except in Queenscliffe where the proportion is reported to be much higher, however the quality of this data is poor and so the result for Queenscliffe must be interpreted with caution. There are generally good rates of immunisation coverage

at 5 years except in Surf Coast and Queenscliffe where the rate is lower than the Victorian average.

Geelong Otway sub-region

There is variation in the proportion of children aged 0-14 years living in the Geelong Otway LGAs from the highest rate in the WVPHN catchment in Golden Plains (22 per cent) to the lowest rate in the catchment in Queenscliffe (9.5 per cent). Outcomes for children are generally positive in the Geelong Otway region compared with the rest of the WVPHN catchment. There are generally lower rates of smoking during pregnancy with all LGAs with rates lower than the WVPHN average, however rates are still higher than the Victorian average in all LGAs except for Surf Coast Shire. A greater proportion of pregnant women access early antenatal care in the Geelong Otway region compared with all other WVPHN sub-regions. The rates of those not accessing care in the first 10 weeks of pregnancy are below the state average in all sub-regional municipalities and below the WVPHN average in all municipalities except for Colac-Otway Shire. The rate of low birthweight babies is lower in all sub-regional LGAs than the Victorian and WVPHN averages.

Three of the five Geelong Otway LGAs have rates of developmentally vulnerable children lower than the Victorian average, (20 per cent) with the rate in Colac-Otway similar to the average at 20 per cent and the rate in Golden Plains slightly above the average at 22 per cent. The rates of children with severe or profound disabilities are equal to or lower than the WVPHN average in all sub-regional LGAs, which is similar to what is seen in most WVPHN catchment LGAs except for Central Goldfields Shire. In terms of children with long term health conditions, rates are higher in Golden Plains Shire (12 per cent) and the City of Greater Geelong (11 per cent) than the Victorian average of 8.6 per cent but lower than average in the remaining sub-regional LGAs. There is evidence of more children in the Geelong Otway sub-region accessing mental health care plans than the WVPHN average with the highest rate seen in Queenscliffe, followed by Golden Plains and Surf Coast LGAs. Obesity is well above the state average in Queenscliffe, Colac-Otway, Surf Coast and Golden Plains LGAs and 13 per cent higher than the average in the City of Greater Geelong.

Great South Coast sub-region

The proportion of children aged 0-14 years is below the state and WVPHN averages (18 per cent) in all sub-regional LGAs except for Moyne Shire where the proportion is 19 per cent. The rates of smoking during pregnancy are higher than the state (7.5 per cent) and WVPHN (11 per cent) averages in all sub-regional LGAs with the highest rates in Glenelg (20 per cent) and Southern Grampians (16 per cent) Shires. There is poor attendance at early antenatal care in the Great South Coast. Four of the five LGAs with the lowest rates of antenatal care within the first 10 weeks of pregnancy are located in the Great South Coast sub-region. Around two thirds of pregnant women in the City of Warrnambool and Moyne Shire do not receive early antenatal care. Close to half in Glenelg and Corangamite Shires do not receive care. Southern Grampians Shire is the only sub-regional LGA with the rate of people attending early antenatal care at a rate higher than the Victorian average. There is a higher rate of low birthweight babies in Corangamite (9.5 per cent), Warrnambool (7 per cent) and Southern Grampians (7 per cent) LGAs than the Victorian average (6.3 per cent).

There are higher rates of children that are developmentally vulnerable in Corangamite (25 per cent), Glenelg (24 per cent) and Southern Grampians (23 per cent) Shires compared with the Victorian average of 20 per cent, while the rates of children with severe or profound disability is similar to or lower than the WVPHN average throughout the sub-region. All sub-regional LGAs have higher rates of long-term conditions in children than the Victorian average (8.6 per cent) with the highest sub-regional rate in Warrnambool (11 per cent), Southern Grampians (10 per cent) and Moyne (10 per cent) LGAs. The rate of children accessing mental health care plans is higher than the WVPHN average in Moyne and Warrnambool LGAs. There are generally higher rates of childhood obesity in the Great South Coast with the highest rates in Warrnambool, Moyne, Southern Grampians and Glenelg at 11 per cent compared with the state average of 8 per cent. The rate in Corangamite Shire is slightly lower at 10 per cent. There are generally good rates of childhood immunisation at age five with all sub-regional LGAs having higher coverage than the Victorian average. All sub-regional LGAs have higher rates of long-term conditions in children than the Victorian average (8.6 per cent) with the highest sub-regional rate in Warrnambool (11 per cent), Southern Grampians (10 per cent) and Moyne (10 per cent) LGAs. The rate of children accessing mental health care plans is higher than the WVPHN average in Moyne and Warrnambool LGAs. There are generally higher rates of childhood obesity in the Great South Coast with the highest rates in Warrnambool, Moyne, Southern Grampians and Glenelg at 11 per cent compared with the state average of 8 per cent. The rate in Corangamite Shire is slightly lower at 10 per cent. There are generally good rates of childhood immunisation at age five with all sub-regional LGAs having higher coverage than the Victorian average.

Financially vulnerable people

Many people living within the WVPHN catchment face financial pressures. Table 15 shows that 49 percent of households in the catchment are classified as low income, meaning that they fall within the bottom 40 per cent of the income distribution in the population. This is 1.25 times the Victorian average and ranges from 67 per cent in Central Goldfields Shire to 32 per cent in the Surf Coast Shire. The LGA average in the Grampian region is 53 per cent and the Barwon South Coast region has an LGA average of 45 per cent while the Victorian average is 40 per cent. The Index of Relative Socioeconomic Disadvantage (IRSD) works as a summary measure of disadvantage, considering factors such as low income, low educational attainment and low skill employment. Figure 14 shows the IRSD by LGA, with darker shaded areas being those with the most disadvantage. The IRSD has been examined at an LGA, SA2 and SA1 level. IRSD at the LGA level is shown in Table 15, and the highest and lowest IRSD score by SA1 has been examined to identify areas of particular need within each LGA as part of the quantification of social context need (Table 21). All but five catchment LGAs have a lower IRSD compared with the Victorian average meaning they are areas of greater disadvantage. There are generally higher rates of welfare-dependent families, single parent families and jobless families in the Grampians region compared with the Barwon South West region. Alongside two thirds of Central Goldfields households living on low incomes, this area also has the highest rates of welfare-dependent families, single parent families and jobless families in the WVPHN catchment, which is reflected in an IRSD of just 898 compared with the state average of 1010. Golden Plains, Queenscliffe and Surf Coast LGAs have the lowest proportion of welfare-dependent families, single parent families and jobless families across the catchment alongside the highest IRSD scores, reflecting generally lower levels of disadvantage in these areas. Data from the Victorian Population Health Survey shows that there has been a statistically significant increase in people experiencing severe food insecurity between 2020 and 2022 in the WVPHN catchment. More than 13 per cent of people ran out of food and were unable to buy more in 2022 compared with 5 per cent in 2020.⁴⁴

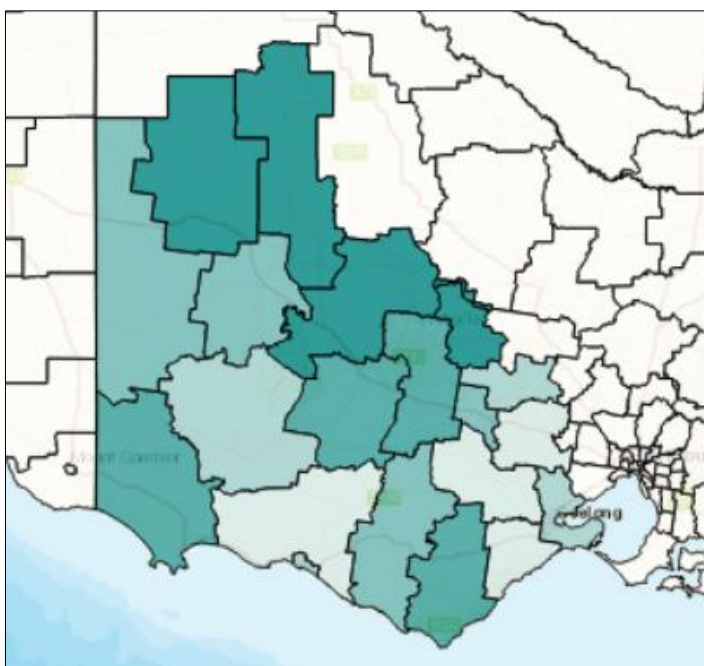


Figure 14: Index of relative socioeconomic disadvantage by LGA

Table 15: Financial vulnerability indicators by LGA

Region	Sub-region	LGA	Proportion of all households that are low-income households 2021 (%) ⁴⁵	Proportion of all families that are low income, welfare-dependent families with children 2021 (%) ⁴⁶	Proportion of all families with children under 15 years that are single parent families 2021 (%) ⁴⁷	Proportion of all families with children under 15 years that are jobless families 2021 (%) ⁴⁸	Index of relative socioeconomic disadvantage 2021 ⁴⁹
Grampians	Ballarat Goldfields	Ballarat	45.8	5.72	26.8	12.13	986
		Central Goldfields	67	8.19	35.3	22.37	898
		Hepburn	50.9	3.44	22.8	9.62	1006
		Moorabool*	39.8	3.84	20	8.87	1017
		Pyrenees	59	4.74	23.8	13.48	959
		Ballarat Goldfields sub-region**	52.50	5.19	25.74	13.29	973
	Wimmera Grampians	Ararat	52	5.38	26.6	12.94	955
		Hindmarsh	56.1	4.95	20.9	11.92	940
		Horsham	46.9	4.85	24	10.89	990
		Northern Grampians	56.2	5.03	24.1	13.58	951
		West Wimmera	52.2	3.87	17.6	11.36	991
		Yarriambiack	56.9	6.41	24.7	16.16	946
		Wimmera Grampians sub-region**	53.38	5.08	22.98	12.81	962
		Grampians region**	52.94	5.13	24.36	13.05	968
Barwon South West	Great South Coast	Corangamite	51.8	3.71	20.9	9.65	985
		Glenelg	53.4	5.47	26.9	14.31	952
		Moyne	44.7	2.93	17.4	6.95	1029
		Southern Grampians	50.9	4.08	21.9	9.01	994
		Warrnambool	45.7	3.77	25.8	8.71	995
		Great South Coast sub-region**	49.30	3.99	22.58	9.73	991
	Geelong Otway	Colac-Otway	50.6	3.81	21.5	9.07	973
		Golden Plains	39.7	2.43	12.9	5.39	1040
		Greater Geelong	42.2	3.92	21.7	9.5	1007
		Queenscliffe	39.4	0.53	17.1	5.81	1082
		Surf Coast	32.1	1.57	13.5	3.82	1086
		Geelong Otway sub-region**	40.80	2.45	17.34	6.72	1038
		Barwon South West region**	45.05	3.22	19.96	8.22	1015
		WVPHN	49.2	4.17	22.2	9.85	1000
		VIC	39.5	3.75	18.2	9.95	1010

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Regional and sub-regional summary

Grampians region

The population in the Grampians region is generally more financially vulnerable compared with the WVPHN and Victorian populations as a whole. The LGA average rate of low-income households is 53 per cent in the region, with the highest rate in Central Goldfields (67 per cent) and Pyrenees Shires (59 per cent). More than one in two households are classified as low income in Central Goldfields, Hepburn, Pyrenees, Ararat, Hindmarsh, Northern Grampians, West Wimmera and Yarriambiack municipalities. All sub-regional LGAs have a greater proportion of low income, welfare dependent families with children than the Victorian

average, with the rate in Central Goldfields Shire more than twice the Victorian average. All but one of the 11 Grampians LGAs have a higher rate of single parent households than the Victorian average, with single parent families comprising more than one in three households with children under 15 years in Central Goldfields Shire. Nine of 11 LGAs have a higher rate of jobless families with children under 15 years. Jobless families comprise 23 per cent of families with children under 15 in Central Goldfields Shire. The IRSD is a summary measure of disadvantage and 10 of 11 Grampians LGAs have a lower index than the Victorian average with Central Goldfields Shire having the lowest score. There is significant variation in IRSD in the City of Ballarat when examined at the SA1 level. The highest score is 1136 while the lowest is just 479, which is the lowest score in the WVPHN catchment (Table 21).

Wimmera Grampians sub-region

Hindmarsh and Yarriambiack Shires are the most disadvantaged LGAs in the Wimmera Grampians region by IRSD and are the second and third most disadvantaged municipalities in the WVPHN catchment. More than half of all households are classified as low income in all LGAs but Horsham City. The rate of low income, welfare dependent families and jobless families is higher than the Victorian average in all Wimmera Grampians LGAs, and the rate of single parent families is higher in all municipalities except for West Wimmera Shire.

Ballarat Goldfields sub-region

Central Goldfields Shire is the most disadvantaged LGA in the WVPHN catchment as defined by the IRSD. Moorabool Shire is the only municipality in the Ballarat Goldfields sub-region with an IRSD greater than the Victorian average. More than half of households in Central Goldfields, Hepburn and Pyrenees are classified as low-income households. The rate of low income, welfare-dependent families is higher than the Victorian average in all LGAs (with the exception of Hepburn), with the rate in Central Goldfields more than twice the state average. The rate of single parent families is above the state average in all LGAs and is almost twice the rate in Central Goldfields Shire. The rate of jobless families is higher than the Victorian average in Central Goldfields, Pyrenees and Ballarat LGAs with the rate in Central Goldfields more than twice the state average. There is significant variation in IRSD in the City of Ballarat when examined at the SA1 level. The highest score is 1136 while the lowest is just 479, which is the lowest score in the WVPHN catchment (Table 21).

Barwon South West region

The Barwon South West region is an area of mixed levels of disadvantage. Some areas experience significant disadvantage while others are some of the least disadvantaged areas in the state. Low-income households comprise more than 50 per cent of all households in Glenelg, Corangamite, Southern Grampians and Colac-Otway Shires. There are higher than Victorian average rates of low-income welfare-dependent families in Glenelg, Southern Grampians and Geelong. The rate of single parent families is higher than the Victorian average in Glenelg, Warrnambool, Southern Grampians, Geelong, Colac-Otway and Corangamite LGAs. Glenelg also has a rate of jobless families 1.4 times higher than the Victorian

average. The IRSD for each municipality generally reflects these findings with the areas with greatest disadvantage being Glenelg, Colac-Otway, Corangamite and Southern Grampians LGAs. When examining IRSD at a more granular SA1 level, however, there is large variation in the IRSD scores across the bigger cities of Geelong and Warrnambool indicating that there are areas of significant disadvantage in these LGAs (Table 21).

Geelong Otway sub-region

The Geelong Otway sub-region population is generally less financially vulnerable than the rest of the WVPHN catchment. There are generally lower rates of low-income households, welfare-dependent families, single parent families and jobless families than other sub-regions. Surf Coast Shire, Golden Plains Shire and the Borough of Queenscliffe have the lowest rates in the catchment of all financial vulnerability indicators examined, reflecting a lower level of disadvantage in these LGAs. Colac-Otway has the highest rates of indicators across the five Geelong Otway sub-regional LGAs and this is also reflected in IRSD rankings with Colac-Otway having a much lower score. There is also a great deal of variation in IRSD scores at the SA1 level within the City of Greater Geelong with the highest score 1007 and the lowest score 503 (Table 21).

Great South Coast sub-region

There is greater financial vulnerability in the Great South Coast sub-region than in the Geelong Otway sub-region. All sub-regional LGAs have higher rates of low-income households, with more than half of all households in Glenelg, Corangamite and Southern Grampians Shires classified as low-income. The rate of welfare-dependent, low-income families is almost 1.5 times the Victorian rate in Glenelg Shire, which also has the second highest rate of single parent families in the WVPHN catchment at 27 per cent. Glenelg also has the third-highest rate of jobless families in the catchment at 1.4 times the Victorian rate. This is reflected in IRSD scores with Glenelg Shire ranked the lowest in the sub-regional LGAs. It should be noted, however, that all sub-regional LGAs except Moyne Shire have a lower IRSD than the WVPHN average. There is large variation in IRSD across the City of Warrnambool with the highest IRSD at SA1 level 1132 and the lowest just 572 (Table 21).

People that are homeless or at risk of homelessness

The rate of homelessness in the WVPHN catchment is similar to the Victorian average with an estimated 3,300 residents experiencing homelessness in 2021.⁵⁰ This includes people living in:

- improvised dwellings, tents or sleeping out
- supported accommodation for the homeless
- other households temporarily
- boarding houses
- other temporary lodgings
- ‘severely’ crowded dwellings.

This is likely to be an underestimation as collecting data on people that are homeless is difficult under normal circumstances, and even more so during a pandemic. Hindmarsh Shire has the highest rate of homelessness, followed by Greater Geelong, Ballarat, Glenelg and Warrnambool LGAs. All these municipalities have higher rates of homelessness than the Victorian average. All catchment LGAs have a lower rate of people living in crowded dwellings than the Victorian average, but Hindmarsh, Yarriambiack and Horsham LGAs have higher than average rates of people living in severely crowded dwellings. The rate in Hindmarsh is more than 2.5 times the Victorian average. With lower housing prices in regional Victoria compared with metropolitan areas, it is perhaps not surprising that all catchment LGAs show lower rates of rent or mortgage stress in low-income households than the Victorian average. Rates in Ballarat and Geelong are similar to the Victorian average with about 1 in 4 low-income households spending more than 30 per cent of their income on housing in 2021. The current figure is likely to be higher following consecutive interest rate rises, increases in the cost of living driven by increased inflation that is not matched by wage increases, and the impact of COVID on employment and housing.⁵¹ In 2022-2023, almost 12,500 people in the WVPHN catchment received Specialist Homelessness Services (SHS).⁵² Close to 60 per cent of those lived in Geelong and Ballarat with an over-representation of clients in Ballarat relative to the population. Other areas that were overrepresented in the SHS data relative to population were Ararat, Horsham and Warrnambool.⁵³

Table 16: Homelessness indicators by LGA⁵⁴

Region	Sub-region	LGA	Estimated rate of homelessness 2021 (ASR per 10,000)	Population living in crowded dwellings 2021(%)	Population living in severely crowded dwellings 2021 (%)	Proportion of low-income households experiencing financial stress from rent or mortgage 2021 (%)
Grampians	Ballarat Goldfields	Ballarat	56.80	3.73	0.05	25.94
		Central Goldfields	20.90	5.30	0.00	16.49
		Hepburn	27.40	3.98	0.00	16.85
		Moorabool*	25.60	3.73	0.06	22.43
		Pyrenees	7.50	5.13	0.05	11.35
		Ballarat Goldfields sub-region**	27.64	4.37	0.03	18.61
	Wimmera Grampians	Ararat	37.40	4.57	0.03	16.23
		Hindmarsh	64.40	5.04	0.37	8.02
		Horsham	48.50	3.16	0.15	20.62
		Northern Grampians	28.40	4.16	0.10	13.68
		West Wimmera	0.00	2.96	0.00	5.47
		Yarriambiack	32.10	4.90	0.15	8.82
		Wimmera Grampians sub-region**	35.13	4.13	0.13	12.14
		Grampians region**	31.39	4.25	0.08	15.38
Barwon South West	Great South Coast	Corangamite	22.00	4.03	0.06	13.50
		Glenelg	55.10	3.88	0.13	14.56
		Moyne	20.70	3.45	0.09	14.52
		Southern Grampians	29.90	3.17	0.06	13.48
		Warrnambool	54.10	3.71	0.10	23.35
		Great South Coast sub-region**	36.36	3.65	0.09	15.88
	Geelong-Otway	Colac-Otway	45.40	4.47	0.10	18.41
		Golden Plains	9.50	3.59	0.01	15.94
		Greater Geelong	58.20	4.05	0.09	25.32
		Queenscliffe	0.00	1.13	0.00	14.96
		Surf Coast	15.50	1.98	0.02	21.64
		Geelong Otway sub-region**	25.72	3.04	0.04	19.25
		Barwon South West region**	31.04	3.34	0.07	17.57
		WVPHN	46.10	3.83	0.07	21.36
		VIC	46.90	6.10	0.14	27.83

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Regional and sub-regional summary

Grampians region

Rates of homelessness are above the Victorian average in Hindmarsh, Ballarat and Horsham LGAs, characterised in part by people living in crowded dwellings. The LGAs with the top five highest rates of people living in crowded dwellings are all in the Grampians region: Central Goldfields, Pyrenees, Hindmarsh, Yarriambiack and Ararat. The municipalities with people living in severely crowded dwellings at a rate greater than the Victorian average are Hindmarsh, Yarriambiack and Horsham, all in the

Grampians region. The City of Ballarat, Moorabool Shire and Horsham Rural City have the highest rates of low-income families in housing stress ranging from 26 per cent in Ballarat to 21 per cent in Horsham. Almost 5,000 people in the Grampians region received SHS in 2022-2023 with around half of those living in the City of Ballarat.

Wimmera Grampians sub-region

Hindmarsh Shire sits within the Wimmera Grampians sub-region and has the highest rate of homelessness and people living in severely crowded dwellings and the second highest rate of people living in crowded dwellings in the WVPHN catchment. The rate of homelessness is also higher than the Victorian average in Horsham. The rate of people living in crowded dwellings is higher than the WVPHN average in Hindmarsh, Yarriambiack, Ararat and Northern Grampians LGAs. The rate of people living in severely crowded conditions is higher than the Victorian average Hindmarsh, Yarriambiack and Horsham LGAs. The rate in Hindmarsh is 2.6 times the Victorian average. The highest rate of low-income households in housing stress is highest in Horsham, although the rate is lower than the WVPHN and Victorian averages.

Ballarat Goldfields sub-region

The City of Ballarat has the third highest rate of homelessness in the WVPHN catchment, higher than the Victorian average. Central Goldfields and Pyrenees Shires have the highest rates of people living in crowded dwellings, although these rates are both below the Victorian average. Ballarat has the highest rate of people experiencing mortgage or rental stress across the catchment with one in four low-income households paying more than 30 per cent of their income on housing.

Barwon South West region

2021 data indicates that the rate of homelessness is less in the Barwon South West region than in the Grampians region. Taking population into account, however, there are more people experiencing homelessness in the Barwon South West region than in the Grampians region. The rate of homelessness is above the Victorian average in Glenelg, Warrnambool and Greater Geelong LGAs. The rate of people living in crowded dwellings was below the Victorian average but above the WVPHN average in Corangamite, Glenelg, Colac-Otway and Geelong LGAs. The rate of those living in severely crowded dwellings was below the Victorian average but above the WVPHN average in Glenelg, Colac-Otway, Warrnambool, Moyne and Geelong LGAs. Geelong, Warrnambool and Surf Coast LGAs had the highest rates of housing stress in the region, all above the WVPHN average of 21 per cent. Almost 7,500 people received SHS in the Barwon South West region in 2022-2023, with 62 per cent of those in Geelong and a further 14 per cent in Warrnambool.

Geelong Otway sub-region

The City of Greater Geelong is the only municipality in the Geelong Otway sub-region with a rate of homelessness above the Victorian average similar to Ballarat LGA. The rate in Colac-Otway is similar to the state average. The rate of people living in crowded or severely crowded dwellings is highest in the sub-region in Colac-Otway while the rate of housing stress in low-income families is highest in Geelong and

Surf Coast LGAs.

Great South Coast sub-region

Warrnambool is the only LGA within the Great South Coast sub-region that has a rate of homelessness above the Victorian average. The rate of people living in crowded dwellings is higher than the WVPHN average in Corangamite and Glenelg Shires. The rate of people living in severely crowded conditions is almost twice the WVPHN rate in Glenelg Shire. Mortgage and rental stress in low-income households is higher than the WVPHN average in the City of Warrnambool but significantly lower in all other sub-regional LGAs.

People with disability

There is a slightly higher rate of people with severe or profound disability in the WVPHN catchment (6.92 ASR per 100) compared to the Victorian average (6.10 ASR per 100), as shown in Table 10. This varies across the catchment with rates as low as 3.91 ASR per 100 in Surf Coast Shire and as high as 11.02 ASR per 100 in Central Goldfields Shire (Figure 9). Only four of 21 LGAs have rates lower than the Victorian average: Surf Coast (3.91 ASR per 100), Moyne (5.28 ASR per 100), Golden Plains (5.54 ASR per 100), and Queenscliffe (5.80 ASR per 100).⁵⁵

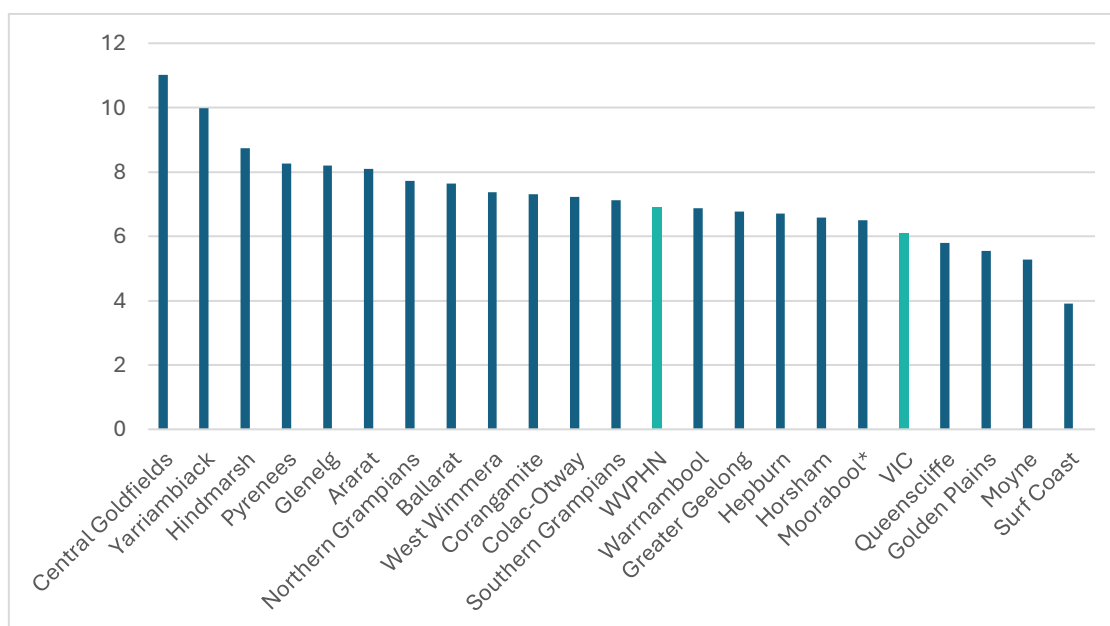


Figure 9: Percentage of population with severe or profound disability by LGA 2021.

There are higher rates of severe or profound disability in children aged 0-14 years across the catchment with particularly high rates in Central Goldfields where the rate is 6.9 ASR per 100 compared with the Victorian average of 4.5 ASR per 100.⁵⁶ At a national level, boys are almost twice as likely to have a disability, and to have a severe or profound disability than girls.⁵⁷ This sex difference disappears after the age of 15 years.⁵⁸ There are lower rates of severe or profound disability in older people aged 65+ with the rates lower than the Victorian average (20.26 ASR per 100) across all catchment LGAs. The highest rates in this cohort are in Ballarat (19.77 ASR per 100), Central Goldfields (18.85 ASR per 100), Moorabool (18.55 ASR per 100), Ararat (18.27 ASR per 100), Geelong (18.47 ASR per 100) and Hindmarsh (18.07 ASR per 100).⁵⁹

The rates of severe or profound disability in children is above the state average but lower in those aged 65+ years.

There is a higher rate of NDIS participation in the WVPHN catchment compared with the Victorian average, but this does not necessarily correspond to the rates of severe or profound disability, with rates relatively stable across all sub-regions despite the rates of disability varying significantly. The NDIS appears to cater mostly for certain cohorts.

For more than three quarters of people with disability, their main health condition is physical with the remainder experiencing a mental or behavioural health condition. Of NDIS participants, 36 per cent have autism as their primary disability, with a further 26 per cent experiencing intellectual disability or developmental delay.⁶⁰ Of people with severe or profound disability in Australia, 33 per cent of them live in cities.⁶¹ Of NDIS participants, 69 per cent live in major cities.⁶² Fifteen per cent of people with severe or profound disability are aged 0-14 years.⁶³ Forty-three per cent of NDIS participants are aged 0-14 years.⁶⁴ The LGAs with the highest rates of NDIS participation in the WVPHN catchment were Warrnambool (3.79 per cent), Greater Geelong (3.76 per cent), Central Goldfields (3.74 per cent), Ballarat (3.5 per cent), Colac-Otway (3.34 per cent), Ararat (3.32 per cent) and Horsham (3.2 per cent).⁶⁵ This may reflect easier access to NDIS services in these areas, both regarding the presence of service providers and also support to undertake the steps required to meet NDIS application requirements.

Regional and sub-regional summary

Grampians region

There are 11 LGAs within the Grampians region. Eight of them are in the top ten LGAs with the highest rates of severe or profound disability in the WVPHN catchment. Central Goldfields Shire has the highest rate of severe or profound disability at all ages and in children aged 0-14 years and the second highest rate of severe and profound disability in people aged 65+ years. There are also high rates of childhood severe or profound disability in Hepburn, Yarriambiack and Pyrenees with West Wimmera the only LGA in the Grampians region to have a rate lower than the Victorian average. This is a different pattern to the rates of severe or profound disability in those aged 65+ with all Grampians LGAs below the Victorian average. Ballarat, Central Goldfields, Moorabool, Ararat and Hindmarsh have the highest rates of older people with severe or profound disability in the Grampians region. Despite there being generally higher rates of severe or profound disability in the Grampians region, only five Grampians LGAs feature in the top ten WVPHN catchments with the highest rates of NDIS participation. Hepburn and Pyrenees Shires have one of the lowest rates of NDIS participation at around 2 per cent despite having some of the higher rates of disability.

Wimmera Grampians sub-region

Yarriambiack shire has the second-highest rate of severe or profound disability in the WVPHN catchment at 10 ASR per 100. Hindmarsh and Ararat LGAs follow at 9 ASR per 100 and 8 ASR per 100 respectively, while rates in the remaining sub-regional LGAs are also higher than the Victorian average. All LGAs have a rate of severe or profound disability in children aged 0-14 years higher than the Victorian average while Ararat, Hindmarsh, Horsham and Yarriambiack have the highest rates of older people with severe or profound disability. NDIS participation is highest in Ararat, Horsham, Yarriambiack and Northern Grampians which loosely fits with the greatest population of people with severe or profound disability but the variation in NDIS participation does not align with the variation in rates of disability.

Table 10: Rates of disability and NDIS participation by LGA

Region	Sub-region	LGA	People with severe or profound disability – all ages (ASR per 100) ⁶⁶	People with severe or profound disability aged 0-14 years (ASR per 100) ⁶⁷	People with severe or profound disability aged 65+ years (ASR per 100) ⁶⁸	NDIS participants (% of population) ⁶⁹
Grampians	Ballarat Goldfields	Ballarat	7.64	5.3	19.77	3.5
		Central Goldfields	11.02	6.9	18.85	3.74
		Hepburn	6.7	5.5	13.43	2.22
		Moorabool*	6.5	4.5	18.55	2.93
		Pyrenees	8.27	5.2	16.36	2.23
		Ballarat Goldfields sub-region**	8.03	5.48	17.39	2.92
	Wimmera Grampians	Ararat	8.10	5.1	18.27	3.32
		Hindmarsh	8.73	4.6	18.07	2.21
		Horsham	6.59	5	17.22	3.2
		Northern Grampians	7.72	5.1	15.24	2.92
		West Wimmera	7.37	4.3	14.55	1.76^
		Yarriambiack	9.99	5.2	16.63	3.12
		Wimmera Grampians sub-region**	8.08	4.88	16.66	2.46
		Grampians region	8.05	5.18	17.03	2.69
Barwon South West	Great South Coast	Corangamite	7.30	4.6	16.28	2.96
		Glenelg	8.19	5.1	17.41	2.72
		Moyne	5.28	4.9	13.57	2.32
		Southern Grampians	7.13	5	15.92	2.66
		Warrnambool	6.87	4.5	17.22	3.79
		Great South Coast sub-region**	6.95	4.82	16.08	2.89
	Geelong Otway	Colac-Otway	7.23	5	16.77	3.34
		Golden Plains	5.54	5	15.91	3.09
		Greater Geelong	6.77	5.1	18.47	3.76
		Queenscliffe	5.8	5.1	10.03	1.27^
		Surf Coast	3.91	4.3	11.9	1.85
		Geelong Otway sub-region**	5.85	4.90	14.62	2.41
		Barwon South West region**	6.40	4.86	15.35	2.65
		WVPHN	6.92	n.p	17.35	3.3
		VIC	6.1	4.5	20.26	2.65

^Poor data quality

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and regions with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

n.p. Not reported.

Ballarat Goldfields sub-region

Central Goldfields Shire has the highest rate of severe or profound disability at all ages and in children aged 0-14 years, and the second highest rate of severe and profound disability in people aged 65+ years yet has only the third highest rate of NDIS participation, with the first and second highest participation seen in municipalities outside of the Grampians region. The rate of severe or profound disability across all ages in Central Goldfields Shire is 1.8 times the Victorian average. For children aged 0-14 years, the rate of severe or profound disability is 1.5 times the Victorian average. Pyrenees Shire (8 ASR per 100) and the City of Ballarat (8 ASR per 100) also have high rates of severe or profound disability across all ages compared to the Victorian average of 6 ASR per 100. Central Goldfields, Hepburn, Ballarat and Pyrenees LGAs also have

high rates of severe or profound disability in children compared with the Victorian average (4.5 ASR per 100), ranging from 7 ASR per 100 in Central Goldfields to 5 ASR per 100 in Pyrenees Shire. Ballarat and Central Goldfields LGAs have the highest rate of severe or profound disability in people aged 65+ years in the WVPHN catchment.

Barwon South West region

There are generally lower rates of severe and profound disability in the Barwon South West region compared with the Grampians region, however six of the ten LGAs in the region still have higher rates than the Victorian average. The highest rates of severe and profound disability are seen in Glenelg and Corangamite, Colac-Otway and Southern Grampians Shires. Eight of the ten LGAs in the region have higher rates of children with severe or profound disability than the Victorian average with the highest rates in Glenelg, Greater Geelong, Queenscliffe, Colac-Otway, Golden Plains and Southern Grampians LGAs. Just as seen catchment-wide, all LGAs in the Barwon South West region have lower than state average rates of severe or profound disability in the 65+ years age group. The greatest rate of NDIS participation is seen in the City of Greater Geelong, despite only rating 14th of 21 catchment LGAs in terms of rate of severe or profound disability. Rates of NDIS participation in Colac-Otway and Warrnambool LGAs are also above the WVPHN average. Both municipalities have lower than WVPHN average rates of severe or profound disability (all ages).

Geelong Otway sub-region

LGAs in the Geelong Otway sub-region generally have lower rates of disability than other parts of the WVPHN catchment. Surf Coast Shire has the lowest rates of severe and profound disability (all ages) and in children aged 0-14 years and has the second-lowest rate (behind Queenscliffe) of disability in people aged 65+ years. Colac-Otway and Golden Plains Shires sit about midway in LGA rankings of rates of disability in all ages, 0-14 years and in people aged 65+ years. The rates of disability in the City of Greater Geelong are around the catchment average, except in older people where the rate is higher than the average. The Borough of Queenscliffe is below the catchment average across all measures but does have a similar proportion of children with severe or profound disability to many other catchment LGAs. NDIS participation is higher than the WVPHN average in both Geelong and Colac-Otway LGAs which is out of alignment with the rankings of catchment LGAs in terms of rates of severe or profound disability.

Great South Coast sub-region

Four of the five LGAs in the Great South Coast sub-region have rates of severe or profound disability above the WVPHN average. Glenelg and Corangamite Shires have the highest rates in the sub-region at 8 and 7 ASR per 100 respectively. Rates of disability in children aged 0-14 are slightly higher than the Victorian average across the sub-region, except in Warrnambool where it was the same as the average. This is in contrast to severe or profound disability in those aged 65+ years where the only LGA in the sub-region that has a higher rate than the WVPHN average is Glenelg Shire.

People with severe mental illness

There is a higher-than-average rate of people experiencing severe mental illness in the WVPHN catchment compared with the Victorian average, as measured by:

- High or very high psychological distress
- Diagnosis of a mental health condition
- Emergency department presentations for mental and behavioural disorders
- Hospital admissions for mental health-related conditions
- Rates of hospital admissions for self-harm
- Rates of suicide.

Table 11 shows that across the catchment, 24 per cent of people experience high or very high psychological distress, 18 per cent experience low or medium satisfaction with life and 11 per cent report that they have a diagnosed mental health condition. While the rate of psychological distress doesn't differ significantly from the Victorian average, people in the WVPHN catchment are less likely to report that they have low or medium life satisfaction, despite a higher rate of people with mental health conditions at 11 per cent compared with the Victorian average of 9 per cent. Rates of mental health conditions vary from 8 per cent in Queenscliffe to 14 per cent in Central Goldfields. There are only three LGAs where the rate of self-reported mental health conditions is lower than the Victorian average: Moyne, Queenscliffe and Surf Coast. The rate of emergency department (ED) presentations for mental and behavioural disorders at a catchment-wide level is lower (928 ASR per 100,000) than the Victorian average (1081 ASR per 100,000) but is higher in 10 LGAs, with ED presentations 2.15 times the Victorian average in Horsham (2319 ASR per 100,000). Rates are also high in Southern Grampians (1524 ASR per 100,000), Warrnambool (1444 ASR per 100,000) and Ballarat. (1443 ASR per 100,000). The catchment average rate of public hospital admissions for mental health-related conditions is similar to the Victorian average but varies across the catchment with 13 LGAs above the state average. The rate of admissions in Central Goldfields is 2.4 times the Victorian rate and at least 1.5 times the rate in Hepburn, Warrnambool, Yarriambiack, West Wimmera, Ballarat, Pyrenees, Ararat and Hindmarsh. The Grampians region performs more poorly on all these indicators than the Barwon South West region, as shown in Table 12 where the five LGAs with the highest rate of various indicators are shown and shaded by region.

Table 11: Mental health-related indicators by region, sub-region and LGA

Region	Sub-region	LGA	Proportion of people experiencing high or very high psychological distress (% of total population) ⁷⁰	Proportion of people reporting they had a mental health condition (% of total population) ⁷¹	Proportion of people reporting they had low or medium life satisfaction (% of total population) ⁷²	Emergency department presentations: Total presentations for mental and behavioural disorders 2020/2021 (ASR per 100,000) ⁷³	Admissions for mental health - related conditions, persons- Public hospitals (ASR per 100,000) ⁷⁴
Grampians	Ballarat Goldfields	Ballarat	25.46	13.23	17.12	1442.73	1678.75
		Central Goldfields	20.70	14.08	16.43	1091.53	2348.91
		Hepburn	15.94	11.09	17.56	819.15	1801.16
		Moorabool*	23.09	10.45	17.84	827.89	1140.90
		Pyrenees	22.03	11.74	14.78	740.30	1575.55
		Ballarat Goldfields sub-region**	21.44	12.12	16.75	984.32	1709.05
	Wimmera Grampians	Ararat	15.90	10.71	16.89	354.54	1430.31
		Hindmarsh	23.48	10.41	19.13	1211.94	1483.04
		Horsham	17.79	10.23	16.52	2319.39	877.06
		Northern Grampians	26.04	10.75	17.85	396.46	1393.18
		West Wimmera	15.13^	9.29	14.72	1251.98^	1546.90^
		Yarriambiack	27.19	11.94	22.47	1218.98	1486.53
		Wimmera Grampians sub-region**	20.92	10.56	17.93	1125.55	1369.50
Grampians region**	21.18	11.34	17.34	1054.93	1539.28		
Barwon South West	Great South Coast	Corangamite	15.77	9.69	18.18	623.60	753.36
		Glenelg	20.70	10.46	10.76	373.05	1183.55
		Moyne	15.02	8.39	14.47	779.06	780.60
		Southern Grampians	12.80	9.92	12.57	1523.67	856.35
		Warrnambool	22.08	10.43	18.55	1444.29	1539.28
		Great South Coast sub-region**	17.27	9.78	14.91	948.73	1022.63
	Geelong Otway	Colac-Otway	18.52	9.18	12.90	414.69	706.48
		Golden Plains	23.69	10.16	24.72	816.39	633.62
		Greater Geelong	27.29	11.15	21.77	1147.02	1050.42
		Queenscliffe	9.71^	7.57	2.55	1346.52^	900.25^
		Surf Coast	15.51	7.71	9.32	711.06	708.32
		Geelong Otway sub-region**	17.00	9.15	14.25	887.14	799.82
		Barwon South West region**	17.14	9.47	14.58	917.94	911.22
		WVPHN	23.87	10.98	18.34	927.98	980.34
		VIC	23.51	8.74	22.30	1080.92	989.33

[^]Poor data quality

^{*}The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

^{**}Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Table 12: LGAs with the highest rates of various mental health-related indicators by region.

High or very high psychological distress	Self-reported mental health condition	ED presentations for mental and behavioural disorders	Public hospital admissions for mental-health related conditions
Greater Geelong	Central Goldfields	Horsham	Central Goldfields
Yarriambiack	Ballarat	Southern Grampians	Hepburn
Northern Grampians	Yarriambiack	Warrnambool	Ballarat
Ballarat	Pyrenees	Ballarat	Pyrenees
Golden Plains	Greater Geelong	Queenscliffe	West Wimmera

Key: Barwon South West region / Grampians region

Rates of intentional self-harm-related hospitalisations and suicide are available at the SA3 geographic level. Figure 10 clearly demonstrates that of the 10 SA3 areas within the WVPHN catchment, there are higher than Victorian average rates of self-harm hospitalisations in seven of them.⁷⁵ The rates in the Great South Coast area are lower than the Victorian average, and rates in the catchment's two biggest cities, Ballarat and Geelong, are the highest. The rate of self-harm hospitalisation in the Geelong SA3 in 2021-2022 was twice the Victorian average.⁷⁶ Rates of self-harm hospitalisations are much higher in women than in men.⁷⁷ At a national level, self-harm behaviours are not only more common in females, but also much more common in those aged 16-24 years than any other age group.⁷⁸

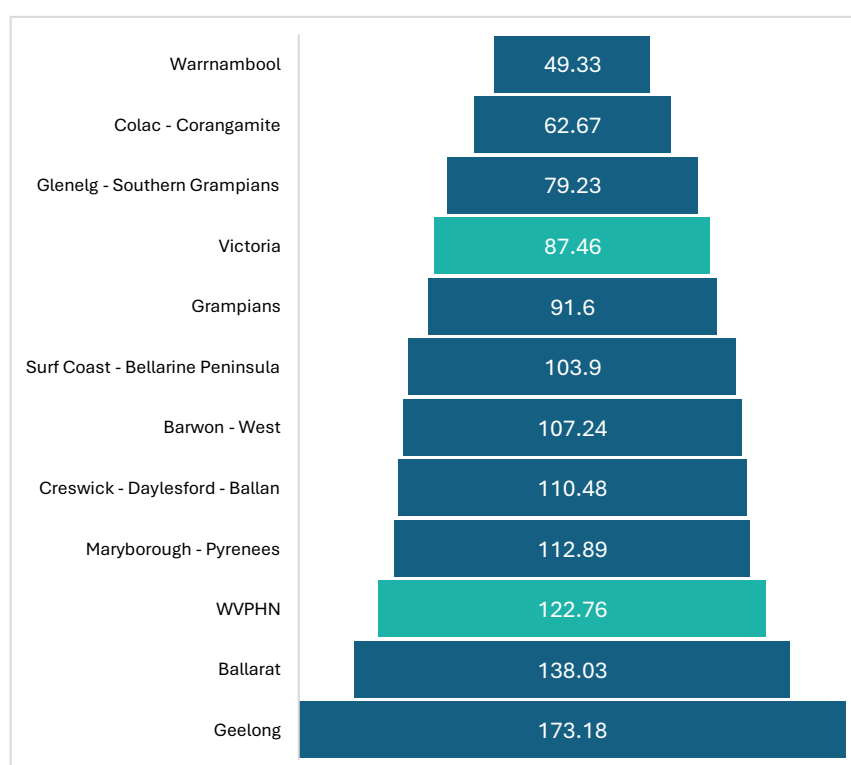


Figure 10: Intentional self-harm hospitalisations by SA3 2021-2022 (rates per 100,000)

Rates of suicide in the WVPHN catchment are also available at the SA3 level and are higher than the Victorian average across the entire WVPHN catchment (Figure 11). The rate in the Barwon West SA3 is almost twice the Victorian average. This area takes in large parts of the Golden Plains Shire and the northernmost part of the Surf Coast Shire. The rate of suicide in the Great South Coast area (including the SA3s Colac-Corangamite and Glenelg-Southern Grampians and Warrnambool) is higher than may be expected given how this sub-region fares with other mental health-related indicators examined here.

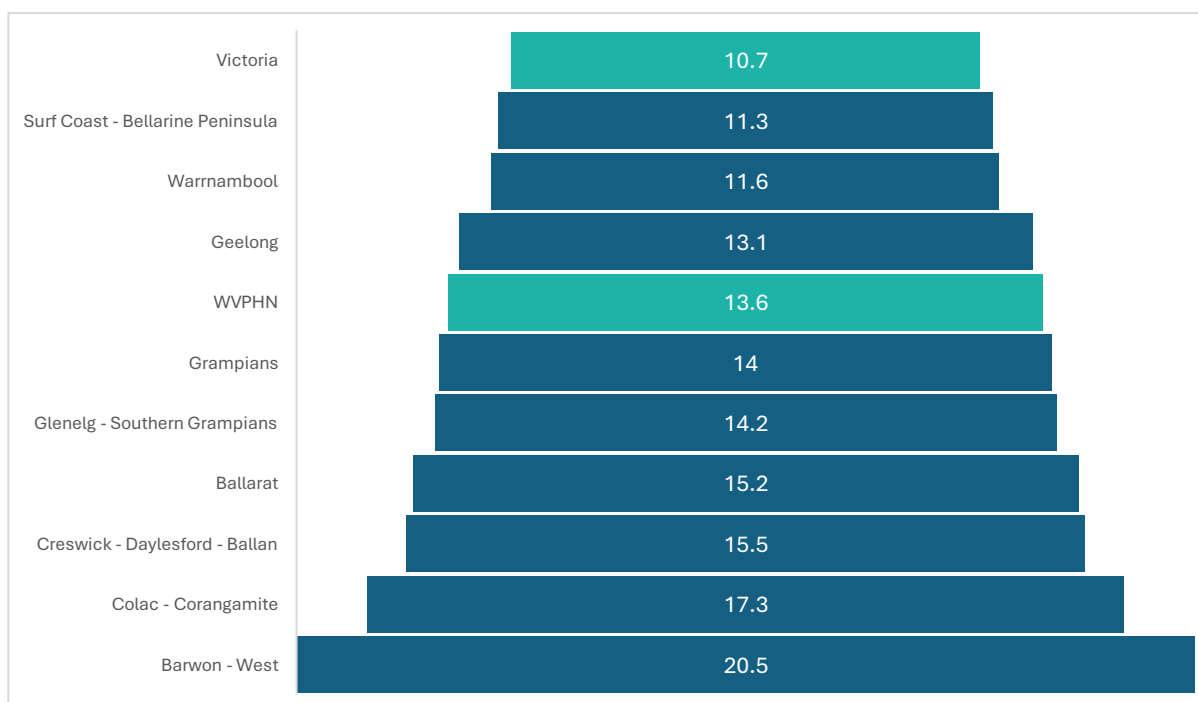


Figure 11: Suicide rate by SA3 2018-2022 (ASR per 100,000)

* Data for Maryborough-Pyrenees not reported.

Regional and sub-regional summary

Grampians region

The Grampians region fares more poorly than the Barwon South West region across most of the mental health-related indicators examined here. Several LGAs within the Grampians region have high rates of mental health-related indicators. Table 11 shows that high rates of mental illness are reported in Central Goldfields, Ballarat, Yarriambiack and Pyrenees. ED admissions for mental and behavioural disorders are high in Horsham and Ballarat and admissions for mental-health related conditions are almost uniformly higher than the Victorian average across the Grampians region. Intentional self-harm hospitalisations are high in the Ballarat SA3, and rates of suicide are high in Creswick – Daylesford – Ballan, Ballarat and Grampians SA3s.

Wimmera Grampians sub-region

Yarriambiack and Northern Grampians Shires have high rates of psychological distress, with Yarriambiack also showing a higher rate of mental health conditions and lower life satisfaction compared with the WVPHN average and the state average. Four of the six LGAs have higher rates of ED presentations for mental and behavioural disorders than the WVPHN and Victorian averages, with the rate of ED presentations in Horsham more than twice the Victorian rate. The most common mental and behavioural disorder ED presentations at a national and state level are related to psychoactive substance use.⁷⁹ As

outlined in Metric 6 Health consequences, there are significant drug and alcohol abuse issues in the Horsham LGA. In terms of mental health-related hospital admissions, Horsham is the only LGA with a lower than Victorian average rate of admissions for mental health-related conditions which initially seems counterintuitive given the rate of ED presentations in Horsham. This may be explained by the differences in the most common diagnoses for mental health-related ED presentations and hospital admissions. While psychoactive substance use is a major diagnosis on ED presentations, admissions are more likely to be related to:

- Depression and other affective disorders
- Schizophrenia
- Obsessive-compulsive disorders, reaction to severe stress and adjustment disorders

The next most common diagnoses on admission (particularly to hospitals with no specialised psychiatric unit) was due to mental and behavioural conditions due to alcohol use. Intentional self-harm hospitalisations are just above the state average while the rate of death by suicide is 1.3 times the Victorian average.

Ballarat Goldfields sub-region

On a sub-regional level, the Ballarat Goldfields region has the poorest mental health as assessed by these indicators. There are higher rates of psychological distress in the region, with the City of Ballarat residents experiencing high or very high psychological distress at rates higher than the Victorian average. There are particularly high rates of mental health conditions in Central Goldfields (14 per cent) and Ballarat (13 per cent) compared to the Victorian average (9 per cent). Ballarat has the third highest rate of ED presentations for mental and behavioural disorders in the catchment, behind Horsham and Southern Grampians, although the rates for Hepburn, Moorabool and Pyrenees are lower than the Victorian average. There are very high rates of admissions for mental health-related conditions across the entire sub-region but especially in Central Goldfields where the rate is 2.4 times the Victorian average. Hepburn has the next highest rate of admissions, followed by Ballarat. Both Ballarat and Creswick – Daylesford – Ballan SA3s have rates of self-harm hospital admissions than the Victorian average, with Ballarat second only to Geelong SA3. The rate of suicide is almost 1.5 times the Victorian average across the sub-region.

Barwon South West region

The Barwon South West region performs better than the WVPHN average across many of the indicators examined. There are generally lower rates of psychological distress, mental health conditions, dissatisfaction with life, and mental health-related ED presentations and admissions compared with the state average. However, Corangamite, Moyne, Colac-Otway, Queenscliffe and Surf Coast LGAs show generally lower rates of the above indicators compared with the WVPHN average (although several are still above the Victorian average). The City of Greater Geelong performs poorly across all indicators, while other LGAs rank average to below average in terms of rates of distress, dissatisfaction with life and mental health conditions but have high rates of ED presentations and/or admissions. Geelong, Barwon West and Surf

Coast – Bellarine SA3s all have higher than Victorian average rates of self-harm hospitalisations with the rate in Geelong double that of the Victorian average.

Geelong Otway sub-region

The Geelong-Otway sub-region includes some LGAs with the greatest mental health needs while others have the lowest mental health needs within the WVPHN catchment. The City of Greater Geelong performs poorly across all indicators with more than 27 per cent of the population experiencing high to very high psychological distress and more than 11 per cent reporting a mental health condition. Surf Coast and Queenscliffe have lower than WVPHN average rates of all the indicators presented at LGA level. The rate of self-harm hospitalisations is twice the Victorian average in the Geelong SA3 area, and the rate of suicide is 22 per cent higher. The rate of suicide in the Barwon West SA3 is almost twice the Victorian average.

Great South Coast sub-region

As a sub-region, the Great South Coast has lower rates of mental health conditions, dissatisfaction with life and psychological distress than the WVPHN average but similar rates of ED presentations and admissions related to mental health. Around ten per cent of the population report having a mental health condition in all Great South Coast LGAs except for Moyne where the rate is 8 per cent. There are high rates of ED presentations for mental and behavioural disorders in Southern Grampians and Warrnambool compared with the WVPHN average and high rates of hospitalisations in Warrnambool and Glenelg. Rates of self-harm hospitalisations in Warrnambool, Colac-Corangamite and Glenelg-Southern Grampians SA3s are lower than the Victorian average. The rate of suicide in Colac-Corangamite is 62 per cent higher than the Victorian average and the rate in Glenelg-Southern Grampians is a third higher.

People with chronic disease

There are high rates of chronic disease across the WVPHN catchment, with 20 of 21 catchment LGAs having a higher rate of people with one or more long term health conditions than the Victorian average. (Figure 12). One in three WVPHN residents have at least one chronic health condition. Chronic conditions are responsible for 91 per cent of the non-fatal burden of disease and 78 per cent of the fatal burden of disease at a national level.⁸⁰ Grampians region LGAs comprise eight of the top ten highest rates of disease in the catchment. Central Goldfields and Yarriambiack have particularly high rates of 42 ASR per 100 and 40 ASR per 100 respectively. The areas with the highest rates of chronic disease are also areas with high rates of older people aged 65+.

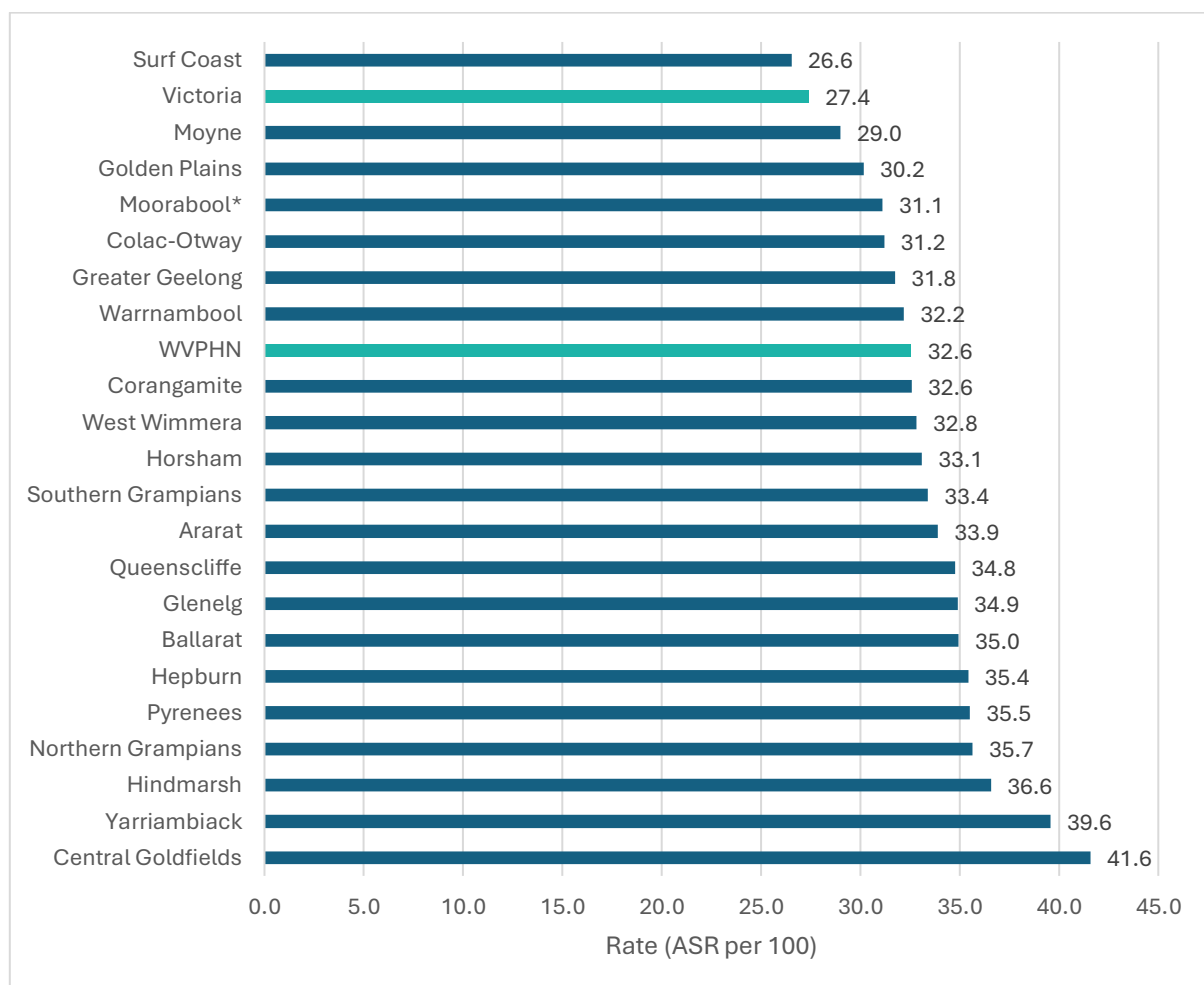


Figure 12: Rate of one or more long term conditions by LGA (ASR per 100)

Regional and sub-regional summary

Grampians region

There are generally higher rates of long-term health conditions in the Grampians region with eight of the ten LGAs with the highest rates being Grampians sub-regional LGAs. All Grampians LGAs except Moorabool have higher rates than the WVPHN average ranging from 33 ASR per 100 in West Wimmera Shire to 42 ASR per 100 in Central Goldfields Shire.

Wimmera Grampians sub-region

The Wimmera Grampians sub-region is comprised of several LGAs with the highest rates of chronic disease including Yarriambiack (40 ASR per 100), Hindmarsh (37 ASR per 100), Northern Grampians (36 ASR per 100) and Ararat (34 ASR per 100). All Wimmera-Grampians LGAs have higher rates than the WVPHN average.

Ballarat Goldfields sub-region

Of the seven catchment LGAs with the highest rates of one or more long-term conditions, four of them sit within the Ballarat-Goldfields sub-region. In Central Goldfields Shire, the rate of one or more long-term health conditions is 42 ASR per 100. Pyrenees and Hepburn Shires and the City of Ballarat all have rates of around 35 ASR per 100. The rate in Moorabool Shire is 31 ASR per 100.

Barwon South West region

The rate of chronic disease is lower in the Barwon South West region compared with the Grampians region, particularly in the Geelong Otway sub-region where the average LGA rate is 31 ASR per 100. Surf Coast Shire is the only catchment LGA lower than the Victorian average at 27 ASR per 100. Queenscliffe and Glenelg are the only two LGAs in the region that sit within the ten LGAs with the highest rates. In fact, four of the five LGAs with the lowest rates sit within the Barwon South West region.

Geelong Otway sub-region

The Geelong Otway sub-region has the lowest average rate of long-term health conditions across the WVPHN catchment. Surf Coast Shire has the lowest rate at 27 ASR per 100, and although it is a comparatively low rate, this rate still represents a significant health and social burden. The Borough of Queenscliffe has the highest rate of long-term health conditions in the Geelong-Otway sub-region at 35 ASR per 100. This is not surprising given that more than half of the population are aged 65+ years.

Great South Coast sub-region

Approximately one in three residents in the Great South Coast sub-region have at least one long term health condition. Glenelg Shire has the highest rate at 35 ASR per 100 while Moyne Shire has the lowest rate at 29 ASR per 100.

One in three western Victorians have at least one chronic condition.

Chronic conditions are responsible for 91 per cent of the non-fatal burden of disease and 78 per cent of the fatal burden of disease.

The impact of climate change and natural disasters

The World Health Organization has described climate change as the greatest threat to public health in the 21st century. Some of the impacts of climate change on health include:

- Conditions created and exacerbated by heat
- Changes in the spread of infectious diseases
- Increases in poor mental health
- Increased extreme weather events and natural disasters
- Damage to housing, and key infrastructure and services

Not all people will experience the impacts of climate change in the same way. Groups that are particularly at risk of greater impacts include:

- People with chronic conditions
- Older people
- Children, babies and pregnant women
- People that are financially vulnerable
- People that are homeless or living in inappropriate housing
- Farmers who are not only outdoor workers but whose livelihoods will be impacted by climate change
- People with poor English proficiency
- People with disability
- People living alone
- Outdoor workers

There are significant cohorts of people that will experience unequal impacts of climate change in the WVPHN catchment. Advocating for these groups and planning the role we may play in supporting them in times of extreme weather or natural disaster is important to ensure that there is a move towards equity in the experience of climate change.

Department of Health and Aged Care, 2023, National Health and Climate Change Strategy, <https://www.health.gov.au/resources/collections/national-health-and-climate-strategy-resources-collection>

Quantified need – Social context

Considering the analysis throughout this section, Table 20 below identifies the top five LGAs with estimated highest need with regards to each priority group. This is a subjective assessment of the analysis, while quantification of need regarding social context is based objectively on the IRSD and the proportion of the municipal population in the lowest IRSD decile (Table 21).

Table 20: Subjective summary of LGAs with highest need regarding each priority group

First Nations people	People with disability	People with severe mental illness	People with chronic disease	LGBTIQA+ people	Culturally and linguistically diverse communities	Financially vulnerable people	People that are homeless or at risk of homelessness	Older people	Young people	Children and families
Glenelg	Central Goldfields	Central Goldfields	Central Goldfields	Ballarat	Greater Geelong	Central Goldfields	Hindmarsh	Ballarat	Ballarat	Central Goldfields
Southern Grampians	Yarriambiack	Ballarat	Yarriambiack	Hepburn	Colac-Otway	Pyrenees	Greater Geelong	Central Goldfields	Greater Geelong	Hindmarsh
Central Goldfields	Hindmarsh	Greater Geelong	Hindmarsh	Colac-Otway	Hindmarsh	Yarriambiack	Ballarat	Pyrenees	Horsham	Corangamite
Warrnambool	Pyrenees	Yarriambiack	Northern Grampians	Surf Coast	Warrnambool	Northern Grampians	Glenelg	Yarriambiack	Central Goldfields	Ballarat
Northern Grampians / Ararat / Pyrenees	Glenelg	Pyrenees	Pyrenees / Hepburn	Central Goldfields	Ararat	Hindmarsh	Warrnambool	Greater Geelong / Queenscliffe	Warrnambool	Golden Plains

Table 21: Quantified need considering social context

Region	Sub-region	LGA	'Base need' population distribution 2026	Metric 2: Social context								Population base need adjusted for social context	Change in base need (%)
				Index of Socioeconomic Disadvantage (IRSD)	Minimum IRSD score for SA1s in sub-region	Maximum IRSD score for SA1s in area	Difference in min and max IRSD SA1 scores	Proportion of population in lowest IRSD decile (%)	Index IRSD	Index proportion population in lowest IRSD decile	Combined index: Social context		
Grampians	Ballarat Goldfields	Ballarat	16.20%	986	479	1136	657	11.21	0.02	0.01	0.01	16.43%	0.23%
		Central Goldfields	1.80%	898	634	1095	461	29.59	0.14	0.15	0.14	2.05%	0.25%
		Hepburn	2.20%	1006	849	1108	259	2.66	-0.01	-0.05	-0.03	2.13%	-0.07%
		Moorabool*	5.60%	1017	793	1114	321	2.07	-0.02	-0.06	-0.04	5.38%	-0.22%
		Pyrenees	1.00%	959	947	1083	136	0	0.05	-0.07	-0.01	0.99%	-0.01%
	Wimmera Grampians	Ararat	1.60%	955	655	1074	419	20.9	0.06	0.08	0.07	1.71%	0.11%
		Hindmarsh	0.70%	940	787	1085	298	18.04	0.08	0.06	0.07	0.75%	0.05%
		Horsham	2.70%	990	643	1093	450	9.3	0.01	0.00	0.01	2.72%	0.02%
		Northern Grampians	1.50%	951	824	1072	248	4.42	0.07	-0.04	0.01	1.52%	0.02%
		West Wimmera	0.50%	991	854	1148	294	5.19	0.01	-0.03	-0.01	0.49%	-0.01%
		Yarriambiack	0.80%	946	820	1093	273	18.93	0.07	0.07	0.07	0.86%	0.06%
Barwon Southwest	Great South Coast	Corangamite	2.10%	985	703	1092	389	8.92	0.02	-0.01	0.01	2.11%	0.01%
		Glenelg	2.60%	952	773	1101	328	9.82	0.06	0.00	0.03	2.68%	0.08%
		Moyne	2.30%	1029	768	1109	341	0.37	-0.04	-0.07	-0.05	2.18%	-0.12%
		Southern Grampians	2.10%	994	1134	1011	123	3.13	0.01	-0.05	-0.02	2.06%	-0.04%
		Warrnambool	4.70%	995	560	1132	572	7.99	0.01	-0.01	0.00	4.68%	-0.02%
	Geelong Otway	Colac-Otway	3.00%	973	734	1082	348	10.74	0.04	0.01	0.02	3.06%	0.06%
		Golden Plains	3.50%	1040	936	1130	194	0	-0.05	-0.07	-0.06	3.28%	-0.22%
		Greater Geelong	39.20%	1007	503	1170	667	9.01	-0.01	-0.01	-0.01	38.90%	-0.30%
		Queenscliffe	0.40%	1082	1056	1137	81	0	-0.11	-0.07	-0.09	0.36%	-0.04%
		Surf Coast	5.50%	1086	950	1145	195	0	-0.11	-0.07	-0.09	4.99%	-0.51%

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPNH catchment.

Table 22: Combined social index by LGA

LGA	Combined index: Social context
Central Goldfields	0.14
Ararat	0.07
Hindmarsh	0.07
Yarriambiack	0.07
Glenelg	0.03
Colac-Otway	0.02
Ballarat	0.01
Northern Grampians	0.01
Horsham	0.01
Corangamite	0.01
Warrnambool	0.00
Greater Geelong	-0.01
Pyrenees	-0.01
West Wimmera	-0.01
Southern Grampians	-0.02
Hepburn	-0.03
Moorabool	-0.04
Moyn	-0.05
Golden Plains	-0.06
Queenscliffe	-0.09
Surf Coast	-0.09

Table 22 shows the LGAs in order of greatest need considering social context from the highest combined social context index to the lowest. Positive indexes result in an increased overall need when combined with population base need, negative indexes result in a decreased overall need.

Base need was increased in the following LGAs (in order of size of index):

- Central Goldfields
- Ararat
- Hindmarsh
- Yarriambiack
- Glenelg
- Colac-Otway
- Ballarat
- Northern Grampians
- Horsham
- Corangamite

6. Metric 3 – Risk factors

The third metric used to analyse health and service needs in the WVPHN catchment is risk factors – the attributes, characteristics or exposures that increase the likelihood of a person developing a disease or health disorder.⁸¹ The Australian Burden of Disease Study⁸² found that the leading five risk factors contributing to total burden were:

- Tobacco use (8.6 per cent of total burden of disease)
- Overweight including obesity (8.4 per cent of total burden of disease)
- Dietary risks (5.4 per cent of total burden of disease)
- High blood pressure (5.1 per cent of total burden of disease)
- Alcohol use (4.5 per cent of total burden of disease)

There are some significant limitations in the available data regarding risk factors. Much of the LGA-level data is from 2017 or 2018 which not only makes it quite dated but also doesn't factor in any changes that may have occurred as a result of the COVID-19 pandemic. Other data was collected during the pandemic and so may have been influenced by behaviours out of the ordinary due to stay-at-home orders. Table 23 outlines some of the risk factor data available at an LGA level relevant to the leading risk factors at a national level.

Smoking and Vaping

There is a higher rate of daily smoking in the WVPHN catchment compared to the Victorian average, particularly in the Grampians region. The rate in Central Goldfields and Yarriambiack Shires is 1.8 times the state average while in Hindmarsh Shire the rate is 1.6 times the average. Although solid data at an LGA level is not available regarding vaping, national data indicates that there has been a large increase in the proportion of people vaping. In 2019, 11 per cent of people had never used e-cigarettes and only one per cent used them daily. By 2022-2023, this had increased to 20 per cent of people having ever used e-cigarettes and 3.5 per cent using them daily.⁸³ It is well established that smoking is more common in more disadvantaged areas, and this is demonstrated in the WVPHN catchment as outlined above. Latest data shows that this trend continues with people in more disadvantaged areas more likely to smoke traditional cigarettes rather than e-cigarettes. Vaping has been more influential in less disadvantaged areas where

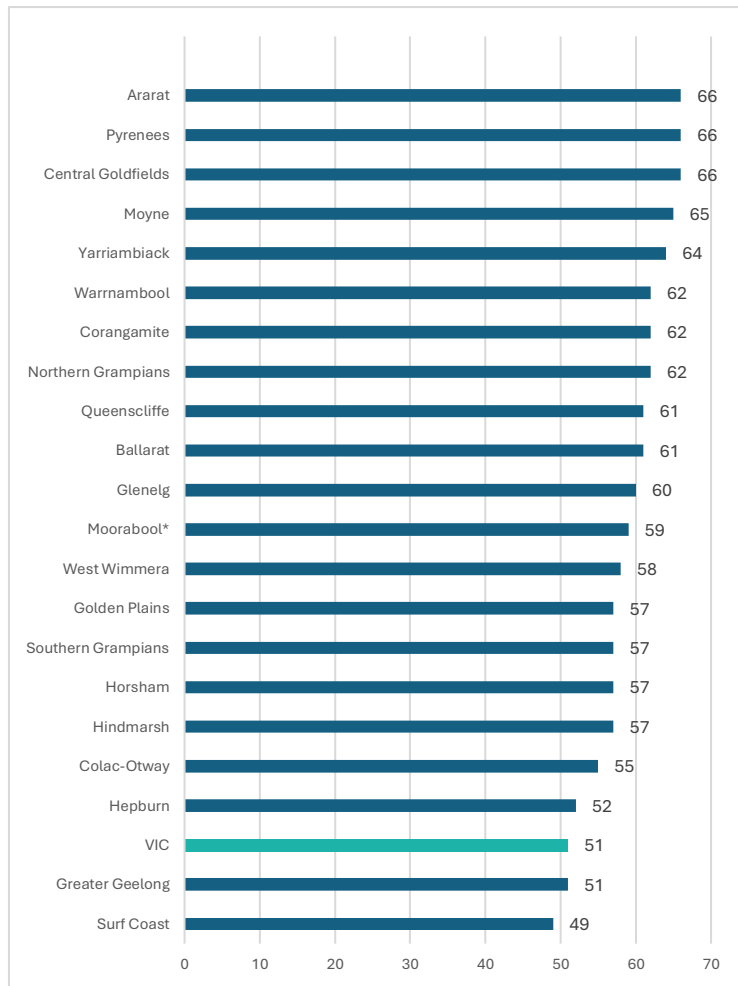


Figure 17: Proportion of population overweight or obese by LGA (%)

people are more likely to combine use of both traditional cigarettes and e-cigarettes or to use e-cigarettes exclusively.⁸⁴ Young people are using e-cigarettes at greater rates than any other age group with nearly half of people aged 18-24 having used an e-cigarette at least once. This rate doubled between 2019 and 2022-2023. In teenagers aged 14-17, use of e-cigarettes nearly tripled over the same time from 10 per cent having ever used an e-cigarette in 2019 and 28 per cent having done so in 2022-2023. There is evidence that vaping has replaced traditional cigarette smoking in people aged 15-24 years, with the rate of tobacco smoking dropping but the rate of vaping and smoking, and the rate of vaping exclusively increasing substantially. The rate of young people abstaining from tobacco smoking and vaping decreased by 7.5

per cent between 2019 and 2022-2023.⁸⁵ Tobacco is the leading single contributor to the total burden of disease at a national level. The health implications of vaping are still being explored but it is concerning that most LGAs in the WVPHN catchment have higher rates of smoking than the Victorian average and it is likely that national trends in vaping are also occurring at a local level.

Nutrition, Physical activity, Overweight and Obesity

In terms of nutrition, physical activity and obesity, the WVPHN catchment performs poorly across the board. Together these risk factors account for 16 per cent of the total burden of disease at a national level.⁸⁶ While 11 of the 21 catchment LGAs have greater compliance with vegetable intake guidelines compared with the Victorian average, rates are still exceptionally low. The highest rate of compliance with the guideline is in the Borough of Queenscliffe and is just 10 per cent, the lowest rate is in West Wimmera at three per cent. Poor compliance with nutritional guidelines is accompanied by poor compliance with physical activity guidelines. Almost two in three people in the WVPHN catchment are physically inactive,

which is similar to the Victorian average. The highest rates of inactivity are seen in Pyrenees (76 per cent), West Wimmera (75 per cent) and Ararat (75 per cent) LGAs. The lowest rates of inactivity are seen in the Borough of Queenscliffe and Surf Coast Shire, however, one in two people in these areas are inactive. Unsurprisingly, rates of overweight and obesity are high across the region (Figure 17). Almost one in three people are overweight and almost one in four are obese. Together, 56 per cent of WVPHN catchment residents are overweight or obese. The rate of overweight is statistically significantly higher than the Victorian average in Queenscliffe, while the rate of obesity is statistically significantly higher in 15 of the 21 catchment LGAs. The highest rate of obesity is in Yarriambiack Shire where 38 per cent of residents are obese, with the lowest rate in Queenscliffe where the rate is 14 per cent. People in Queenscliffe are more likely to be overweight than obese with the rate of overweight statistically

significantly higher than the Victorian average at 47 per cent. It should be noted that this data was collected in 2017 and was self-reported. Data from the 2022 Victorian Population Health Survey has been released at the PHN level and shows a notable increase in obesity from a 2017 rate of 25 per cent to 31 per cent.⁸⁷ There has been a particularly large increase in obesity in the Grampians Wimmera Southern Mallee Local Public Health Unit. This is a trend that has been noted across the world following the COVID-19 pandemic.⁸⁸ Considering these factors, it is a fair assumption that rates of obesity across the region are higher than the data presented in Table 23. Given indicators of poor dietary quality, inactivity and high rates of obesity, it is not surprising that almost one in four people have diagnosed hypertension. There is little variation across the catchment, with 20 of 21 catchment LGAs having rates between 22 and 25 per cent. The only LGA outside of this is the Borough of Queenscliffe where 18 per cent of the population have diagnosed hypertension.

Alcohol

Alcohol use accounts for 4.5 per cent of the total national burden of disease.⁸⁹ Consumption of alcohol at risky levels is higher in the WVPHN catchment than the Victorian average and varies across the catchment LGAs. The WVPHN average proportion of people drinking more than two drinks daily is 19 per cent compared with 14 per cent at a state level. All catchment LGAs have rates higher than the Victorian average. The highest rate is in Glenelg Shire at 27 per cent, while the lowest rate is in Central Goldfields at 16 per cent. The rate of those at risk of injury from a single occasion of drinking is also higher than the Victorian average of 43 per cent in every catchment LGA except for Central Goldfields. Drinking at this level

All WVPHN catchment LGAs have a rate of people drinking 2 or more drinks per day above the Victorian average. The rate of those at risk of injury from a single episode of drinking is higher in all but one LGA. Alcohol-related ambulance attendances are higher than the state average in 14 of 21 catchment LGAs while alcohol-related assaults are higher in 16 LGAs. Alcohol-related family violence incidents are higher than the Victorian average in 18 of the 21 catchment LGAs.

is sometimes referred to as 'binge drinking.' At least half of adults have an increased risk of injury from binge drinking in 10 of the 21 catchment LGAs. Alcohol-related ambulance attendances are higher than the state average in 14 catchment LGAs. There are particularly high rates in the City of Horsham, Central Goldfields Shire, Northern Grampians and Southern Grampians Shires. Alcohol-related assaults are higher than the Victorian average in 16 of the 21 catchment LGAs with the highest rates in the Wimmera-Grampians region in Hindmarsh, Horsham and Ararat LGAs at around 2.8 times the Victorian average. Alcohol-related family violence incidents are higher than the Victorian average in 18 of the 21 catchment LGAs. The highest rates are in Glenelg, Ararat and Northern Grampians LGAs, which are three of the five LGAs with the highest rates of all family violence incidents.⁹⁰ There are also high rates of road-accident-related injuries during high alcohol hours through the catchment, although this data will change from year to year due to the low numbers of serious injury accidents occurring at an LGA level. The highest rates in 2019-2020 are seen in the more rural areas of the catchment, with fewer serious-injury accidents in the major regional centres except for Horsham. This may reflect the ease of access to public transport, taxis and ride-share services in the regional centres.

Other Drugs

Illicit drug use is responsible for three per cent of the total burden of disease at a national level.⁹¹ Illicit drug-related ambulance attendances are below the state average in 17 of the 21 catchment LGAs. Only Ballarat, Ararat, Horsham and Geelong LGAs have rates higher than the Victorian average. Misuse of prescription drugs is an issue across the catchment with 12 of 21 LGAs with higher rates of pharmaceutical drug-related ambulance attendances than the state average. This is particularly an issue in the Wimmera Grampians sub-region where the rates in all six LGAs are at least 1.4 times the Victorian average. The rate in Yarriambiack Shire is almost twice the state average. Rates are also high in Ballarat, Southern Grampians and Greater Geelong LGAs. Drug possession and use offences are higher than the state average in 9 of 21 catchment LGAs with particularly high rates in several municipalities within the Wimmera Grampians sub-region. The rate in the Horsham LGA is more than 2.5 times the average rate and 1.6 times the average in Northern Grampians and Ararat LGAs. Offences recorded in the Great South Coast are also above the state average in several municipalities with Glenelg, Warrnambool and Southern Grampians LGAs all having rate 1.3 to 1.6 times the state average.

Cancer Screening

The final risk factor examined is participation in bowel, breast and cervical cancer screening and the data is generally positive (Table 24). The WVPHN average rate of bowel cancer screening is above the Victorian average and all catchment LGAs have higher rates than the state average. The highest rate of participation is in Horsham LGA where 27 per cent of eligible people undertook screening in 2022. While the catchment is doing well relative to the state average, a WVPHN average rate of 23 per cent is still low. Extrapolated over two years (the recommended screening frequency), this would have less than half of eligible people

participating in screening. Rates of 60-70 per cent participation are needed to optimise health outcomes from the screening program.⁹² The WVPHN average breast screening rate is also above the state average although it is notably lower in Southern Grampians Shire and is also below the state average in West Wimmera and Hepburn Shires. While overall this is positive, the WVPHN average rate is just 55 per cent. That means that 45 per cent of eligible people do not undertake screening as recommended. These data are from 2020-2022 and it could be expected that the COVID-19 pandemic may have impacted on screening rates. There are some improvements to be seen in cervical cancer screening rates. Although the WVPHN average (77.7 per cent) is only just lower than the state average (79.3 per cent), rates fall to 60-65 per cent in Central Goldfields, Pyrenees, Ararat, Hindmarsh, Northern Grampians and West Wimmera Shires which all sit within the Grampians region. Again, data was collected from 2017-2022 and so the COVID-19 pandemic may have influenced screening rates during this time.

Table 23: Health risk factors by LGA

Region	Sub-region	LGA	Smoking	Nutrition	Overweight and obesity		Alcohol						Other drugs			Physical activity	Hypertension
			Daily smoking (%) ⁹³	Complied with vegetable dietary guidelines 2017 (%) ⁹⁴	Overweight but not obese 2020 (%) ⁹⁵	Obese 2020 (%) ⁹⁶	Adults consuming more than 2 drinks per day 2017-2018 (ASR per 100) ⁹⁷	Increased risk of injury from a single occasion of drinking 2017 (%) ⁹⁸	Alcohol-related Ambulance attendances (w or w/o other substances) 2022/2023 (rate per 100,000 population) ⁹⁹	Alcohol-related assaults during high alcohol hours 2021/2022 (rate) ¹⁰⁰	Alcohol-related family violence incidents 2021/2022 ¹⁰¹	Alcohol-related serious road injuries during high alcohol hours (rate) 2019-2020 ¹⁰²	Illicit drug (any)-related - Ambulance attendances 2022/2023 (rate per 100,000 population) ¹⁰³	Pharmaceutical Drugs (any) – related Ambulance attendances 2022/2023 (rate per 100,000 population) ¹⁰⁴	Drug possession and use offences 2024 (rate per 100,000 population) ¹⁰⁵	Proportion of adults who undertook low, very low or no exercise in the previous week 2017-2018 (ASR per 100) ¹⁰⁶	% of people with hypertension 2017-2018 ¹⁰⁷
Grampians	Ballarat Goldfields	Ballarat	13.0	7.0	32.0	29.0	16.8	46.0	575.2	88.1	265.2	9.0	226.8	267.4	250.6	65.3	23.6
		Central Goldfields	22.0	5.0^	34.0	32.0	15.7	35.0	732.5	119.5	291.4	38.2	192.4	170.2	387.8	70.0	23.2
		Hepburn	17.0	7.0	29.0	23.0	19.2	48.0	404.4	72.8	139.6	N/A	114.7	156.9	11.9	63.9	22.5
		Mooraboot*	14.0	7.0	28.0	31.0	16.3	51.0	296.1	52.8	131.9	47.2	189.6	140.2	258.5	67.7	23.7
		Pyrenees	11.0	5.0^	30.0	36.0	19.1	55.0	470.5	78.8	183.9	N/A	117.6	104.6	50.8	75.6	24.2
		Ballarat Goldfields sub-region**	15.4	6.2	30.6	30.2	17.4	47.0	495.7	82.4	202.4	31.5	168.2	167.9	191.9	68.5	23.4
	Wimmera Grampians	Ararat	13.0	4.0^	37.0	29.0	21.8	49.0	365.8	236.8	313.0	N/A	229.7	238.2	529.2	74.6	24.7
		Hindmarsh	19.0	6.0^	28.0	29.0	24.0	47.0	339.4	247.5	247.5	N/A	N/A	214.3	215.9	68.2	22.5
		Horsham	13.0	4.0^	28.0	29.0	23.7	45.0	1071.9	235.6	225.8	50.0	240.9	240.9	891.2	66.4	23.5
		Northern Grampians	16.0	6.0^	31.0	31.0	18.6	53.0	707.4	151.4	311.3	43.9	151.6	235.8	546.2	69.0	22.0
		West Wimmera	11.0	3.0	25.0	33.0	26.0	50.0	456.6	0.0	150.9	131.2	N/A	228.3	178.8	74.9	24.7
		Yarriambiack	21.0	5.0^	26.0	38.0	25.0	50.0	528.4	N/A	245.7	0.0	N/A	310.8	125.9	71.3	23.2
		Wimmera Grampians sub-region**	15.5	4.7	29.2	31.5	23.2	49.0	578.2	174.3	249.0	56.3	207.4	244.7	414.5	70.7	23.4
		Grampians region**	15.5	5.4	29.9	30.9	20.3	48.0	537.0	128.3	225.7	43.9	187.8	206.3	303.2	69.6	23.4
Barwon South West	Great South Coast	Corangamite	12.0	8.0^	33.0	29.0	19.4	49.0	406.4	87.3	143.5	37.7	143.8	156.3	187.9	73.3	23.9
		Glenelg	13.0	4.0	29.0	31.0	27.4	50.0	693.6	134.6	369.0	25.5	159.7	194.6	568.7	71.1	23.5
		Moyne	14.0	6.0	29.0	36.0	19.2	55.0	183.2	69.4	161.9	41.1	74.4	34.3	202.4	71.3	23.2
		Southern Grampians	10.0	6.0	27.0	30.0	22.1	45.0	786.9	145.5	169.8	37.2	152.5	298.9	459.2	64.9	23.1
		Warrnambool	16.0	4.0	30.0	32.0	16.8	46.0	641.2	143.9	189.2	14.1	177.2	177.2	520.5	64.5	23.4
		Great South Coast sub-region**	13.0	5.6	29.6	31.6	21.0	49.0	542.3	116.2	206.7	31.1	141.5	172.3	387.7	69.0	23.4
	Geelong Otway	Colac-Otway	14.0	5.0^	28.0	27.0	18.0	45.0	558.9	116.5	233.1	46.2	157.7	99.2	339.3	70.3	22.9
		Golden Plains	13.0	5.0	36.0	21.0	19.0	49.0	193.6	N/A	80.4	N/A	63.2	59.3	76.3	70.1	23.8
		Greater Geelong	17.0	7.0	29.0	22.0	17.5	50.0	437.3	101.1	166.2	12.1	253.9	223.2	368.6	61.1	23.6
		Queenscliffe	0.0	10.0^	47.0	14.0	20.5	58.0	310.6	185.4	N/A	0.0	N/A	N/A	N/A	49.2	17.8
		Surf Coast	4.0	6.0	34.0	15.0	20.8	59.0	287.2	79.7	109.0	20.1	106.1	116.4	85.9	56.2	23.1
		Geelong Otway sub-region**	9.6	6.6	34.8	19.8	19.2	52.2	357.5	120.7	147.2	15.7	145.2	124.5	217.5	61.4	22.2
		Barwon South West region**	11.3	6.1	32.2	25.7	20.1	50.6	449.9	118.4	176.9	23.4	143.35	148.4	302.6	65.2	22.8
			WVPHN	14.3	N/A	30.3	25.3	18.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64.7
	VIC	12.0	5.0	30.1	20.9	14.4	43.0	393.5	86.6	136.9	12.5	204.6	158.1	347.7	65.7	22.7	

^High standard error – data should be interpreted with caution. N/A Not reported

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Table 24: Cancer screening rates by LGA

Regional and sub-regional summary

Grampians region

The Grampians region generally fares more poorly than the Barwon South West region in assessment of health risk factor data. There are higher rates of smoking, particularly in Central Goldfields (22 per cent), Yarriambiack (19 per cent) and Hindmarsh (17 per cent) compared with the Victorian average of 12 per cent. Between 22 and 25 per cent of residents in the Grampians region have diagnosed hypertension. All regional LGAs have a higher rate of obesity compared to the state average, the highest rates being in Pyrenees and Yarriambiack Shires at 1.8 times the Victorian average.

Alcohol, illicit and pharmaceutical drug abuse is also a significant issue in the Grampians region. All Grampians LGAs have a higher rate of people consuming more than two drinks per day with a regional LGA average of 20 per cent compared with the Victorian average of 14 per cent. An even greater proportion of people drink at a level where there is an increased risk of injury from a single episode of drinking. The LGA average for the Grampians region is 48 per cent. Pyrenees Shire and Northern Grampians Shire have the highest rates at 55 and 53 per cent respectively. Alcohol-related violence and injury is high in the Grampians region. Alcohol-related ambulance attendances are higher than the state average in eight of the 11 regional LGAs, with particularly high rates in Horsham, Central Goldfields and Northern Grampians LGAs. There are high rates of alcohol-related assaults in Ararat, Hindmarsh and Horsham and high rates of alcohol-related family violence incidents in Ararat, Northern Grampians, Central Goldfields, Ballarat, Hindmarsh, Horsham and Yarriambiack LGAs. The rate of illicit

Region	Sub-region	LGA	Cancer screening ¹⁰⁸		
			Eligible population participating in bowel cancer screening 2022 (%)	Eligible population participating in breast cancer screening (2-year rate 2020-2022) (%)	Eligible population participating in cervical cancer (5-year rate 2018-2022) (%)
Grampians	Ballarat Goldfields	Ballarat	24.0	54.9	74.9
		Central Goldfields	20.0	49.1	62.8
		Hepburn	21.0	46.3	77.6
		Moorabool*	22.0	50.2	73.4
		Pyrenees	22.0	48.6	61.2
		Ballarat Goldfields sub-region**	21.8	49.82	69.98
	Wimmera Grampians	Ararat	20.0	52.0	60.9
		Hindmarsh	21.0	57.6	60.7
		Horsham	27.0	58.9	73.2
		Northern Grampians	20.0	55.7	64.1
		West Wimmera	19.0	45.7	64.4
		Yarriambiack	24.0	53.7	69.2
		Wimmera Grampians sub-region**	21.8	53.93	65.42
		Grampians region**	21.8	51.88	67.70
Barwon South West	Great South Coast	Corangamite	21.0	56.0	76.8
		Glenelg	23.0	52.7	72.4
		Moyn	22.0	51.5	81.0
		Southern Grampians	25.0	40.4	80.1
		Warrnambool	24.0	56.6	80.8
		Great South Coast sub-region**	23.0	51.40	78.2
	Geelong Otway	Colac-Otway	22.0	53.6	76.4
		Golden Plains	23.0	53.2	77.8
		Greater Geelong	24.0	56.9	80.9
		Queenscliffe	25.0	63.2	82.2
		Surf Coast	25.0	61.6	88.4
		Geelong Otway sub-region**	23.8	57.7	81.14
		Barwon South West region**	23.4	54.57	79.68
		WVPHN	23.0	55.0	77.7
		VIC	17.5	49.5	79.3

drug-related ambulance attendances is above the state average in Horsham, Ararat and Ballarat, while pharmaceutical drug-related ambulance attendances are above state average in 8 of the 11 regional LGAs. The highest rate is in Yarriambiack Shire at almost twice the state average, and Ballarat at 1.7 times the average. All LGAs in the Wimmera Grampians region have higher rates of pharmaceutical drug-related ambulance attendances than the Victorian average. Drug possession and use offences are above the state average in Horsham, Central Goldfields, Northern Grampians and Ararat LGAs. The rate of offences in Horsham LGA is 2.5 times the state average.

Participation in bowel cancer screening is higher than the state average in all Grampians region LGAs, with the highest rate 27 per cent in Horsham LGA and the lowest rate 19 per cent in West Wimmera Shire. Extrapolated over a two-year period, this would mean that less than 50 per cent of eligible people would participate in bowel cancer screening in most regional LGAs. The rate of cervical screening is also lower in the Grampians region compared with the Victorian and WVPHN averages. Rates are between 60-65 per cent in Central Goldfields, Pyrenees, Ararat, Hindmarsh, Northern Grampians and West Wimmera Shires compared with the WVPHN average of 77.7 per cent.

Wimmera Grampians sub-region

The Wimmera Grampians sub-region performs most poorly in the WVPHN catchment on a range of risk factor indicators. Three of the six LGAs have rates of smoking higher than the Victorian average. The rate of hypertension is similar in the Wimmera Grampians sub-region to the rest of the WVPHN catchment. All LGAs have higher rates of physical inactivity and obesity than the WVPHN and Victorian averages. Three quarters of people in West Wimmera Shire are classified as inactive while almost 40 per cent of Yarriambiack Shire residents are obese. Around two thirds of people in Ararat and Yarriambiack LGAs are either overweight or obese, compared with the Victorian average of 51 per cent.

There are significant drug and alcohol abuse issues in the Wimmera Grampians sub-region. Of the five LGAs with the highest rates of people drinking more than two drinks daily, four are Wimmera Grampians LGAs. Around one in four people in Horsham, Hindmarsh, West Wimmera and Yarriambiack LGAs drink more than two alcoholic beverages daily. Almost half of Wimmera Grampians residents drink alcohol at levels that increase the risk of injury from a single episode of drinking. Horsham Rural City has the highest rate of alcohol related ambulance attendances at 2.7 times the state average. The rates of alcohol-related assaults are around 2.8 times the state average in Ararat, Hindmarsh and Horsham LGAs. Alcohol-related family violence incidents are high across all sub-regional LGAs, particularly in Ararat and Northern Grampians. There are higher than state average rates of illicit drug-related ambulance attendances in the cities of Ararat and Horsham and high rates in all LGAs of pharmaceutical drug-related ambulance attendances. Pharmaceutical drug-related ambulance attendances are much higher across the entire Wimmera Grampians sub-region compared with the other three sub-regions in the WVPHN catchment. Drug possession and use offences are also high in several sub-regional LGAs, particularly in Horsham, Northern Grampians and Ararat.

Horsham Rural City has the highest rate of bowel cancer screening at 27 per cent compared to the Victorian average of 17.5 per cent. All other Wimmera Grampians LGAs except for Yarriambiack Shire have lower rates of screening than the WVPHN average.

Ballarat Goldfields sub-region

Pyrenees Shire is the only Ballarat Goldfields LGA with a lower than state average rate of daily smoking. The highest rate in the WVPHN catchment is in Central Goldfields where 22 per cent of residents smoke daily, compared with the Victorian average of 12 per cent. There are higher rates of physical inactivity in Pyrenees (76 per cent), Central Goldfields (70 per cent) and Moorabool (68 per cent) than the Victorian average of 66 per cent. The rates in the remaining LGAs of Ballarat and Hepburn are 65 per cent and 64 percent respectively. This means that between two thirds and three quarters of residents in the Ballarat Goldfields sub-region are physically inactive. The rates of hypertension are similar across the catchment at around 23-24 per cent. In Central Goldfields and Ballarat LGAs, around one in three people are overweight. At least one in three people in Pyrenees and Central Goldfields are obese. Hepburn is the only sub-regional LGA with an obesity rate lower than the WVPHN average at 23 per cent. Sixty-six per cent of residents in Pyrenees and Central Goldfields are either overweight or obese, the equal highest rate in the WVPHN catchment along with Ararat LGA. The lowest rate of overweight and obesity is in Hepburn Shire, however more than half of the population are still classified as overweight or obese.

The rate of people drinking more than two drinks per day is higher than the state average (14 per cent) in all sub-regional LGAs and above the WVPHN average in Hepburn and Pyrenees Shires. Risk of injury from a single episode of drinking is highest in the sub-region in Pyrenees Shire (55 per cent) and Moorabool Shire (51 per cent) but below the state average in Central Goldfields Shire (35 per cent). The rate of alcohol-related assaults is highest in Central Goldfields Shire at 1.4 times the state average while rates of alcohol-related family violence is highest in Central Goldfields Shire and the City of Ballarat at around twice the state average. Illicit drug-related ambulance attendances are below the state average in all sub-regional LGAs except for the City of Ballarat. Pharmaceutical drug-related ambulance attendances are below the state average in all LGAs except for the City of Ballarat and Central Goldfields Shire. Drug possession and use offences are above the state average in Central Goldfields Shire lower than average in all remaining LGAs.

Barwon South West region

There is quite a lot of variation in the risk factor indicators across the Barwon South West region. Four of the ten regional LGAs have lower rates of daily smoking than the Victorian average, three have lower rates than the WVPHN average but higher than the Victorian average, while the rates in Greater Geelong and Warrnambool are above the WVPHN and state averages. Vegetable intake is poor across the entire WVPHN catchment, and this is replicated at a regional level. The Borough of Queenscliffe has the lowest rate of hypertension in the WVPHN catchment at 18 per cent with the rates in all other regional LGAs higher than the state average. The region fares better with physical inactivity, with the rates of inactivity lower than the

Victorian average of 66 per cent in Queenscliffe, Surf Coast, Greater Geelong, Warrnambool and Southern Grampians LGAs. The lowest rate is in Queenscliffe where 49 per cent of residents are classified as inactive. This is not necessarily a positive position, however, as one in two people are inactive in the best performing LGA not just in the region but in the WVPHN catchment. Participation in bowel cancer screening is higher than the Victorian average across all regional LGAs with the highest rates in Queenscliffe (25 per cent), Surf Coast (25 per cent), Southern Grampians (25 per cent), Greater Geelong (24 per cent) and Warrnambool (24 per cent).

Rates of people classified as either overweight or obese are above the Victorian average (51 per cent) in Greater Geelong and Surf Coast LGAs. The lowest rate is 49 per cent in Surf Coast Shire. Again, this is not necessarily a good outcome. It means that the best scenario in the Barwon South West region is that one in two people are overweight or obese. At worst, two in three people are overweight or obese in Moyne Shire. The Borough of Queenscliffe has the highest rate of people that are overweight at 47 per cent and the lowest rate of people that are obese (14 per cent). A similar pattern exists for Golden Plains and Surf Coast Shires where there are higher rates of overweight but lower rates of obesity. The highest rates of obesity in the region are seen in Moyne (36 per cent), Warrnambool (32 per cent) and Glenelg (31 per cent).

Alcohol use at 'risky levels' is a problem throughout the region. All regional LGAs have higher rates of people drinking more than two alcoholic beverages per day with the highest regional rates in Glenelg Shire (27 per cent) and Southern Grampians Shire (22 per cent), and all other regional LGAs with rates of 17-21 per cent compared to the state average of 14 per cent. The proportion of people that drink at levels that increase risk of injury from a single episode of drinking is also high in the Barwon South West region. Three of the five LGAs with the highest rates of increased risk are in the Barwon South West region: Surf Coast (59 per cent), Queenscliffe (58 per cent) and Moyne (55 per cent). Interestingly, these LGAs comprise three of the four LGAs with the least disadvantage. The lowest rate of people drinking at levels of increased risk are in Southern Grampians and Colac-Otway Shires where the rate is still high at 45 per cent. There are lower alcohol-related ambulance attendances in the Barwon South West region compared with the Grampians region with lower than state average rates in Moyne, Golden Plains, Surf Coast and Queenscliffe LGAs. However, there were high rates in Southern Grampians Shire at twice the state average, Glenelg Shire at 1.8 times the average and the City of Warrnambool at 1.6 times the average. Alcohol-related assaults were lower than the state average in Golden Plains, Moyne and Surf Coast Shires but high in the Borough of Queenscliffe at more than twice the state average, and the City of Warrnambool and Southern Grampians Shire at 1.7 times the average. Alcohol-related family violence incidents are lower than the state average in Queenscliffe, Golden Plains and Surf Coast LGAs but high in Glenelg and Colac-Otway Shires.

Illicit drug-related ambulance attendances are above the state average in the City of Greater Geelong but below average in all other regional LGAs. Pharmaceutical drug-related ambulance attendances are above the state average in Southern Grampians, Greater Geelong, Glenelg and Warrnambool LGAs. The rate in Southern Grampians is almost twice the Victorian average. The rate of drug possession and use offences

is high in Glenelg Shire (1.6 times the state average) and Warrnambool (1.5 times the average) LGAs.

Geelong Otway sub-region

The Geelong Otway region fares better than the other sub-regions on a range of indicators including smoking, obesity and alcohol-related violence but there is evidence of high alcohol consumption.

The rate of daily smoking is below the state average in Queenscliffe and Surf Coast LGAs but above both the state and WVPHN averages in Greater Geelong. The rate of hypertension is similar to the Victorian average throughout the sub-region. Rates of physical inactivity are below the state average in Queenscliffe, Surf Coast and Greater Geelong but above the average in Golden Plains and Colac-Otway LGAs. Rates of people classified as overweight or obese are lower than the Victorian average in Greater Geelong and Surf Coast LGAs but are still around 50 per cent. The highest rate is in the Borough of Queenscliffe where 61 per cent of people are overweight or obese. When looking at rates of obesity alone, the rate is lower than the Victorian average of 21 per cent in Queenscliffe and Surf Coast but equal to or above average in the remaining LGAs with the highest rate in Colac-Otway Shire (27 per cent). In terms of preventative health care, there are higher than WVPHN average rates of bowel screening in Surf Coast, Queenscliffe and Greater Geelong and similar rates to the average in Colac-Otway and Golden Plains Shires.

The rate of people drinking more than two drinks per day is above the state average (14 per cent) across the sub-region with the highest rates in Surf Coast and Queenscliffe LGAs at 21 per cent. Surf Coast and Queenscliffe also have the highest rate of drinking at 'risky levels' where there is an increased risk of injury at 59 and 58 per cent respectively. The remaining three LGAs also have rates above the state average of 43 per cent. The rate of alcohol-related ambulance attendances is high in Colac-Otway at 1.8 times the Victorian average. Alcohol-related assaults are above the state average in Greater Geelong, Colac-Otway and Queenscliffe. Alcohol-related family violence incidents are 1.7 times the state average in Colac-Otway but similar to or below the average in all other sub-regional LGAs.

Drug use is more of an issue in the City of Greater Geelong than other sub-regional municipalities in the Geelong Otway sub-region. Illicit drug-related ambulance attendances are above the Victorian average in Greater Geelong but below average in all other sub-regional LGAs. Pharmaceutical drug-related ambulance attendances are lower than the Victorian average in all sub-regional LGAs except for Greater Geelong, as are drug possession and use offences.

Great South Coast sub-region

There are generally higher rates of health risk factors in the Great South Coast when compared to the Geelong Otway sub-region. Three of the five sub-regional LGAs have rates of daily smoking higher than the Victorian average with the highest rate in Warrnambool at 16 per cent compared to the state average of 12 per cent. Rates of hypertension are similar to the state average while rates of physical inactivity are above the average (66 per cent) in Glenelg (71 per cent), Moyne (71 per cent) and Corangamite (73 per cent) Shires. Bowel cancer screening participation is above the WVPHN average in Southern Grampians and Warrnambool LGAs and below the WVPHN average but above the state average in Glenelg, Moyne and

Corangamite Shires.

The combined rates of obesity and overweight are high across the sub-region at 65 per cent in Moyne, 62 per cent in Warrnambool and Corangamite and 60 per cent in Glenelg LGAs. Moyne Shire has the second highest rate of obesity in the WVPHN catchment (36 per cent) followed by Warrnambool (32 per cent), Glenelg (31 per cent), Southern Grampians (30 per cent) and Corangamite (29 per cent) LGAs.

As with the rest of the WVPHN catchment, there are drug and alcohol -related issues in the Great South Coast. Glenelg Shire has the highest rate of people drinking more than two drinks per day (27.4 per cent) in the WVPHN catchment, followed by Southern Grampians Shire (22 per cent). Warrnambool is the only sub-regional LGA with a rate lower than the WVPHN average at 17 per cent and all WVPHN catchment LGAs have rates higher than the state average. The rate of people drinking at levels that increase risk of injury in a single episode is highest in Moyne Shire (55 per cent), Glenelg (50 per cent) and Corangamite (49 per cent) LGAs. Alcohol related ambulance attendances are lower in Moyne Shire than the Victorian average but twice the average in Southern Grampians Shire, 1.8 times the average in Glenelg Shire and 1.6 times the average in the City of Warrnambool. Alcohol-related assaults are above the state average in Southern Grampians, Warrnambool, Glenelg and Corangamite LGAs, while the rate of alcohol-related family violence incidents in Glenelg Shire is the highest in the WVPHN catchment. Illicit-drug related ambulance attendances are lower than the state average in all sub-regional LGAs but there are high rates of pharmaceutical drug-related ambulance attendances in Southern Grampians at almost twice the Victorian average. Drug possession and use offences are high in Glenelg, Warrnambool and Southern Grampians LGAs at 1.6 times, 1.5 times and 1.3 times the state average respectively. While participation in cancer screening is generally quite good across the sub-region, there is a notably lower rate of breast cancer screening in Southern Grampians Shire.

Quantified need - Risk factors

Considering the analysis throughout this section, Table 25 below identifies the top five LGAs with the highest need with regards to each of the risk factor categories examined.

Table 25: Summary of LGAs with highest need by risk factor category

Smoking	Nutrition and physical activity	Overweight and obesity	Hypertension	Alcohol	Other drugs	Cancer screening
Central Goldfields	West Wimmera	Queenscliffe	West Wimmera	Horsham	Horsham	West Wimmera
Yarriambiack	Ararat	Ararat	Ararat	Glenelg	Ararat	Central Goldfields
Hindmarsh	Pyrenees	Central Goldfields	Pyrenees.	Yarriambiack	Southern Grampians	Ararat
Greater Geelong	Horsham	Pyrenees	Corangamite	Ararat	Greater Geelong	Pyrenees
Hepburn	Glenelg Warrnambool	Corangamite Moyne Northern Grampians Ballarat	Golden Plains	Northern Grampians Hindmarsh	Glenelg Northern Grampians Ballarat	Northern Grampians

Table 26: Quantified need considering health risk factors

Region	Sub-region	LGA	'Base need' population distribution 2026	Metric 2: Risk factors								Population need adjusted for risk factors	Change in base need (%)
				Smoking index	Nutrition and physical activity index	Overweight and obesity index	Hypertension index	Alcohol index	Other drugs index	Cancer screening index	Combined index: Risk factors		
Grampians	Ballarat Goldfields	Ballarat	16.20%	0.00	-0.03	0.03	0.01	0.02	0.02	0.00	0.01	16.31%	0.11%
		Central Goldfields	1.80%	0.11	-0.01	0.05	-0.01	0.02	0.00	0.08	0.04	1.86%	0.06%
		Hepburn	2.20%	0.04	-0.07	-0.02	-0.06	0.01	-0.04	0.05	-0.01	2.17%	-0.03%
		Moorabool*	5.60%	0.00	-0.03	0.01	0.02	-0.01	-0.01	0.04	0.00	5.60%	0.00%
		Pyrenees	1.00%	-0.05	0.02	0.04	0.05	0.03	-0.05	0.07	0.02	1.02%	0.02%
	Wimmera Grampians	Ararat	1.60%	-0.02	0.06	0.06	0.08	0.06	0.04	0.08	0.05	1.68%	0.08%
		Hindmarsh	0.70%	0.06	-0.05	0.00	-0.06	0.06	-0.04	0.05	0.00	0.70%	0.00%
		Horsham	2.70%	-0.02	0.02	0.00	0.00	0.09	0.07	-0.04	0.02	2.75%	0.05%
		Northern Grampians	1.50%	0.02	-0.06	0.03	-0.09	0.06	0.02	0.06	0.00	1.51%	0.01%
		West Wimmera	0.50%	-0.05	0.08	-0.01	0.08	0.05	-0.04	0.10	0.03	0.52%	0.02%
		Yarriambiack	0.80%	0.09	-0.01	0.02	-0.01	0.07	-0.02	0.02	0.02	0.82%	0.02%
Barwon Southwest	Great South Coast	Corangamite	2.10%	-0.03	-0.04	0.03	0.03	0.01	-0.02	0.02	0.00	2.10%	0.00%
		Glenelg	2.60%	-0.02	0.02	0.01	0.00	0.09	0.02	0.02	0.02	2.65%	0.05%
		Moyne	2.30%	0.00	-0.03	0.03	-0.02	0.03	-0.06	0.01	-0.01	2.29%	-0.01%
		Southern Grampians	2.10%	-0.06	-0.03	-0.01	-0.02	0.05	0.03	0.03	0.00	2.10%	0.00%
		Warrnambool	4.70%	0.02	0.02	0.02	0.00	0.03	0.01	-0.02	0.01	4.75%	0.05%
	Geelong Otway	Colac-Otway	3.00%	0.00	-0.02	-0.01	-0.04	0.03	-0.02	0.02	-0.01	2.98%	-0.02%
		Golden Plains	3.50%	-0.02	0.01	0.02	0.03	0.01	-0.07	0.01	0.00	3.49%	-0.01%
		Greater Geelong	39.20%	0.04	-0.04	-0.02	-0.01	0.01	0.03	-0.02	0.00	39.06%	-0.14%
		Queenscliffe	0.40%	-0.20	-0.27	0.08	-0.35	0.04	-0.10	-0.06	-0.12	0.35%	-0.05%
		Surf Coast	5.50%	-0.14	-0.03	-0.01	-0.02	0.02	-0.01	-0.07	-0.04	5.29%	-0.21%

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WPHN catchment.

Table 27 shows the LGAs in order of greatest need considering risk factors from the highest combined risk factors index to the lowest. Positive indexes result in an increased overall need when combined with population base need, negative indexes result in a decreased overall need.

Base need was increased in the following LGAs (in order of size of index):

- Ararat
- Central Goldfields
- West Wimmera
- Yarriambiack
- Glenelg
- Horsham
- Pyrenees
- Warrnambool
- Ballarat

Table 27: Combined risk factors index by LGA

LGA	Combined index: Risk factors
Ararat	0.05
Central Goldfields	0.04
West Wimmera	0.03
Yarriambiack	0.02
Glenelg	0.02
Horsham	0.02
Pyrenees	0.02
Warrnambool	0.01
Ballarat	0.01
Northern Grampians	0.00
Hindmarsh	0.00
Moorabool*	0.00
Southern Grampians	0.00
Corangamite	0.00
Golden Plains	0.00
Greater Geelong	0.00
Moyne	-0.01
Colac-Otway	-0.01
Hepburn	-0.01
Surf Coast	-0.04
Queenscliffe	-0.12

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPNH catchment.

7. Metric 4 – Service access

Service access refers to the ability of community members to access the right care, in the right place and at the right time. People in rural and remote areas face increased challenges in accessing health and social services.¹⁰⁹ Service access was raised as a key issue by community members, health professionals and peak bodies during the consultation process for this needs assessment (further detail in [Chapter 3](#)). Access to GPs and allied health professionals is vital in promoting best health outcomes and preventing hospitalisations, ongoing morbidity and avoidable or preventable deaths.

Workforce in local areas is a key element for accessible services. The GP, primary care nursing and allied health provision ratios are discussed at an LGA level below. Key indicators of poor service access also include potentially preventable hospitalisations and non-urgent emergency department presentations. The two categories of indicators together provide a picture of primary care service access needs across the region.

Health Workforce

Difficulty accessing GPs in a timely and affordable manner is a key issue in the WVPHN catchment according to our stakeholders. While available data shows that the provision of GPs varies throughout most of the catchment, residents are having difficulty getting appointments and/or affording appointments with GPs. This aligns with assessment of current GP demand and supply which shows that Victoria currently has an unmet demand gap of around 370 full-time equivalent GPs. By 2028, this is expected to grow to more than 870 full-time equivalent GPs.¹¹⁰

Across Victoria, 72 per cent of standard GP consultations are bulk billed. The rate in western Victoria is just 65 per cent. The median out-of-pocket cost is \$40.

The rate of GP full-time equivalent (FTE) per 100,000 population is shown in Table 28 and is highest in Yarriambiack, Central Goldfields, Ballarat and Hindmarsh LGAs and is also above state average in Hepburn Shire and the City of Greater Geelong. The GP workforce is lowest in Moyne Shire and Pyrenees Shire at 40 and 43 per cent of the state average. Thirteen of the 21 catchment LGAs have lower GP provision than the state average.

GP services per capita are the number of GP services accessed by people within a geographic area expressed as number of services per capita population. GP services per capita generally reflect the workforce with the highest rates in Yarriambiack, Central Goldfields, Warrnambool and Ballarat LGAs (Table 28). GP services per capita are below the state average in nine of the 21 catchment LGAs. All LGAs with service per capita rates lower than the state average also have GP workforce rates lower than the average. This indicates perhaps not a lack of demand for services but a lack of capacity to meet local demand. The three LGAs with the lowest rates of service per capita are the same LGAs with the lowest GP

GP services per capita generally reflect the workforce provision with the highest rate of service in those areas with the highest workforce provision and the lowest rate of service in areas with the lowest rate of GP workforce.

workforce: Moyne, Pyrenees and Golden Plains Shires.

Data in the WVPHN catchment is available for most of the GP catchment areas which were then combined at an LGA level. The data for the Borough of Queenscliffe is integrated into the City of Greater Geelong data so indicators are only available for 20 of the 21 catchment LGAs. This data shows that long or prolonged appointments are highest rates in Hepburn, Glenelg, Moyne and Moorabool Shires. They are less common in the Grampians Region compared with the Geelong Otway region. With five of the

Grampians LGAs having under 10% of their appointments being long or prolonged, and none of the LGAs in Barwon South West being under 10%. Anecdotally and expressed via our consultation process, the cost involved in seeing a GP is prohibitive for many western Victorian residents. More than one third of standard consultations (between 6 and 20 minutes) in western Victoria in 2022-2023 involved an out-of-pocket cost.¹¹¹ The average out-of-pocket cost was \$40. Across Victoria, 72 per cent of standard consultations were bulk billed in 2022-2023. The rate in western Victoria was just 65 per cent. The Royal Australian College of General Practice found that only around 13% of GPs bulk bill all patients.¹¹² Together this data indicates that a significant proportion of people seeing GPs in the WVPHN catchment are eligible for bulk billing. This is usually reserved for children, older people and concession card holders. What remains unanswered by the data is whether people not eligible for bulk billing simply don't need the service or are not accessing the service due to cost. Consultation data indicates that the latter is certainly occurring for some residents of the catchment.

What remains unanswered by the data is whether people ineligible for bulk billing don't need the service or are not accessing the service due to cost. Consultation data indicates that the latter is certainly occurring for some of our residents.

Our stakeholders also expressed that there were access and workforce issues in allied health services throughout the region. Table 29 outlines the workforce provision of a range of allied health professionals working in primary or community health by LGA. The data for smaller LGAs need to be interpreted with the acknowledgement that the rates presented are full-time equivalent per 100,000 persons. In small municipalities, a single provider may result in a high rate of provision.

Our stakeholders expressed particular need for occupational therapy, physiotherapy, speech therapy, podiatry and psychology. Data is not available for speech pathologists as they are not registered with the Australian Health Practitioner Agency which is the source of the data presented here. The provision of occupational therapists is lower than the Victorian average in 15 of 21 catchment LGAs with the highest rates in Queenscliffe, Greater Geelong, Surf Coast and Ballarat LGAs and the lowest rates in Yarriambiack, Corangamite, Pyrenees, Golden Plains and Hindmarsh Shires. The rate is less than half the state average in 10 LGAs. The provision of physiotherapists is below the state average in 16 of the 21 catchment LGAs

and less than half the state average in 12 LGAs. The provision of podiatrists is below the state average in 15 of the 21 catchment LGAs and less than half the average in eight LGAs. There are no podiatrists in Yarriambiack, West Wimmera and Pyrenees Shires. The rate of psychologists is below the state average in all municipalities except for Ballarat, Greater Geelong and Warrnambool and less than half the average in 14 LGAs. There are no psychologists practicing in Moyne, West Wimmera and Hindmarsh Shires. The provision of optometrists is below the state average in 17 of 21 catchment LGAs with the highest rates in Warrnambool and Horsham LGAs and no provision in Queenscliffe, Corangamite, Yarriambiack, West Wimmera, Hindmarsh and Pyrenees LGAs. The provision of pharmacists is below the state average in 13 of 21 catchment LGAs, while the provision of dentists is below the average in 18 LGAs. It should be noted that provision ratios don't account for financial accessibility of services as either public or private services.

In contrast, there is a higher provision of nurses working in primary care in the WVPHN catchment compared to the Victorian average. Fifteen of the 21 catchment LGAs have a higher rate of provision of primary care nurses compared to the state average. The rate in Ararat is more than five times the average, more than 2.5 times the average in West Wimmera and more than twice the average in Pyrenees, Warrnambool, Horsham and Glenelg LGAs. At the other end of the scale, the rate of provision is less than half the state average in Moyne Shire. Primary Care Nurse provision doesn't have any obvious relationship to GP provision.

Health workforce shortages are on the state government agenda. The Victorian Government released a Health Workforce Strategy¹¹³ early in 2024. The Strategy acknowledges the unique challenges of service access and attracting and retaining the health workforce in rural and regional areas of the state. The Strategy outlines the number of additional health workers required by 2026. More than 1,000 additional allied health workers, almost additional 1,000 nurses and an additional 248 medical practitioners are projected to be required in the Barwon health region by 2026. Around 500 allied health workers, 444 nurses and 116 additional medical practitioners will be required by 2026 in the Grampians health region. Around 4,000 other health workers are required across the WVPHN catchment before 2026.

Table 28(a): GP service indicators by LGA¹¹⁴

Region	Sub-region	LGA	Rate FTE GPs per 100,000 population 2022-2023	GP services per capita 2022-2023
Grampians	Ballarat Goldfields	Ballarat	135.1	8.2
		Central Goldfields	141.7	8.3
		Hepburn	119	6.6
		Moorabool*	102.8	6.3
		Pyrenees	51	3
		Ballarat Goldfields sub-region**	109.92	6.5
	Wimmera Grampians	Ararat	69.6	4.3
		Hindmarsh	129.6	NP
		Horsham	113.7	6.6
		Northern Grampians	70.8	4.6
		West Wimmera	72.5	NP
		Yarriambiack	154.2	10
		Wimmera Grampians sub-region**	101.7	6.4
		Grampians region**	105.83	6.4
Barwon South West	Great South Coast	Corangamite	95	5.5
		Glenelg	106.7	5.8
		Moyne	46.9	2.5
		Southern Grampians	92.5	5.5
		Warrnambool	134.5	7.6
		Great South Coast sub-region**	95.12	5.4
	Geelong Otway	Colac-Otway	108.8	6.6
		Golden Plains	62.8	3.6
		Greater Geelong	117.8	6.9
		Queenscliffe	302	17.6
		Surf Coast	109.1	6.2
		Geelong Otway sub-region**	140.1	8.18
		Barwon South West region**	117.61	6.78
		WVPHN	113.2	6.6
		Victoria	117.2	6.9

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

**Data presented at the regional and sub-regional level is derived simply from an average of the LGA measures for each sub-region and region. This is not weighted to the different populations of each LGA. Instead, it is a rough indicator of the sub-regions and region with the highest need. Population is considered as the 'base need' which provides the weighting to all other metrics (full details under methodology).

Table 28(b): GP consultation types by LGA¹¹⁴

Regions	Sub-Regions	LGA	Percentage of Long and Prolonged GP Consultations (2022-2023)***	Percentage of Chronic Disease/Complex Care Management GP Consultations (2022-2023)***	Percentage of Mental health-related care GP Consultations (2022-2023)***
Grampians	Ballarat Goldfields	Ballarat	10.3	4.3	2.5
		Central Goldfields	10.9	5.9	1.1
		Hepburn	18.9	7.8	2.2
		Moorabool*	16.4	7.1	2.3
		Pyrenees	11.3	6.7	1.2
		Ballarat Goldfields sub-region**	11.2	4.8	2.3
	Wimmera Grampians	Ararat	8.4	3.3	1.3
		Hindmarsh	NP	NP	NP
		Horsham	11.7	4.7	1.6
		Northern Grampians	8.8	6.7	1.5
		West Wimmera	NP	NP	NP
		Yarriambiack	4.8	NP	1.3
		Wimmera Grampians sub-region**	9.6	4.1	1.5
		Grampians region**	10.9	4.7	2.2
Barwon South West	Great South Coast	Corangamite	13.3	8.3	1.3
		Glenelg	17.8	9.8	1.7
		Moyne	16.4	5.5	1.4
		Southern Grampians	10.8	3.1	1.3
		Warrnambool	15.7	7.4	1.6
		Great South Coast	15.3	7.3	1.5
	Geelong Otway	Colac-Otway	10.5	6.3	1.6
		Golden Plains	12.0	9.0	2.6
		Greater Geelong (including the Borough of Queenscliffe)	12.5	6.9	2.0
		Surf Coast	13.8	6.9	2.2
		Geelong Otway**	12.5	6.9	2.0
		Barwon South West**	12.5	6.9	2.0
		WVPHN	13.8	6.9	2.2

NP: Not Provided – due to the sensitive nature of the data confidentiality rules have been applied to reduce the risk of identifying individuals

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***This data is not provided at LGA level, therefore GP catchment geographical areas were used, based on the closest LGA boundary (often multiple GP catchment areas were combined). The number of consultations were divided by the total number of consultations in that particular area which was multiplied by 100 to determine the percentage.

Table 29: Allied health workforce by LGA¹¹⁵

Region	Sub-region	LGA	Occupational therapists 2022-2023 (FTE per 100,000)	Optometrists 2022-2023 (FTE per 100,000)	Pharmacists 2022-2023 (FTE per 100,000)	Physiotherapists 2022-2023 (FTE per 100,000)	Podiatrists 2022-2023 (FTE per 100,000)	Psychologists 2022-2023 (FTE per 100,000)	Dentists 2022-2023 (FTE per 100,000)	Primary health nurses 2022-2023 (FTE per 100,000)
Grampians	Ballarat Goldfields	Ballarat	72.5	18.7	72.5	58.2	19.8	92.9	70.9	377.7
		Central Goldfields	19.2	15.5	64.8	34.6	16.2	9.6	42.7	260.4
		Hepburn	31.2	8.4	45.0	13.8	6.6	54.0	20.4	217.8
		Moorabool*	25.3	5.6	34.5	39.9	5.4	35.6	29.2	130.0
		Pyrenees	10.3	0.0	45.0	0.0	0.0	0.0	0.0	335.8
		Ballarat Goldfields sub-region**	31.7	9.6	52.4	29.3	9.6	38.4	32.6	264.4
	Wimmera Grampians	Ararat	19.7	8.6	60.8	77.9	9.4	24.8	42.8	516.2
		Hindmarsh	10.8	0.0	28.8	0.0	0.0	0.0	0.0	376.7
		Horsham	43.3	53.7	58.6	21.7	16.2	32.5	39.9	501.3
		Northern Grampians	17.7	7.6	73.2	64.8	16.0	7.6	25.3	335.9
		West Wimmera	33.1	0.0	81.4	43.2	0.0	0.0	0.0	448.9
		Yarriambiack	11.0	0.0	70.4	15.7	0.0	0.0	0.0	330.9
		Wimmera Grampians sub-region**	22.6	11.6	62.2	37.2	6.9	10.8	18.0	418.3
		Grampians region**	27.1	10.6	57.3	33.3	8.3	24.6	25.3	341.3
Barwon South West	Great South Coast	Corangamite	20.1	0.0	71.5	30.1	6.9	4.4	0.0	283.8
		Glenelg	8.5	5.0	28.5	27.5	15.0	19.5	30.5	281.3
		Moyne	15.9	0.0	34.6	39.2	11.9	10.2	0.0	149.9
		Southern Grampians	24.9	13.4	72.9	56.5	21.3	9.7	21.3	323.8
		Warrnambool	79.7	38.7	91.3	61.5	39.0	70.5	75.8	416.0
		Great South Coast sub-region**	29.8	11.4	59.8	43.0	18.8	22.9	25.5	291.0
	Geelong Otway	Colac-Otway	18.9	13.9	42.7	35.0	18.9	16.2	35.9	210.8
		Golden Plains	17.4	8.1	41.8	13.2	3.9	0.8	19.4	85.7
		Greater Geelong	109.0	18.3	60.6	74.4	20.7	76.1	57.2	278.4
		Queenscliffe	182.2	0.0	71.0	237.8	71.0	0.0	34.0	673.7
		Surf Coast	91.9	6.1	49.4	72.0	13.2	42.5	30.8	123.3
		Geelong Otway sub-region**	83.9	9.3	53.1	86.5	25.5	27.1	35.5	274.4
		Barwon South West region**	56.8	10.4	56.4	64.7	22.2	25.0	30.5	282.7
		WVPHN	72.0	16.2	60.0	57.3	18.0	56.9	47.1	293.1
		VIC	50.0	16.4	62.2	67.3	16.1	63.9	55.4	235.3

The rate is calculated by using FTE divided by ERP from HeadS UPP tool this was then multiplied by 100,000 to determine the population rate

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Access to sexual and reproductive health services

Access to sexual and reproductive health services is difficult for many living in the WVPHN catchment.

Abortion services

Women's Health Victoria have released data[^] that shows a shortfall between the provision of, and demand for, early medical abortion in the WVPHN catchment, particularly in more rural areas. This indicates that women trying to access the early medical abortion drug MS-2 Step may need to attend a clinic in one area (and often not their local area) but may also need to travel to have their prescription filled. Examination of data regarding prescriptions of the drug shows that there is above state average demand for the medication across most LGAs in the Ballarat Goldfields sub-region but the only LGA with above average prescriptions by prescriber location is Central Goldfields, indicating that practitioners in this area are not only trying to meet the need of local women but of women in surrounding areas. Prescriptions are primarily filled in Ballarat. In the Wimmera-Grampians region the drug was only prescribed and dispensed in Northern Grampians and Horsham LGAs, despite there being higher rates of demand than the state average in Ararat, Yarriambiack and Horsham. Ararat-based women had the highest rate of MS-2 Step drug prescriptions in the sub-region (6.04 per 1,000) but local practitioners only prescribed at a rate of 1.13 prescriptions per 1,000 women. There are no prescribers in Northern Grampians, Yarriambiack, Hindmarsh and West Wimmera Shires. Although the rate of prescriptions by practitioners in Horsham is higher than the local demand, it is not sufficient to meet the regional demand. The demand for MS-2 Step is similar to the state average through the Barwon South West region, with the exception of Glenelg Shire where it is higher. Many women appear to be attending practitioners in Warrnambool and Geelong as there is well below average prescriptions from practitioners based in Glenelg, Southern Grampians, Moyne, Corangamite and Golden Plains and below average rates in Surf Coast and Colac-Otway. No pharmacies in Southern Grampians Shire dispensed MS-2 Step in 2022 and there were very few prescriptions dispensed by pharmacists in Glenelg, Moyne, Corangamite and Golden Plains Shires. The rate of dispensing by pharmacies in Warrnambool is more than three times the state average indicating that people from surrounding LGAs are travelling to Warrnambool to access their medication. A similar pattern is seen in the Geelong Otway sub-region where only Geelong and Colac-Otway LGAs had above state average dispensing of MS-2 Step although this wasn't sufficient to meet local demand.

[^]Women's Health Victoria, 2024, Women's Health Atlas, <https://victorianwomenshealthatlas.net.au>

Long-acting reversible contraception

There are similar limitations in access to long-acting reversible contraception (LARC) in the WVPHN catchment as demonstrated by Women's Health Victoria.[^] The intra-uterine device (IUD) and contraceptive implant can only be inserted by practitioners trained in the procedure. The rate of IUD placement is similar to the state average throughout the Barwon South West region. A different pattern is seen in the Grampians region with higher-than-average rates in Ballarat and Horsham, similar rates in West Wimmera and Hepburn Shires and lower than average rates in all other Grampians LGAs. This roughly aligns with the location of providers of IUD placement services. There were very few to no IUDs placed by practitioners in 2022 in all Grampians LGAs except for Horsham and Ballarat. In the Barwon South West region, there are low rates of IUD placement by practitioners in Glenelg, Golden Plains and Moyne Shires, but above state average rates in Southern Grampians, Queenscliffe, Greater Geelong and Warrnambool LGAs which is most likely why rates of IUD placement are generally higher in the Barwon South West region.

The contraceptive implant is also in demand across the WVPHN catchment. Most Barwon South West LGAs have a higher rate of insertion of the implant than the Victorian average, with the exception of Corangamite and Surf Coast Shires. Again, women are expected to travel to access trained practitioners with below state average placements by practitioners in Glenelg, Moyne, Corangamite, Golden Plains and Surf Coast Shires. Southern Grampians and Warrnambool LGAs are the only Barwon South West LGAs with notably higher rates of practitioners inserting the implants compared to the Victorian average, indicating that women from surrounding regions are travelling to these areas for the service. Much like the placement of the IUD in the Grampians region, there is much lower uptake of the contraceptive implant in the Grampians region. The implant was provided at lower-than-average rates in Hindmarsh, Yarriambiack, Horsham, Northern Grampians, Hepburn and Moorabool Shires. Ballarat and Central Goldfields LGAs are the only municipalities with notably higher than state average rates of women who received the contraceptive implant in 2022. The rate of use of the implant mirrors the location of providers who provided the service in 2022. Together this data indicates that many women across the catchment need to travel to access LARC or they simply go without if the service is not available locally.

Sexually transmitted infections

The rate of sexually transmitted infection (STI) notifications is generally lower across the WVPHN catchment compared to the Victorian average.^{^^} Chlamydia is the most common STI in the catchment, followed by gonococcal infection and syphilis.

[^]Women's Health Victoria, 2024, Women's Health Atlas, <https://victorianwomenshealthatlas.net.au>

^{^^}Victorian Department of Health 2024, Surveillance of notifiable conditions in Victoria – Victoria, local public health areas and local government areas summary, <https://www.health.vic.gov.au/infectious-diseases/local-government-areas-surveillance-report>

There are lower rates of notifications for a range of common STIs. Rates of chlamydia, Hepatitis B and gonococcal infection notifications are lower than state average in all catchment LGAs. Syphilis notifications are below state average in all LGAs except for Northern Grampians, Ararat and Hepburn Shires. Hepatitis C infections are an issue in some parts of the catchment with the rate in Southern Grampians almost 2.5 times the state average, the rate in Ararat more than twice the average and the rate in Hindmarsh and Colac-Otway around 1.5 times the state average. Rates were also above average in Northern Grampians and Glenelg Shires for a total of 6 of 21 catchment LGAs with high rates of Hepatitis C notifications.

A Grampians Health study found that there were several barriers to people access sexual health services including a lack of local services, concerns around confidentiality and privacy and waiting lists. With reference to Hepatitis C, it was noted that diagnostic testing can be technically difficult and there is limited GP knowledge about risk factors and management of the disease, people with a history of intravenous drug use may be resistant to seeking testing or management services.

Breast, prostate and cervical cancer

The WVPHN average rate of breast cancer screening is generally higher than or similar to the state average across the WVPHN catchment but there are notable exceptions. The WVPHN average rate of cervical cancer screening is just below the state average but there are areas of notably low participation. Cancer screening participation data is outlined in [Chapter 6](#). The age-standardised rates of breast cancer diagnosis are similar to the state average in many catchment LGAs, but Queenscliffe has the highest incidence in Victoria. There are also high rates in Ballarat and Pyrenees Shires* Rates of cervical cancer are higher than the state average in all catchment LGAs except for West Wimmera, Hindmarsh, Surf Coast, Colac-Otway, Corangamite and Southern Grampians Shires. Rates are around double the state average in Moyne, Glenelg, Hepburn, Central Goldfields and Golden Plain Shires.** Prostate cancer is highest in Queenscliffe at 1.4 times the state average and is also high in Hindmarsh and Northern Grampians LGAs.***

Other women's health issues

There are state and national moves to better understand key women's health issues related to pain and to perimenopause and menopause. The Victorian government is currently undertaking an [Inquiry into Women's Pain](#) and the Commonwealth Government has recently published the findings of an [Inquiry into Issues related to Menopause and Perimenopause](#). This is a reflection of the level of understanding regarding these key women's health issues and a reflection that more needs to be done in this space.

*Cancer Council of Victoria, 2024, (<https://www.cancervic.org.au/cancer-information/statistics/breast-cancer.html>).

** Cancer Council of Victoria, 2024, <https://www.cancervic.org.au/cancer-information/statistics/cervical-cancer.html>

***Cancer Council of Victoria, 2024, <https://www.cancervic.org.au/cancer-information/statistics/prostate-cancer.html>

Potentially preventable hospitalisations and non-urgent emergency department presentations

Potentially preventable hospitalisations (PPHs) and non-urgent emergency department presentations can be indicators that people are unable to access the right care, at the right place and at the right time. When people are unable to access primary care, they will often present to the emergency department despite their condition not being an emergency. For others, their condition deteriorates with delayed care to a point where they are hospitalised. The workforce shortages outlined in the earlier analysis are reflected in the PPH and non-urgent emergency department data, particularly in the Grampians region.

Total PPHs are above the state average in 18 of 21 catchment LGAs. In 12 LGAs, the rate is 1.5-2 times the Victorian average.

Total PPHs are above the state average in all WVPHN catchment LGAs except for Golden Plains, Queenscliffe and Surf Coast LGAs (Figure 18). The rate in Central Goldfields Shire is twice the Victorian average. A further 11 catchment LGAs are between 1.5 and 1.9 times the state average. Eight of the 12 LGAs that have rates of 1.5 to 2 times the state average are in the Grampians region while four of the five LGAs with the lowest rates of PPHs are in the Barwon South West region.

Acute PPHs are above the state average in all WVPHN catchment LGAs except for Surf Coast Shire. Again, the highest rate is seen in Central Goldfields Shire at more than twice the state average. Acute PPHs are around 1.9 times the state average in Northern Grampians, West Wimmera, Horsham and Yarriambiack LGAs. Six of the 11 Grampians region LGAs have rates of acute PPHs at around double the state average. A similar trend is seen in chronic disease-related PPHs with Central Goldfields with the highest rate in the catchment at twice the state average. Rates are at least 1.8 times the Victorian average in Yarriambiack, Hindmarsh, Pyrenees, Northern Grampians, Ararat, West Wimmera and Central Goldfields Shire, accounting for seven of the 11 Grampians region LGAs.

In western Victoria, the main cause of chronic disease PPHs are iron deficiency anaemia, diabetes complications, COPD and congestive heart failure. The main causes of acute PPHs are dental conditions, urinary tract infections, convulsions/epilepsy and cellulitis.

Chronic disease-related PPHs are lowest in Queenscliffe, Surf Coast and Golden Plains Shires as is the case for acute PPHs. Reflecting a high level of compliance with vaccination recommendations, vaccine-preventable-PPHs are lower than the state average in all catchment LGAs except for Horsham Rural City.

At a national level, the top five causes of PPHs are dental conditions, urinary tract infections, iron deficiency anaemia, congestive heart failure and cellulitis.¹¹⁶ This is largely replicated in western Victoria where iron deficiency anaemia, diabetes complications, chronic obstructive pulmonary disease and congestive heart failure are the top

causes of chronic PPHs, while dental conditions, urinary tract infections, convulsions and epilepsy and cellulitis are the top causes of acute PPHs.¹¹⁷

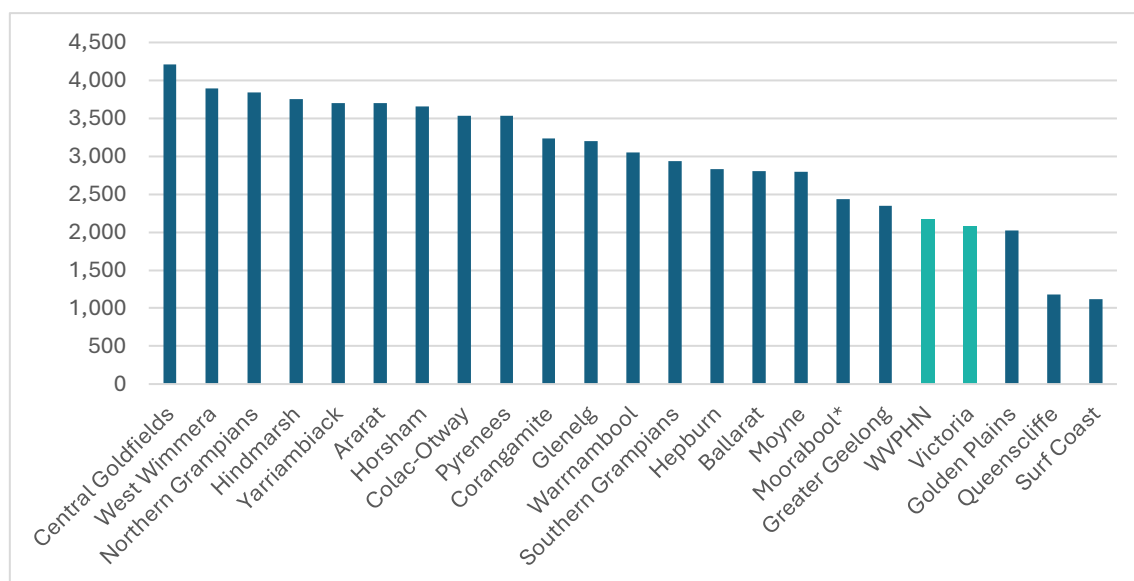


Figure 18: Total potentially preventable hospitalisations by LGA 2020/2021 (ASR per 100,000)

Non-urgent emergency department presentations are above average in eight of the 21 catchment LGAs. The rate in Horsham Rural City is nearly 8 times the state average. The rate in Southern Grampians Shire is more than 4 times the average, while the rates in neighbouring LGAs Yarriambiack, Hindmarsh and West Wimmera Shires are around 3.2 times the average. Rates of non-urgent emergency department presentations are much lower than the Victorian average in Colac-Otway, Central Goldfields, Ararat and Northern Grampians LGAs. These LGAs have some of the highest rates of PPHs. The combination of this data suggests that rather than present to emergency departments with non-urgent issues, people in these areas are more likely to delay care until hospitalisation is required.

Table 30: Potentially preventable hospitalisations and non-urgent emergency department presentations by LGA

Region	Sub-region	LGA	PPH – Total 2020/2021 (ASR per 100,000) ¹¹⁸	PPH – Acute 2020/2021 (ASR per 100,000) ¹¹⁹	PPH – Chronic 2020/2021 (ASR per 100,000) ¹²⁰	PPH – Vaccine-preventable 2020/2021 (ASR per 100,000) ¹²¹	Non-urgent emergency department presentations 2020/2021 (ASR per 100,000) ¹²²
Grampians	Ballarat Goldfields	Ballarat	2,803	1,133	1,596	68	1,833
		Central Goldfields	4,213	1,791	2,345	N/A	714
		Hepburn	2,830	1,115	1,617	63	1,424
		Moorabool*	2,432	1,008	1,345	81	1,318
		Pyrenees	3,530	1,404	2,050	N/A	1,270
		Ballarat Goldfields sub-region	3,162	1,290	1,791	71	1,312
	Wimmera Grampians	Ararat	3,698	1,518	2,084	58	795
		Hindmarsh	3,752	1,604	2,046	N/A	6,549
		Horsham	3,656	1,611	1,916	120	15,877
		Northern Grampians	3,840	1,657	2,077	80	832
		West Wimmera	3,898	1,639^	2,164^	N/A	6,563^
		Yarriambiack	3,699	1,597	2,003	N/A	6,553
		Wimmera Grampians sub-region	3,757	1,604	2,048	86	6,195
		Grampians region	3,459	1,447	1,919	78	3,753
Barwon South West	Great South Coast	Corangamite	3,235	1,490	1,685	50	1,028
		Glenelg	3,199	1,441	1,702	43	1,317
		Moyn	2,798	1,245	1,480	68	2,923
		Southern Grampians	2,941	1,332	1,530	68	8,164
		Warrnambool	3,054	1,373	1,607	68	3,566
		Great South Coast sub-region	3,045	1,376	1,601	60	3,400
	Geelong Otway	Colac-Otway	3,533	1,549	1,903	66	640
		Golden Plains	2,024	942	1,025	59	1,767
		Greater Geelong	2,351	1,054	1,215	80	1,762
		Queenscliffe	1,177	795*	418*	N/A	2,170*
		Surf Coast	1,118	553	511	54	1,262
		Geelong Otway sub-region	2,041	979	1,014	52	1,520
		Barwon South West region	2,543	1,177	1,308	56	2,460
		WVPHN	2,167	954	1,148	58	2,004
		Victoria	2,077	836	1,136	106	2,013

Regional and sub-regional summary

Grampians region

Service access is particularly difficult in the Grampians region. The largest health service is in Ballarat which is three to three and a half hours' drive from the towns on the fringe of the Grampians regions. Of the seven catchment LGAs with GP provision lower than the Victorian average, five are in the Grampians region. Despite there being high rates of chronic conditions in the Grampians region, GP services per capital are not significantly or uniformly higher. Long or prolonged consultations are also no more common in the Grampians region, nor are chronic disease or complex care management appointments. When considered alongside high PPHs for the Grampians region, this data indicates that perhaps residents with

chronic conditions in the Grampians region are not receiving the necessary care in the primary care sector. Allied health professionals are also limited in the Grampians region, as they are across the whole WVPHN catchment. The rate of occupational therapists is below the state average in all Grampians LGAs except for Ballarat and Hepburn. The rate of physiotherapists is lower than the state average in all Grampians LGAs except for Ararat. The rate of psychologists is below the state average in all Grampians LGAs except for the City of Ballarat. There are above state average rates of primary care nurses throughout much of the Grampians region.

PPHs indicate that people in the Grampians region are not receiving the care they need to stay out of hospital. All Grampians LGAs have higher rates of total PPHs than the Victorian average, and eight of the ten LGAs with the highest rates of total, acute and chronic PPHs are Grampians LGAs. Four of the five LGAs with the highest rates of non-urgent emergency department presentations are also Grampians region LGAs, with rates in Horsham Rural City almost 8 times the state average. Further analysis of emergency department data shows that rates of presentations for circulatory system disease, infectious and parasitic diseases, digestive system diseases, musculoskeletal and connective tissue diseases, injury/poisoning/other external causes are well above the Australian average.¹²³

Wimmera Grampians sub-region

The Wimmera Grampians region fares poorly on the service indicators reviewed here. While GP provision is high in Yarriambiack and Hindmarsh Shires, this should be interpreted in the context of small population. The remaining four sub-regional LGAs have a rate of GP provision lower than the Victorian average with the lowest rates in Ararat, Northern Grampians and West Wimmera. These LGAs are also the areas with the lowest GP services per capita. The rate of long or prolonged consultations is lowest in the WVPHN catchment in Hindmarsh, Yarriambiack, Northern Grampians and Ararat LGAs even though Yarriambiack, Hindmarsh and Northern Grampians comprise three of the four LGAs with the highest rates of chronic conditions. Chronic or complex care management appointments are highest in Hindmarsh at 17 per cent of all consultations. However, rates are low in other areas with high rates of chronic conditions including Yarriambiack, Northern Grampians and Ararat LGAs. The provision of occupational therapists is lower in all sub-regional LGAs with the rate in Yarriambiack Shire just 13 per cent of the state average while the provision in Hindmarsh and West Wimmera Shires is less than a third of the average. There are no physiotherapists in Hindmarsh Shire and very low provision in Yarriambiack, Horsham and Northern Grampians LGAs. Similarly, there is low provision of psychologists with no service in West Wimmera and Hindmarsh Shires. The rate in Yarriambiack Shire is just 15 per cent of the Victorian average, the rate in Northern Grampians Shire is 20 per cent of the average and the rate in the Rural City of Horsham at just one third of the state average. There are no dentists in West Wimmera and Hindmarsh Shires and low

Despite high rates of chronic conditions in the Grampians region, the GP workforce is smaller and GP services per capita are not uniformly higher. Long appointments and complex care management appointments are not more common than in other parts of the catchment. Unsurprisingly PPHs are high. Four of the five LGAs with the highest rates of non-urgent ED presentations are in the Grampians. Combined, this data suggests that perhaps residents with chronic conditions in the region are not receiving the necessary primary care.

provision compared to the state average in Northern Grampians, Horsham and Yarriambiack LGAs. Ararat fares better in the provision of allied health provision compared with the rest of the sub-region. There are high rates of primary care nurses in Ararat, West Wimmera and Horsham LGAs but below state average provision in Hindmarsh Shire.

The six sub-regional LGAs are included in the seven LGAs with the highest rates of total PPHs, all around 1.8 times the state average. The rate of non-urgent emergency department presentations is around eight times the state average in Horsham, and around three times the average in Yarriambiack, Hindmarsh and West Wimmera Shires (although the quality of data for West Wimmera Shire is poor). The rate of non-urgent emergency department presentations is well below state average in Ararat and Northern Grampians.

Ballarat Goldfields sub-region

The Ballarat Goldfields sub-region shows mixed results regarding service access. The rate of GP provision is above the state average in Central Goldfields, Ballarat and Hepburn LGAs but less than half the average rate in Pyrenees Shire. GP services per capita are above the state average in Central Goldfields, Hepburn, Ballarat and Moorabool LGAs but well below the average in Pyrenees Shire. The proportion of long or prolonged consultations are around 1.7 times the Victorian average rate in Hepburn Shire and similar to the average in all other sub-regional LGAs. The proportion of consultations for chronic disease/complex care management is 25 per cent higher than the state average in Central Goldfields Shire but only around half the average rate in the Rural City of Ararat. Allied health provision varies across the sub-region. The rate of occupational therapists is higher than the state average in the City of Ballarat and Hepburn Shire but lower than the average in all other sub-regional LGAs. The rate in Pyrenees Shire is just 28 per cent of the state average, the rate in Moorabool is 38 per cent of the average and the rate in Central Goldfields is just 42 per cent of the state average. The rate of physiotherapists is below the Victorian average in all sub-regional LGAs with the lowest rate in Pyrenees Shire at just four per cent of the state average. The rate in Central Goldfields, Hepburn and Moorabool Shires is less than half the state average. The provision of psychologists is above average in the City of Ballarat but below the average in all other sub-regional LGAs with provision in Pyrenees Shire the lowest in the sub-region at just 15 per cent of the Victorian average. The full-time equivalent of dentists is above the state average in Ballarat and Central Goldfields LGAs and below the average in all other sub-regional LGAs with no dentists in Pyrenees Shire. In contrast to allied health provision, there is an above average provision of primary care nurses in Pyrenees, Central Goldfields, Ballarat and Hepburn LGAs.

There are higher than state average rates of total PPHs in all sub-regional LGAs with Central Goldfields Shire having the highest rates of total, acute and chronic PPHs in the WVPHN catchment. Rates of total PPHs are also well above average in Ararat and Pyrenees LGAs at around 1.7 times the Victorian average. Non-urgent emergency department presentations are below the Victorian average in all sub-regional LGAs with much lower rates in Central Goldfields and Pyrenees Shires. This is in the context of both LGAs having high rates of chronic conditions and poor access to a range of health professionals.

Barwon South West region

Service access is generally better in the Barwon South West region compared to the Grampians region, particularly in the Geelong Otway sub-region. The rate of GP provision is above the state average in Warrnambool and Greater Geelong, but the lowest provision rate in the WVPHN catchment is in Moyne Shire at only 40 per cent of the average. There are also low rates of GP provision in Golden Plains, Southern Grampians and Corangamite Shires. GP services per capita are higher than the Victorian average in Warrnambool, Greater Geelong, Colac-Otway and Southern Grampians LGAs but the rate is very low in Moyne Shire at just 35 per cent of the average. Conversely, the rate of long or prolonged consultations and chronic disease/complex care management appointments is high in Moyne Shire. This may indicate that people are delaying GP appointments until there are multiple issues that need to be resolved. Long consultations and chronic disease/complex care management consultations are also high in Glenelg Shire alongside lower GP provision and lower GP services per capita. In total, eight of ten sub-regional LGAs have higher rates of long consultations and chronic disease/complex care management compared to the Victorian average despite Grampians region LGAs having generally higher rates of chronic conditions.

The provision of occupational therapists is well above the state average in Queenscliffe, Greater Geelong and Surf Coast LGAs but much lower in Corangamite, Golden Plains, Colac-Otway and Southern Grampians Shires. There is low provision of pharmacists in Glenelg, Surf Coast, Golden Plains and Moyne Shires. There is greater provision of physiotherapists in Queenscliffe, Southern Grampians, Greater Geelong and Surf Coast LGAs compared to the Victorian average but there is low provision in Glenelg, Golden Plains, Corangamite and Moyne LGAs. The Borough of Queenscliffe has the highest rate of full-time equivalent provision of occupational therapists, pharmacists and physiotherapists per 100,000 persons but this must be interpreted in the context of the very small population. For example, the rate of Occupational Therapists in Queenscliffe translates to less than 7 FTE servicing the LGA of just over 3,000 residents. The rate of primary care nurses is below the state average in Moyne, Golden Plains, Colac-Otway and Surf Coast Shires but higher in Warrnambool, Glenelg, Queenscliffe, Corangamite and Southern Grampians LGAs.

PPHs are lower in the Barwon South West region compared to the Grampians region but are still higher than the Victorian average in the bulk of all regional LGAs. Queenscliffe, Golden Plains and Surf Coast LGAs have the lowest regional rates of PPHs while Colac-Otway, Corangamite, Glenelg, Warrnambool and Southern Grampians have the highest rates. This pattern exists for total PPHs, acute PPHs and chronic disease PPHs. Non-urgent emergency department presentations are highest in Southern Grampians Shire at four times the state average, followed by the City of Warrnambool at 1.8 times the average. Rates are below the Victorian average in Colac-Otway, Corangamite, Surf Coast, Glenelg, Greater Geelong and Golden Plains LGAs.

Geelong Otway sub-region

The rate of GP provision is below the state average for all Geelong Otway LGAs except for Greater Geelong, which is equal to the average. The Borough of Queenscliffe GP provision rate is included in the rate for the

City of Greater Geelong. The lowest provision in the region is in Golden Plains Shire at around half the state average. The rate of GP services per capita are highest in the sub-region in Greater Geelong and Colac-Otway LGAs at just above the state average, while the lowest rate is again in Golden Plains Shire at 65 per cent of the average. Long or prolonged GP consultations are around or just above the average in Greater Geelong, Golden Plains and Surf Coast LGAs but a little lower than the average in Colac-Otway Shire. The highest rates of chronic disease/complex care management appointments are 1.4 times the rate in Golden Plains Shire compared to the Victorian average and is also above average in Colac-Otway, Surf Coast and Greater Geelong LGAs.

Allied health professionals are also in short supply in Golden Plains Shire with the lowest sub-regional provision rates of occupational therapists, physiotherapists, psychologists, pharmacists and dentists. Colac-Otway Shire follows as the second most poorly serviced LGA in the sub-region. Rates of occupational therapists, pharmacists and physiotherapists are high in the Borough of Queenscliffe, but this should be interpreted with consideration of the small population size of this municipality. For example, the rates of provision of allied health are generally higher in the City of Greater Geelong, Surf Coast and Queenscliffe LGAs. The rate of primary care nurses is lower than the state average in Golden Plains, Colac-Otway and Surf Coast Shires.

Golden Plains Shire, Surf Coast Shire and the Borough of Queenscliffe have the lowest rates of total PPHs, acute PPHs and chronic PPHs in the WVPHN catchment. Colac Otway Shire has the highest sub-regional rates of all three categories of PPHs, followed by the City of Greater Geelong. Non-urgent emergency department presentations are lowest in the WVPHN catchment in Colac-Otway Shire at only 32 per cent of the state average. The rates in Greater Geelong, Golden Plains and Surf Coast are also lower than state average while the rate in the Borough of Queenscliffe is similar to the state average.

Great South Coast

Service access in the Great South Coast sub-region is poorer than in the Geelong Otway sub-region. The rate of GP provision is above the state average in the City of Warrnambool, but the lowest in the WVPHN catchment in Moyne Shire. The rates in Southern Grampians, Glenelg and Corangamite Shires are lower than the state average. GP services per capita are lowest in the WVPHN catchment in Moyne Shire at just 35 per cent of the state average. The rate is also lower than state average in Glenelg and Corangamite Shires. The rate in Southern Grampians Shire is around the state average while GP services per capita are higher than the average in the City of Warrnambool. Long or prolonged GP consultations are more likely in Moyne and Glenelg Shires at around 1.6 times the state average. The rates in Warrnambool and Corangamite LGAs are also above the state average while the rate in Southern Grampians Shire is equal to the average. Rate of chronic disease/complex care management consultations is 1.8 times the state average in Glenelg Shire and 1.4 times the average in Moyne Shire. The rate is also higher than average in Warrnambool and Corangamite LGAs with Southern Grampians Shire ranked lowest in the WVPHN average for chronic disease/complex care management consultations. The rates of long/prolonged consultations and chronic disease/complex care management consultations do not reflect the rates of

chronic disease in the sub-region.

Allied health access better in the City of Warrnambool compared to the surrounding shires. The rate of occupational therapists is above the Victorian average in the City of Warrnambool but well below the average in Corangamite, Southern Grampians and Glenelg Shires. There is a low rate of pharmacists in Glenelg and Moyne Shires while the provision of physiotherapists is well below state average in Glenelg, Corangamite and Moyne Shires. The rate in Southern Grampians Shire is well above the state average. There are no psychologists in Moyne Shire and the rate in Corangamite, Glenelg and Southern Grampians Shires is well below the state average. The rate of provision is around state average in the City of Warrnambool. The provision of dentists is higher than the state average in the City of Warrnambool but well below the average in Moyne, Corangamite, Southern Grampians and Glenelg Shires. Moyne Shire has the lowest rate of primary care nurses in the WVPHN catchment at less than half the state average. This is particularly low in the context of the WVPHN catchment where 15 of the 21 catchment LGAs have rates higher than the state average.

Total PPHs, acute and chronic PPHs are similar across the sub-region. Total PPHs are around 1.5 times the state average in Corangamite, Glenelg, Warrnambool and Southern Grampians LGAs and around 1.3 times the average in Moyne Shire. Acute PPHs are similar across the sub-regional LGAs at around 1.65 times the average. There is a little more variation in chronic PPHs with the highest rate in Glenelg Shire at 1.5 times the state average and the lowest rate in Moyne Shire at 1.3 times the average. Non-urgent emergency department presentations are highest in Southern Grampians Shire at four times the state average and are also above the average in Warrnambool and Moyne LGAs. The rate in Corangamite Shire is just over half the state average while the rate in Glenelg Shire is 65 per cent the average rate.

Quantified need – Service access

Considering the analysis throughout this section, Table 31 below identifies the top five LGAs with the highest need with regard to each of the service access indicators examined.

Table 31: Summary of LGAs with highest need by service access indicators

GP access	Allied health access	Primary care nursing access	PPHs	Non-urgent emergency department presentations
Pyrenees	Hindmarsh	Moyne	Central Goldfields	Horsham
Ararat	Pyrenees	Golden Plains	West Wimmera	Southern Grampians
West Wimmera	Corangamite	Moorabool	Northern Grampians	West Wimmera
Northern Grampians	West Wimmera	Colac-Otway	Hindmarsh	Yarriambiack
Southern Grampians	Golden Plains Moyne	Hindmarsh	Yarriambiack Ararat Horsham	Hindmarsh

Table 32: Combined service access index by LGA

Table 32 shows the LGAs in order of greatest need considering service access from the highest combined service access index to the lowest. Positive indexes result in an increased overall need when combined with population base need, negative indexes result in a decreased overall need. Base need was increased in the following LGAs (in order of size of index):

- Horsham
- Yarriambiack
- Hindmarsh
- West Wimmera
- Southern Grampians
- Moyne
- Northern Grampians
- Pyrenees
- Golden Plains
- Colac-Otway
- Moorabool
- Corangamite

LGA	Combined service access index
Horsham	0.07
Yarriambiack	0.04
Hindmarsh	0.04
West Wimmera	0.04
Southern Grampians	0.04
Moyne	0.03
Northern Grampians	0.02
Pyrenees	0.02
Golden Plains	0.02
Colac-Otway	0.01
Moorabool	0.01
Corangamite	0.01
Central Goldfields	0.00
Hepburn	0.00
Glenelg	0.00
Warrnambool	-0.01
Ballarat	-0.01
Greater Geelong	-0.01
Surf Coast	-0.01
Ararat	-0.03
Queenscliffe	-0.04

Table 33: Quantified need considering service access

Region	Sub-region	LGA	Base need (%)	Metric 4: Service access						Population need adjusted for service access	Change in base need (%)
				GP access index	Allied health access index	Primary care nursing access index	PPHs index	Non-urgent emergency department presentations index	Combined index: Service access		
Grampians	Ballarat Goldfields	Ballarat	16.20%	0.00	-0.03	-0.05	0.03	0.00	-0.01	16.07%	-0.13%
		Central Goldfields	1.80%	-0.03	0.03	-0.05	0.09	-0.03	0.00	1.80%	0.00%
		Hepburn	2.20%	-0.04	0.04	-0.03	0.03	-0.01	0.00	2.19%	-0.01%
		Moorabool*	5.60%	0.01	0.04	0.02	0.01	-0.01	0.01	5.67%	0.07%
		Pyrenees	1.00%	0.05	0.07	-0.07	0.06	-0.02	0.02	1.02%	0.02%
	Wimmera Grampians	Ararat	1.60%	0.05	0.01	-0.24	0.07	-0.03	-0.03	1.56%	-0.04%
		Hindmarsh	0.70%	-0.04	0.08	0.01	0.07	0.10	0.04	0.73%	0.03%
		Horsham	2.70%	0.01	0.04	-0.06	0.07	0.30	0.07	2.89%	0.19%
		Northern Grampians	1.50%	0.04	0.05	-0.03	0.07	-0.03	0.02	1.53%	0.03%
		West Wimmera	0.50%	0.05	0.07	-0.09	0.08	0.10	0.04	0.52%	0.02%
		Yarriambiack	0.80%	0.01	0.05	-0.01	0.07	0.10	0.04	0.83%	0.03%
Barwon Southwest	Great South Coast	Corangamite	2.10%	0.00	0.07	-0.04	0.05	-0.02	0.01	2.12%	0.02%
		Glenelg	2.60%	-0.05	0.05	-0.06	0.05	-0.01	0.00	2.59%	-0.01%
		Moyne	2.30%	0.01	0.06	0.03	0.03	0.02	0.03	2.37%	0.07%
		Southern Grampians	2.10%	0.03	0.03	-0.04	0.04	0.13	0.04	2.18%	0.08%
		Warrnambool	4.70%	-0.04	-0.01	-0.06	0.04	0.03	-0.01	4.67%	-0.03%
	Geelong Otway	Colac-Otway	3.00%	0.00	0.03	0.01	0.06	-0.03	0.01	3.04%	0.04%
		Golden Plains	3.50%	0.02	0.06	0.02	0.00	-0.01	0.02	3.57%	0.07%
		Greater Geelong	39.20%	-0.01	-0.01	-0.03	0.01	-0.01	-0.01	38.81%	-0.39%
		Queenscliffe	0.40%	-0.15	0.02	-0.04	-0.04	0.00	-0.04	0.38%	-0.02%
		Surf Coast	5.50%	-0.01	0.02	0.00	-0.05	-0.02	-0.01	5.43%	-0.07%

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

8. Metric 5 – Rurality

It is well-established that people living in rural and remote areas experience poorer health outcomes compared with those in more populated areas. People living in rural and remote areas have higher rates of hospitalisations, death and injury and have poorer access to and utilisation of primary health care services.¹²⁴ The prevalence of health risk factors is higher in rural and remote areas, as are some chronic diseases including heart disease, chronic obstructive pulmonary disease, kidney disease, lung cancer and diabetes.¹²⁵ Age standardised mortality rates increase as remoteness increases as do potentially avoidable deaths.¹²⁶

The Australian Bureau of Statistics uses the Accessibility/Remoteness Index of Australia Plus (ARIA+) to assess geographic remoteness. The ARIA+ is calculated by measuring road distance from populated areas to five categories of ‘service centre’. The University of Adelaide calculates and supplies the ARIA+ to the ABS.

The ARIA+ has been used in this report to allow consideration of remoteness in the assessment of health and service needs across the WVPHN catchment. Table 34 shows the ARIA+ for each of the catchment LGAs.

Table 34: Accessibility/remoteness index of Australia by LGA

Region	Sub-region	LGA	ARIA+	Classification ¹²⁷
Grampians	Ballarat Goldfields	Ballarat	+2.4	Inner regional
		Central Goldfields	+2.4	Inner regional
		Hepburn	+2.4	Inner regional
		Moorabool*	0	Major city
		Pyrenees	+2.4	Inner regional
		Ballarat Goldfields sub-region	N/A	N/A
	Wimmera Grampians	Ararat	+2.4	Inner regional
		Hindmarsh	+5.92	Outer regional
		Horsham	+5.92	Outer regional
		Northern Grampians	+5.92	Outer regional
		West Wimmera	+5.92	Outer regional
		Yarriambiack	+10.53	Remote
		Wimmera Grampians sub-region	N/A	N/A
		Grampians region	N/A	N/A
Barwon Southwest	Great South Coast	Corangamite	+2.4	Inner regional
		Glenelg	+5.92	Outer regional
		Moyne	+2.4	Inner regional
		Southern Grampians	+5.92	Outer regional
		Warrnambool	+2.4	Inner regional
		Great South Coast sub-region	N/A	N/A
	Geelong Otway	Colac-Otway	+2.4	Inner regional
		Golden Plains	+2.4	Inner regional
		Greater Geelong	0	Major city
		Queenscliffe	+2.4	Inner regional
		Surf Coast	+2.4	Inner regional
		Geelong Otway sub-region	N/A	N/A
		Barwon South West region	N/A	N/A

The WVPHN catchment is mostly classified as ‘inner or outer regional’. More than half of WVPHN catchment LGAs (12 of 21) are classified as ‘inner regional’ while an additional six catchment LGAs are classified as ‘outer regional’. The rurality of LGAs across the catchment is not uniform. Yarriambiack Shire is the most remote LGA in the WVPHN catchment. Four of the remaining five LGAs in the Wimmera Grampians region are classified as ‘outer regional’ reflecting the notable rurality of this area compared with the rest of the WVPHN catchment. The Ballarat-Goldfields sub-region is largely classified as ‘inner regional’, with Moorabool Shire classified as a ‘major city’. The Geelong-Otway sub-region is similarly largely classified as ‘inner regional’ except for the City of Greater Geelong which is classified as a ‘major city’. The Great South Coast is mostly classified as ‘inner regional’ except for Southern Grampians and Glenelg Shires which are ‘outer regional’.

Quantified need – Rurality

Table 35: Rurality index by LGA ordered by size of index

LGA	Rurality index
Yarriambiack	0.20
Hindmarsh	0.07
Horsham	0.07
Northern Grampians	0.07
West Wimmera	0.07
Glenelg	0.07
Southern Grampians	0.07
Ballarat	0.03
Central Goldfields	0.03
Hepburn	0.03
Pyrenees	0.03
Ararat	0.03
Corangamite	0.03
Moyne	0.03
Warrnambool	0.03
Colac-Otway	0.03
Golden Plains	0.03
Queenscliffe	0.03
Surf Coast	0.03
Moorabool*	0.00
Greater Geelong	0.00

The base need is increased by the application of the rurality index for all catchment LGAs except for the City of Greater Geelong and Moorabool Shire. Table 35 shows the LGAs in order of highest rurality index to lowest, demonstrating that Yarriambiack Shire is the most remote LGA in the WVPHN catchment followed by all LGAs in the Wimmera Grampians sub-region and Southern Grampians and Glenelg Shires.

Table 36: Quantified need adjusted for rurality

Region	Sub-region	LGA	Base need (%)	Rurality index	Population need adjusted for rurality	Change in base need (%)
Grampians	Ballarat Goldfields	Ballarat	16.20%	0.03	16.69%	0.49%
		Central Goldfields	1.80%	0.03	1.85%	0.05%
		Hepburn	2.20%	0.03	2.27%	0.07%
		Moorabool*	5.60%	0	5.60%	0.00%
		Pyrenees	1.00%	0.03	1.03%	0.03%
	Wimmera Grampians	Ararat	1.60%	0.03	1.65%	0.05%
		Hindmarsh	0.70%	0.07	0.75%	0.05%
		Horsham	2.70%	0.07	2.89%	0.19%
		Northern Grampians	1.50%	0.07	1.61%	0.11%
		West Wimmera	0.50%	0.07	0.54%	0.04%
Barwon Southwest	Great South Coast	Yarriambiack	0.80%	0.20	0.96%	0.16%
		Corangamite	2.10%	0.03	2.16%	0.06%
		Glenelg	2.60%	0.07	2.78%	0.18%
		Moyne	2.30%	0.03	2.37%	0.07%
		Southern Grampians	2.10%	0.07	2.25%	0.15%
	Geelong Otway	Warrnambool	4.70%	0.03	4.84%	0.14%
		Colac-Otway	3.00%	0.03	3.09%	0.09%
		Golden Plains	3.50%	0.03	3.61%	0.11%
		Greater Geelong	39.20%	0	39.20%	0.00%
		Queenscliffe	0.40%	0.03	0.41%	0.01%
		Surf Coast	5.50%	0.03	5.67%	0.17%

9. Metric 6 – Health consequences

Together the social context in which people live, health risk factors and access to health and social services combine to impact on health outcomes.

Rates of disease across the WVPHN catchment are similar to state averages and are generally a little higher in the Grampians region than in the Barwon South West region. Figure 18 shows clearly shows that the most common diseases in the WVPHN catchment are mental health conditions, arthritis, asthma and ‘other long term health conditions’.¹²⁸ This category includes any other diagnosed long-term health conditions not specified in the list provided. Rates of disease are shown in Figure 19 and tabulated in [Appendix 3](#).

The rates of mental health conditions, arthritis, asthma, heart disease, lung conditions and cancer are above the state average in most WVPHN catchment LGAs

The rates of mental health conditions, arthritis, asthma, heart disease and lung conditions are above the state average in most WVPHN catchment LGAs. There is only a small difference between the highest rates of diabetes, dementia, kidney disease and cancer in the WVPHN catchment and the state averages, however there is some variation in the rates of arthritis, asthma, lung conditions, mental health conditions and stroke. This must be understood in the context of high chronic disease rates across Australia and Victoria. Average or below average rates of disease in the WVPHN catchment should not be assessed as a positive outcome, particularly when the health outcomes from those diseases are poor, as is the case in the WVPHN catchment. Average rates of the selected diseases are shown in Figure 18. The rate of arthritis is 30-35 per cent higher than the state average in Central Goldfields, Yarriambiack and Glenelg Shires. The rate of asthma is around 40 per cent higher than the Victorian average in Yarriambiack and Ballarat LGAs and about 28 per cent higher in Central Goldfields and Golden Plains Shires. The highest rate of lung conditions in the catchment is in Central Goldfields Shire and is double the state average. Asthma is also more common in Pyrenees and Moorabool Shires. The rate of mental health conditions is 1.6 times the state average in Central Goldfields Shire and is also high in the City of Ballarat, City of Greater Geelong, Yarriambiack Shire and Pyrenees Shire. Moorabool, Pyrenees and Horsham LGAs have higher rates of stroke compared to the state average.

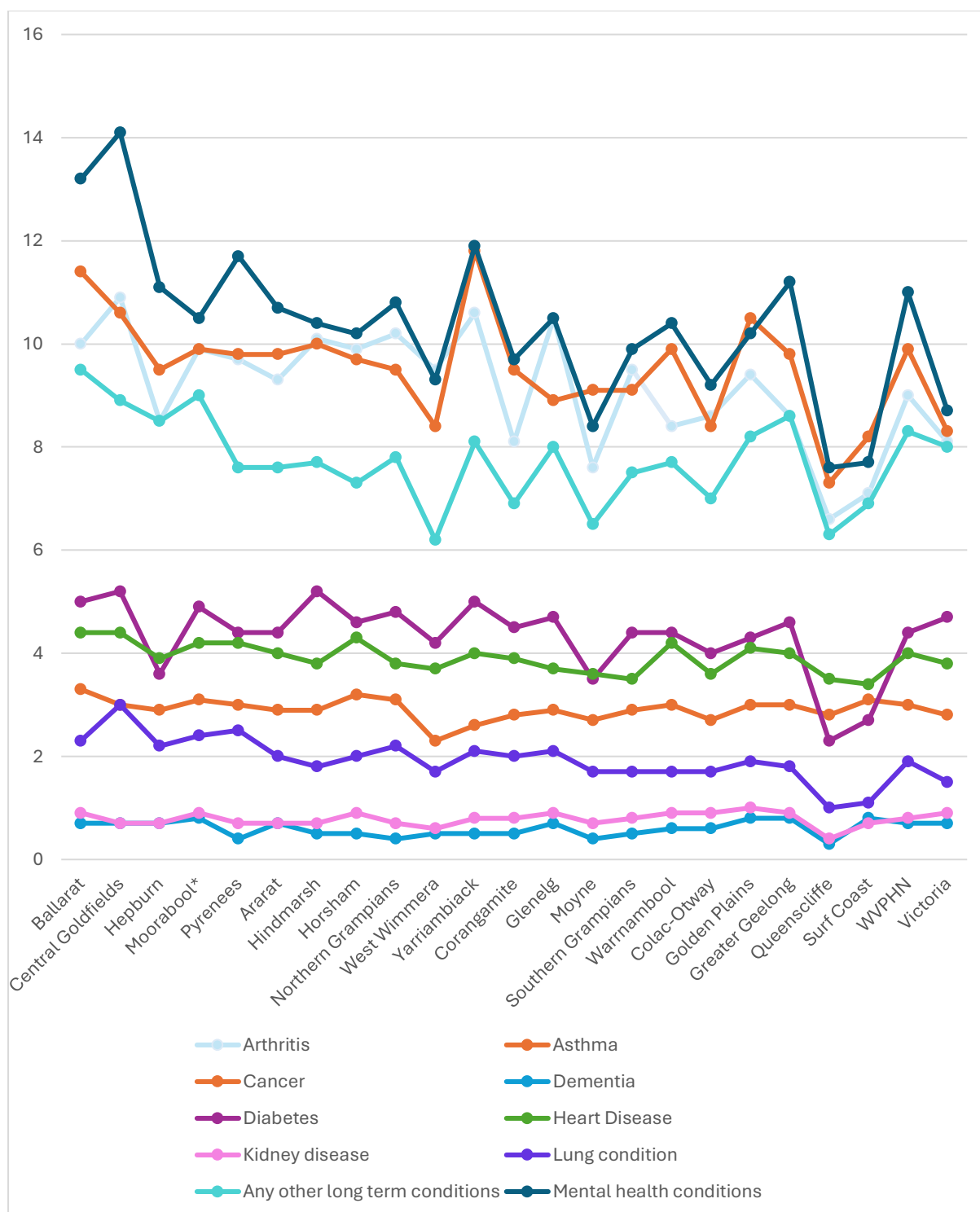


Figure 19: Rates of disease by LGA 2021 (ASR per 100)¹²⁹

Despite rates of disease that are generally similar to the state average, the health outcomes from those diseases are poorer in the WVPHN catchment compared to the Victorian average. Premature and avoidable deaths in the WVPHN catchment are higher than expected for the rate of disease.

The fatal burden of disease can be expressed as years of life lost (YLL) to premature death due to disease. Across the catchment YLL are higher for all causes (Figure 20), most notably cancer and external causes, particularly suicide and self-inflicted injuries and road traffic injuries.¹³⁰

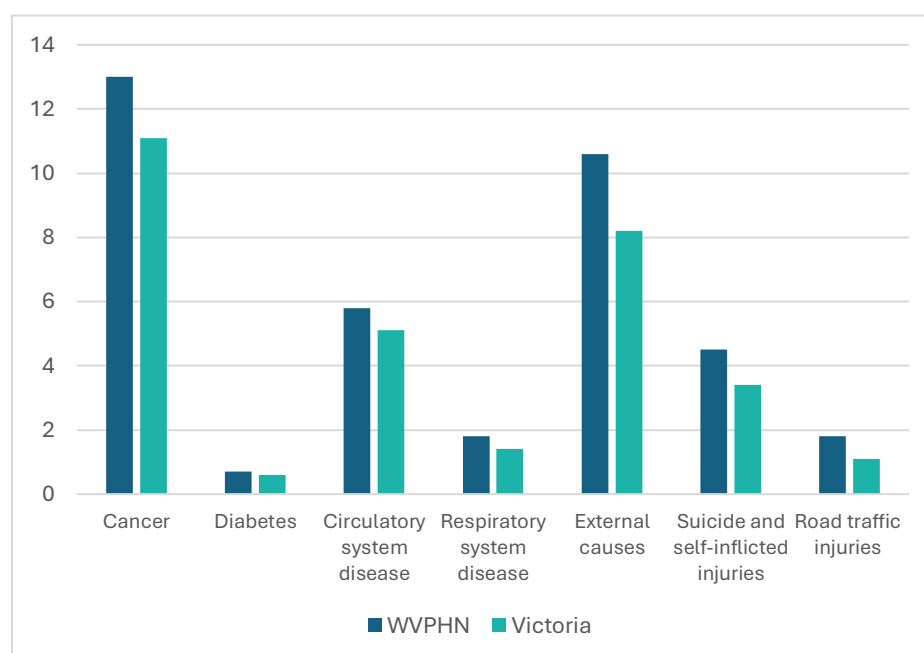


Figure 20: Potential years of life lost by cause 2017-2021 (average annual ASR per 1,000), WVPHN catchment

YLL to cancer is higher than the Victorian average in all WVPHN catchment LGAs except for Surf Coast, Moorabool and Queenscliffe LGAs and are particularly high in West Wimmera, Hindmarsh, Northern Grampians, Central Goldfields and Yarriambiack Shires.

YLL to diabetes are high in Central Goldfields Shire and the Rural City of Horsham while YLL to circulatory system diseases is almost double the average in Yarriambiack Shire. Circulatory system diseases contribute to the fatal burden of disease are above state average in 16 of the 21 WVPHN catchment LGAs. YLL to respiratory system diseases are higher than the state average in 15 of 21 catchment LGAs with the highest rates in Queenscliffe, Central Goldfields, Glenelg, Hindmarsh and Northern Grampians LGAs. YLL to external causes (such as injury and poisoning) are higher than the state average in all catchment LGAs except West Wimmera, Colac-Otway and Southern Grampians Shires. The highest rates are in Yarriambiack Shire and the Borough of Queenscliffe at more than twice the state average. Corangamite, Glenelg and Hepburn Shires have rates 1.8 times the Victorian average. Suicide and self-inflicted injuries and road traffic injuries are categories within the external causes category. Rates of YLL to suicide are higher than the state average in 16 of 21 WVPHN catchment LGAs. The rates in Yarriambiack and Corangamite Shires are around 2.2 times the state average. The fatal burden of disease of suicide and self-inflicted injuries is also high in Hindmarsh, Hepburn, Ballarat and Northern Grampians LGAs. Road traffic injuries are responsible for significant fatal burden of disease in the WVPHN catchment. The rate is more

than five times the state average in Northern Grampians Shire, more than four times the average in Hepburn and Yarriambiack Shires and three times the average in Pyrenees, Central Goldfields, Horsham, and Corangamite Shires.

Avoidable deaths are higher than the state average in all WVPHN catchment LGAs except for Golden Plains, Surf Coast and Queenscliffe LGAs (Figure 21). The highest rates are seen in Central Goldfields, Corangamite and Hindmarsh Shires at 74 per cent, 61 per cent and 57 per cent higher than the state average respectively.¹³¹

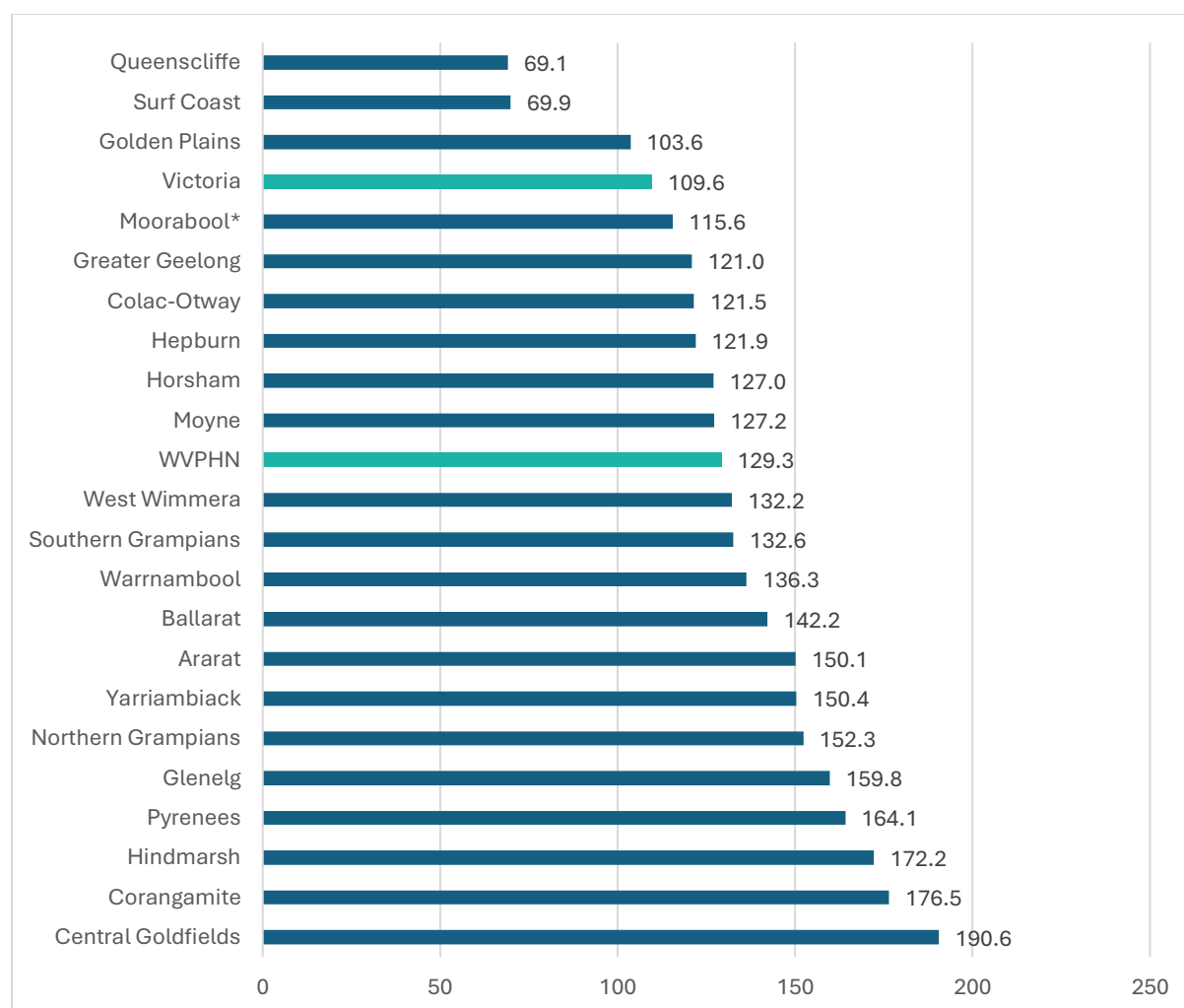


Figure 21: Avoidable deaths by LGA 2017-2021 (Average annual ASR per 1,000)

Table 37: Potential years of life lost by cause and LGA¹³²

Region	Sub-region	LGA	Potential years of life lost cancer 2017-2021 (average annual ASR per 1,000)	Potential years of life lost diabetes 2017-2021 (average annual ASR per 1,000)	Potential years of life lost circulatory system disease 2017-2021 (average annual ASR per 1,000)	Potential years of life lost respiratory system disease 2017-2021 (average annual ASR per 1,000)	Potential years of life lost external causes 2017-2021 (average annual ASR per 1,000)	Potential years of life lost suicide and self-inflicted injuries 2017-2021 (average annual ASR per 1,000)	Potential years of life lost road traffic injuries 2017-2021 (average annual ASR per 1,000)
Grampians	Ballarat Goldfields	Ballarat	13.30	1.00	6.30	2.00	10.60	5.10	1.40
		Central Goldfields	17.30	2.10	7.70	3.40	12.80	2.90	3.30
		Hepburn	12.40	0.30	6.20	1.80	14.10	5.30	4.60
		Moorabool*	10.80	0.40	4.80	1.40	10.60	4.90	1.80
		Pyrenees	13.40	0.70	7.60	2.60	8.50	1.60	3.50
		Ballarat Goldfields sub-region	13.44	0.90	6.52	2.24	11.32	3.96	2.92
	Wimmera Grampians	Ararat	14.20	0.50	6.90	2.10	11.70	4.20	2.20
		Hindmarsh	16.30	0.00	7.10	3.00	10.70	6.10	2.50
		Horsham	11.10	1.30	6.00	2.20	10.50	4.60	3.30
		Northern Grampians	16.60	0.10	4.90	2.90	12.30	5.00	5.60
		West Wimmera	16.20	0.00	6.30	1.20	7.80	0.50	2.30
		Yarriambiack	18.50	0.80	9.90	1.10	17.40	7.70	4.40
		Wimmera Grampians sub-region	15.48	0.45	6.85	2.08	11.73	4.68	3.38
		Grampians region	14.46	0.68	6.69	2.16	11.53	4.32	3.15
Barwon Southwest	Great South Coast	Corangamite	15.80	0.20	6.90	2.40	15.60	7.40	3.30
		Glenelg	14.00	0.90	7.20	3.20	15.10	6.00	4.20
		Moyne	13.60	0.50	6.90	2.40	13.60	3.30	4.20
		Southern Grampians	12.90	0.70	5.40	2.00	5.60	2.20	1.60
		Warrnambool	12.50	0.40	6.60	1.20	10.90	3.40	3.60
		Great South Coast sub-region	13.76	0.54	6.60	2.24	12.16	4.46	3.38
	Geelong Otway	Colac-Otway	13.90	0.70	5.70	1.80	7.10	3.40	0.20
		Golden Plains	14.10	0.70	3.60	0.90	11.60	5.30	3.80
		Greater Geelong	12.30	0.70	5.60	1.70	9.90	4.50	0.90
		Queenscliffe	10.80	0.00	2.10	4.40	16.20	7.60	4.80
		Surf Coast	11.00	0.20	2.20	0.50	9.80	4.40	0.90
		Geelong Otway sub-region	12.42	0.46	3.84	1.86	10.92	5.04	2.12
		Barwon South West region	13.09	0.50	5.22	2.05	11.54	4.75	2.75
		WVPHN	13.00	0.70	5.80	1.80	10.60	4.50	1.80
		Victoria	11.10	0.60	5.10	1.40	8.20	3.40	1.10

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

Regional and sub-regional summary

Grampians region

Given the high rate of social needs, risk factors and challenges to service access in the Grampians region, it is not surprising that the health consequences are generally worse in this region compared to the Barwon South West region. Rates of disease are generally higher in the Grampians region. Table 38 shows the five LGAs with the highest rates of all disease categories examined. Grampians LGAs are highlighted in blue clearly. Central Goldfields, Yarriambiack, Ballarat, Moorabool, Horsham, Hindmarsh and Pyrenees Shires are frequently in the top five LGAs with the highest rates of disease. Central Goldfields Shire has the highest average rate of disease in the WVPHN catchment followed by Ballarat, Yarriambiack, Moorabool and Pyrenees LGAs to round out the top five WVPHN catchment LGAs with the highest average rate of long-term health conditions.

Table 38: Top five LGAs with the highest rates of each disease category

(Grampians region LGAs are highlighted in blue)

Rank in WVPHN catchment	Arthritis	Asthma	Cancer	Diabetes	Heart disease	Kidney disease	Lung conditions	Mental health condition	Stroke	Any other long term health conditions
1	Central Goldfields	Yarriambiack	Ballarat	Central Goldfields	Ballarat	Golden Plains	Central Goldfields	Central Goldfields	Moorabool	Ballarat
2	Yarriambiack	Ballarat	Horsham	Hindmarsh	Central Goldfields	Ballarat	Pyrenees	Ballarat	Pyrenees	Moorabool
3	Glenelg	Central Goldfields	Moorabool	Ballarat	Horsham	Moorabool	Moorabool	Yarriambiack	Horsham	Central Goldfields
4	Northern Grampians	Golden Plains	Northern Grampians	Yarriambiack	Moorabool	Horsham	Ballarat	Pyrenees	Ballarat	Greater Geelong
5	Hindmarsh	Hindmarsh	Surf Coast	Moorabool	Pyrenees	Glenelg	Hepburn	Greater Geelong	Central Goldfields	Hepburn

A similar pattern is seen with YLL across all categories with Grampians region LGAs dominating the top five LGAs with the highest rates of YLL due to cancer, diabetes, circulatory system diseases, suicide and self-inflicted injuries and road traffic injuries. Central Goldfields Shire has the highest rate of avoidable deaths in the WVPHN catchment followed by Hindmarsh (third highest rate) and Pyrenees (fourth highest rate) Shires.

Wimmera Grampians

The Wimmera Grampians sub-region fares poorly in terms of health consequences. West Wimmera Shire is the only Wimmera Grampians LGA with a lower average rate of long-term health conditions compared to the Victorian average. The average rates of disease are similar to the Victorian average in Ararat, Horsham, Hindmarsh and Northern Grampians with Yarriambiack Shire the only LGA with a notable

difference to the average. Despite having average rates of disease, the outcomes are poor. YLL from cancer are high in Yarriambiack, Northern Grampians, Hindmarsh, West Wimmera and Ararat LGAs. YLL from diabetes are high in Horsham and Ballarat LGAs. The burden of disease from circulatory system diseases is almost twice the Victorian average in Yarriambiack Shire and is close to 1.4 times the rate in Hindmarsh and Ararat LGAs. YLL to respiratory system diseases is twice the state average in Hindmarsh and Northern Grampians Shires, while YLL to external causes is more than twice the state average in Yarriambiack Shire. YLL to suicide and self-inflicted injuries is well over double the state average in Yarriambiack Shire and 1.8 times the average in Hindmarsh Shire. Road traffic injuries are also a major contributor to fatal burden of disease in the sub-region with a rate five times the state average in Northern Grampians Shire, four times the average in Yarriambiack Shire and three times the average in the Rural City of Horsham. Avoidable deaths are high in Hindmarsh, Northern Grampians, Yarriambiack and Ararat LGAs.

Ballarat Goldfields

All Ballarat Goldfields LGAs have a higher average rate of long-term health conditions compared to the Victorian average, although they are not notably higher for most LGAs. The highest rates are in Central Goldfields Shire and the City of Ballarat at around 1.3 times the average. As with the Wimmera Grampians sub-region, rates of YLL and avoidable death are higher than should be expected given the rate of disease. The LGA with the greatest fatal burden of disease is Central Goldfields Shire where YLL lost to cancer, diabetes, circulatory system diseases, respiratory system disease, external causes and road traffic injuries are notably higher than the Victorian average. YLL to diabetes is high in the City of Ballarat and YLL circulatory system disease is high in Pyrenees Shire. The fatal burden of respiratory system disease is also high in Pyrenees Shire. External causes are a key cause of YLL in Hepburn Shire. More specifically, YLL to suicide and self-inflicted injuries is high in Hepburn Shire, City of Ballarat and Moorabool Shire. YLL to road traffic injuries are high in Hepburn, Pyrenees and Central Goldfields Shires. Avoidable deaths are highest in the WVPHN catchment in Central Goldfields Shire at more than 1.7 times the state average. Avoidable deaths are also high in Pyrenees Shire and the City of Ballarat.

Barwon South West region

Barwon South West communities fare better in terms of social context, risk factors and service access compared with the Grampians region and this is reflected in the health outcomes in the region. Rates of disease are generally similar or lower than the Victorian average. There are lower rates of disease in the Barwon South West region compared to the Grampians region, particularly in the Geelong Otway sub-region. The highest average rate of long-term health conditions in the region is in Golden Plains Shire, followed by the City of Greater Geelong. Rates of arthritis are high in Glenelg Shire. Rates of asthma are high in Golden Plains Shire and the City of Warrnambool while the rate of mental health conditions is high in the City of Greater Geelong.

Similar to the case in the Grampians region, the rates of YLL and avoidable deaths are higher than one may expect given the rate of disease. YLL due to cancer in Corangamite, Golden Plains, Glenelg and Colac-

Otway Shires. YLL lost to diabetes and circulatory system disease is high in Glenelg Shire. Circulatory system disease YLL are also high in Corangamite and Moyne Shires. YLL to respiratory system disease is more than three times the Victorian average in the Borough of Queenscliffe, double the rate in Glenelg Shire and around 1.7 times the average in Corangamite and Moyne Shires. The fatal burden of external causes is the only category of disease dominated by LGAs in the Barwon South West region. Rate of YLL to external causes is double the state average in Queenscliffe, Corangamite and Glenelg LGAs and almost 1.7 times the rate in Moyne Shire. This can largely be attributed to high rates of YLL to suicide and self-inflicted injuries in Queenscliffe, Corangamite and Glenelg LGAs and high rates of YLL to road traffic injuries in Queenscliffe, Glenelg, Moyne, Golden Plains, Warrnambool and Corangamite LGAs. Avoidable deaths are high in Corangamite (1.6 times state average), Glenelg (1.5 times state average), Warrnambool (1.2 times state average) and Southern Grampians (1.2 times state average) LGAs. Most of the poorer outcomes are in LGAs in the Great South Coast region with the Borough of Queenscliffe and Golden Plains faring poorly on a couple of indicators but still ranking well in terms of avoidable deaths.

Geelong Otway sub-region

The Geelong Otway sub-region enjoys the lowest rates of disease in the WVPHN catchment, although they don't differ substantially from the state average in any of the sub-regional LGAs. Rates of YLL are frequently lower than the state average in Queenscliffe, Surf Coast and Golden Plains LGAs, although there are a few exceptions. YLL to cancer are high in Golden Plains Shire, YLL to respiratory system disease is high in the Borough of Queenscliffe and YLL to external causes (specifically suicide and self-inflicted injuries and road traffic injuries) is high in Queenscliffe and Golden Plains LGAs. In terms of avoidable deaths, however, the rates in Queenscliffe, Surf Coast and Golden Plains LGAs are below the state average while the rates in Greater Geelong and Colac-Otway are similar to the average.

Great South Coast sub-region

Rates of disease in the Great South Coast are similar to the state average with a few exceptions. There are high rates of arthritis and mental health conditions in Glenelg Shire and a high rate of asthma in the City of Warrnambool. Health outcomes in terms of YLL and avoidable deaths are again higher than one would expect given the rates of disease. The rates of YLL to cancer are high in Corangamite (1.4 times state average) and Glenelg (1.3 times state average) Shires. YLL to diabetes is high in Glenelg Shire while YLL to circulatory system disease and external causes are high in Glenelg, Corangamite, Moyne and Warrnambool LGAs. Within the external causes category, the YLL to suicide and self-inflicted injuries is high in Corangamite and Glenelg Shires and YLL to road traffic injuries is high in all sub-regional LGAs. The rate of YLL to respiratory system disease is also high in Glenelg, Corangamite and Moyne Shires. Avoidable deaths are highest in Corangamite Shire (1.6 times state average), Glenelg Shire (1.5 times state average), the City of Warrnambool (1.2 times state average) and Southern Grampians Shire (1.2 times state average)

Quantified need – Health consequences

Considering the analysis throughout this section, Table 39 below identifies the top five LGAs with the highest need with regards to each of the health consequences indicators examined.

Table 39: Summary of LGAs with highest need by health consequences indicators

Rates of disease	Years of life lost	Avoidable deaths
Ballarat	Yarriambiack	Central Goldfields
Central Goldfields	Central Goldfields	Corangamite
Moorabool	Glenelg	Hindmarsh
Golden Plains	Corangamite	Pyrenees
Yarriambiack Horsham Greater Geelong	Northern Grampians	Glenelg

Table 40 shows the LGAs in order of greatest need considering health consequences from the highest combined consequences index to the lowest. Positive indexes result in an increased overall need when combined with population base need, negative indexes result in a decreased overall need. Base need was increased in the following LGAs (in order of size of index):

- Central Goldfields
- Yarriambiack
- Glenelg
- Corangamite
- Hindmarsh
- Ballarat
- Northern Grampians
- Pyrenees
- Ararat
- Horsham

Table 40: Combined health consequences index by LGA

LGA	Combined index: Health consequences
Central Goldfields	0.08
Yarriambiack	0.05
Glenelg	0.04
Corangamite	0.04
Hindmarsh	0.03
Ballarat	0.03
Northern Grampians	0.03
Pyrenees	0.03
Ararat	0.01
Horsham	0.01
Warrnambool	0.00
Hepburn	0.00
Moorabool*	-0.01
Greater Geelong	-0.01
Golden Plains	-0.01
Moyne	-0.02
Southern Grampians	-0.02
Colac-Otway	-0.02
West Wimmera	-0.03
Queenscliffe	-0.08
Surf Coast	-0.08

Table 41 shows the index for each LGA for each of the categories of indicators for health consequences examined, along with the changes to the base population need by applying these indexes.

Table 41: Quantified need considering health consequences

Region	Sub-region	LGA	'Base need' population distribution 2026	Metric 5: Health consequences				Population need adjusted for health consequences	Change in base need (%)
				Rates of disease index	Years of life lost index	Avoidable deaths index	Combined index: Health consequences		
Grampians	Ballarat Goldfields	Ballarat	16.20%	0.06	0.01	0.03	0.03	16.74%	0.54%
		Central Goldfields	1.80%	0.05	0.07	0.12	0.08	1.95%	0.15%
		Hepburn	2.20%	-0.02	0.02	-0.01	0.00	2.19%	-0.01%
		Moorabool*	5.60%	0.03	-0.02	-0.03	-0.01	5.57%	-0.03%
		Pyrenees	1.00%	0.00	0.01	0.07	0.03	1.03%	0.03%
	Wimmera Grampians	Ararat	1.60%	-0.01	0.01	0.04	0.01	1.62%	0.02%
		Hindmarsh	0.70%	-0.01	0.03	0.09	0.03	0.72%	0.02%
		Horsham	2.70%	0.01	0.02	0.00	0.01	2.72%	0.02%
		Northern Grampians	1.50%	0.00	0.04	0.05	0.03	1.54%	0.04%
		West Wimmera	0.50%	-0.08	-0.03	0.01	-0.03	0.48%	-0.02%
		Yarriambiack	0.80%	0.01	0.09	0.04	0.05	0.84%	0.04%
Barwon Southwest	Great South Coast	Corangamite	2.10%	-0.03	0.05	0.10	0.04	2.18%	0.08%
		Glenelg	2.60%	0.00	0.06	0.06	0.04	2.70%	0.10%
		Moyne	2.30%	-0.07	0.02	0.00	-0.02	2.26%	-0.04%
		Southern Grampians	2.10%	-0.03	-0.03	0.01	-0.02	2.06%	-0.04%
		Warrnambool	4.70%	-0.01	0.00	0.01	0.00	4.70%	0.00%
	Geelong Otway	Colac-Otway	3.00%	-0.03	-0.02	-0.02	-0.02	2.94%	-0.06%
		Golden Plains	3.50%	0.01	0.00	-0.05	-0.01	3.46%	-0.04%
		Greater Geelong	39.20%	0.01	-0.01	-0.02	-0.01	38.94%	-0.26%
		Queenscliffe	0.40%	-0.13	0.02	-0.12	-0.08	0.37%	-0.03%
		Surf Coast	5.50%	-0.08	-0.05	-0.12	-0.08	5.06%	-0.44%

*The bulk of the population in Moorabool is based around Bacchus Marsh which does not fall within the WVPHN catchment.

10. Total quantified need

To calculate total quantified need, the proportion of the total WVPHN catchment population in each LGA is increased or decreased after accounting for the determinants of health examined under metrics two to six. The need adjusted for determinants of health is calculated by:

1. Averaging the combined index for metrics two to six for each LGA to calculate the 'combined determinants of health index'.
2. Metric 1 (base population need) accounts for 40 per cent of the total need. Metrics two to six (determinants of health need) account for 60 per cent of the total need. The combined determinants of health index must be multiplied by 1.5 to weigh the determinants of health relative to the base need. This is the 'determinants of health multiplier'.
3. The need adjusted for determinants of health is calculated by multiplying the base need by the determinants of health multiplier and is shown in the final column of Table 44.

The determinants of health multiplier indicates the extent to which determinants of health influence the base need. Table 42 shows the catchment LGAs in order of highest total determinants of health need to lowest. The areas of highest determinants of health need are Yarriambiack, Central Goldfields and Hindmarsh Shires. Determinants of health need is lowest in Queenscliffe, Surf Coast, Moorabool, Greater Geelong, Golden Plains and Hepburn LGAs.

Total quantified need in order of highest overall need to lowest overall need is shown in Table 43. The total quantified need is somewhat arbitrary based upon the indicators used throughout this analysis. The purpose of quantifying the need is to provide a broad overview of how effort and resources should be allocated across the catchment. Further analysis of needs in terms of specific health conditions, population groups, geographies and the health system and processes provides a more granular overview of need.

Table 42: Determinants of health multiplier by LGA

LGA	Determinants of health multiplier
Yarriambiack	1.11
Central Goldfields	1.09
Hindmarsh	1.07
Horsham	1.05
Glenelg	1.05
Ararat	1.04
Northern Grampians	1.04
West Wimmera	1.03
Corangamite	1.03
Pyrenees	1.03
Ballarat	1.02
Southern Grampians	1.02
Colac-Otway	1.01
Warrnambool	1.01
Moyne	1.00
Hepburn	0.99
Golden Plains	0.99
Greater Geelong	0.99
Moorabool	0.99
Surf Coast	0.94
Queenscliffe	0.91

Table 43: Total need adjusted for determinants of health

LGA	Total quantified need
Greater Geelong	38.85%
Ballarat	16.57%
Moorabool	5.55%
Surf Coast	5.19%
Warrnambool	4.75%
Golden Plains	3.48%
Colac-Otway	3.03%
Horsham	2.84%
Glenelg	2.72%
Moyne	2.29%
Hepburn	2.19%
Corangamite	2.16%
Southern Grampians	2.14%
Central Goldfields	1.96%
Ararat	1.67%
Northern Grampians	1.56%
Pyrenees	1.03%
Yarriambiack	0.89%
Hindmarsh	0.75%
West Wimmera	0.51%
Queenscliffe	0.00%

Table 44: Total quantified need by LGA

Region	Sub-region	LGA	40% total need	60% total need								Need adjusted for determinants of health	Change in base need (%)
			Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	Metric 6	Determinants of health index	Weighted combined determinants of health index (60% weighting)	Determinants of health multiplier		
			Base need	Combined index: Social context	Combined index: Health risk factors	Combined index: Service access	Combined index: Health consequences	Rurality index					
Grampians	Ballarat Goldfields	Ballarat	16.2%	0.01	0.01	-0.01	0.03	0.03	0.02	0.02	1.02	16.57%	0.37%
		Central Goldfields	1.8%	0.14	0.04	0.00	0.08	0.03	0.06	0.09	1.09	1.96%	0.16%
		Hepburn	2.2%	-0.03	-0.01	0.00	0.00	0.03	0.00	-0.01	0.99	2.19%	-0.01%
		Moorabool*	5.6%	-0.04	0.00	0.01	-0.01	0.00	-0.01	-0.01	0.99	5.55%	-0.05%
		Pyrenees	1.0%	-0.01	0.02	0.02	0.03	0.03	0.02	0.03	1.03	1.03%	0.03%
	Wimmera Grampians	Ararat	1.6%	0.07	0.05	-0.03	0.01	0.03	0.03	0.04	1.04	1.67%	0.07%
		Hindmarsh	0.7%	0.07	0.00	0.04	0.03	0.07	0.04	0.07	1.07	0.75%	0.05%
		Horsham	2.7%	0.01	0.02	0.07	0.01	0.07	0.03	0.05	1.05	2.84%	0.14%
		Northern Grampians	1.5%	0.01	0.00	0.02	0.03	0.07	0.03	0.04	1.04	1.56%	0.06%
		West Wimmera	0.5%	-0.01	0.03	0.04	-0.03	0.07	0.02	0.03	1.03	0.51%	0.01%
		Yarriambiack	0.8%	0.07	0.02	0.04	0.05	0.20	0.08	0.11	1.11	0.89%	0.09%
Barwon Southwest	Great South Coast	Corangamite	2.1%	0.01	0.00	0.01	0.04	0.03	0.02	0.03	1.03	2.16%	0.06%
		Glenelg	2.6%	0.03	0.02	0.00	0.04	0.07	0.03	0.05	1.05	2.72%	0.12%
		Moyne	2.3%	-0.05	-0.01	0.03	-0.02	0.03	0.00	0.00	1.00	2.29%	-0.01%
		Southern Grampians	2.1%	-0.02	0.00	0.04	-0.02	0.07	0.01	0.02	1.02	2.14%	0.04%
		Warrnambool	4.7%	0	0.01	-0.01	0.00	0.03	0.01	0.01	1.01	4.75%	0.05%
	Geelong Otway	Colac-Otway	3.0%	0.02	-0.01	0.01	-0.02	0.03	0.01	0.01	1.01	3.03%	0.03%
		Golden Plains	3.5%	-0.06	0.00	0.02	-0.01	0.03	0.00	-0.01	0.99	3.48%	-0.02%
		Greater Geelong	39.2%	-0.01	0.00	-0.01	-0.01	0.00	-0.01	-0.01	0.99	38.85%	-0.35%
		Queenscliffe	0.4%	-0.09	-0.12	-0.04	-0.08	0.03	-0.06	-0.09	0.91	0.00%	-0.40%
		Surf Coast	5.5%	-0.09	-0.04	-0.01	-0.08	0.03	-0.04	-0.06	0.94	5.19%	-0.31%

Appendix 1: Quantification methodology

1. Tabulation of data

- Measures for each indicator are tabulated by LGA, WVPHN average and Victorian average. The Australian average was used where the Victorian average was not available.

2. Calculation of indexes for each measure

- For each LGA-level measure, the difference between that measure and the WVPHN average is calculated.
- The sum of all differences is added together.
- The LGA measure is then divided by the sum of all differences to provide a representation of the order of need within the WVPHN catchment. This is the index for the LGA for that indicator.

3. Calculation of the average index of all measures in a category (such as alcohol use)

- To get an average index of related indicators for each LGA, all indexes calculated in the previous step are averaged for the LGA. This is the average index for a category of indicators (such as alcohol use).

4. Calculation of the average index for each metric

- Using the average indexes for each category in a metric calculated in the previous step, the average index for that metric (i.e. risk factors index) is then calculated for each LGA.

5. Calculation of the determinants of health index

- Indexes for metrics two to six are averaged for each LGA. This is the LGA determinants of health index.

6. Weighting of determinants of health

- The determinants of health are given a weighting of 60 per cent while the population base need is assigned a weighting of 40 per cent. The determinants of health index is therefore worth 1.5 times the population base need.
- The determinants of health index is multiplied by 1.5 to give the additional weighting compared with the population base need.
- Depending on whether the weighted determinants of health index is positive or negative, it is added to or subtracted from 1 to create a determinants of health multiplier.

7. Calculation of total quantified need

- The determinants of health multiplier is applied to the population base need to calculate the total quantified need for each LGA.
- Based on the determinants of health index, the population base may be increased, the same or decreased to account for the range of determinants of health examined.

Appendix 2: Population by age cohort and LGA: 2021, 2026, 2031

Region	Sub-region	LGA	0-14 years ⁵			15-29 years ⁵			30-44 years ⁵			45-59 years ⁵			60+ years ⁵			Total ⁶		
			2021	2026	2031	2021	2026	2031	2021	2026	2031	2021	2026	2031	2021	2026	2031	2021	2026	2031
Grampians	Ballarat Goldfields	Ballarat	21,614	22,008	22,446	22,490	24,146	26,823	21,568	24,264	25,017	20,397	21,468	23,221	27,435	32,286	37,099	113,480	124,170	134,600
		Central Goldfields	1,989	1,820	1,757	1,830	2,001	2,002	1,722	1,897	2,081	2,677	2,357	2,175	5,170	5,667	6,078	13,380	13,740	14,090
		Hepburn	2,375	2,151	2,075	1,793	2,004	2,025	2,486	2,479	2,485	3,803	3,702	3,549	6,028	6,910	7,862	16,470	17,250	18,000
		Moorabool*	7,738	8,388	9,357	6,456	7,115	8,113	7,732	9,098	10,275	7,497	7,954	9,040	8,487	10,188	12,708	37,890	42,740	49,490
		Pyrenees	1,140	1,089	1,106	992	1,083	1,109	1,127	1,123	1,196	1,693	1,622	1,444	2,667	2,899	3,180	7,610	7,820	8,040
		Ballarat Goldfields sub-region	34,856	35,456	36,741	33,561	36,349	40,072	34,635	38,861	41,054	36,067	37,103	39,429	49,787	57,950	66,927	188,830	205,720	224,220
	Wimmera Grampians	Ararat	1,825	1,651	1,557	1,835	1,963	1,891	2,088	2,167	2,374	2,354	2,244	2,094	3,725	3,898	4,126	11,820	11,920	12,040
		Hindmarsh	864	773	731	840	741	620	827	876	894	1,092	980	892	2,033	2,087	2,143	5,650	5,450	5,270
		Horsham	3,798	3,673	3,642	3,655	3,648	3,506	3,538	3,824	3,966	3,756	3,338	3,246	5,629	6,056	6,448	20,370	20,540	20,810
		Northern Grampians	1,810	1,656	1,569	1,788	1,590	1,330	1,830	2,000	2,086	2,352	2,067	1,903	4,106	4,482	4,807	11,880	11,790	11,690
		West Wimmera	680	607	582	491	453	408	569	576	574	827	685	607	1,411	1,513	1,550	3,970	3,840	3,730
		Yarriambiack	1,024	920	929	875	874	751	896	969	1,074	1,259	988	857	2,456	2,535	2,495	6,510	6,290	6,110
		Wimmera Grampians sub-region	10,001	9,280	9,010	9,484	9,269	8,506	9,748	10,412	10,968	11,640	10,302	9,599	19,360	20,571	21,569	60,200	59,830	59,650
		Grampians region	44,857	44,736	45,751	43,045	45,618	48,578	44,383	49,273	52,022	47,707	47,405	49,028	69,147	78,521	88,496	249,030	265,550	283,870
Barwon South West	Great South Coast	Corangamite	2,698	2,381	2,255	2,470	2,313	1,872	2,386	2,454	2,513	3,294	2,885	2,644	5,182	5,766	6,305	16,030	15,800	15,590
		Glenelg	3,157	2,807	2,572	2,952	2,717	2,404	2,955	2,948	2,895	4,235	3,872	3,720	6,759	7,693	8,517	20,050	20,040	20,110
		Moyne	3,330	3,144	3,147	2,581	2,788	2,755	2,836	3,082	3,271	3,568	3,317	3,272	4,981	5,588	6,093	17,290	17,920	18,540
		Southern Grampians	2,831	2,554	2,369	2,583	2,347	2,047	2,522	2,618	2,603	3,159	2,844	2,813	5,397	5,883	6,315	16,490	16,240	16,140
		Warrnambool	6,296	5,853	5,659	6,333	6,380	6,618	6,479	6,700	6,466	6,688	6,618	6,604	9,637	10,803	12,097	35,420	36,350	37,440
		Great South Coast sub-region	18,312	16,739	16,002	16,919	16,545	15,696	17,178	17,802	17,748	20,944	19,536	19,053	31,956	35,733	39,327	105,280	106,350	107,820

Geelong Otway	Colac-Otway	3,770	3,541	3,455	3,539	3,490	3,404	3,768	3,990	4,054	4,364	4,108	4,018	6,868	7,599	8,388	22,300	22,730	23,320
	Golden Plains	5,579	5,735	5,931	3,930	4,710	5,411	4,812	5,377	5,943	5,321	5,410	5,719	5,250	6,044	7,162	24,880	27,280	30,170
	Greater Geelong	48,397	52,222	56,039	52,418	57,309	63,089	53,531	62,019	68,091	48,782	51,158	57,037	67,804	78,665	90,331	270,770	301,370	334,580
	Queenscliffe	321	368	345	286	323	340	305	356	359	563	488	487	1,761	1,831	1,945	3,230	3,370	3,480
	Surf Coast	7,521	7,691	7,604	5,315	6,429	7,258	7,495	7,889	8,163	7,546	8,379	9,059	9,771	11,685	13,428	37,620	42,070	45,510
	Geelong Otway sub-region	65,588	69,557	73,374	65,488	72,261	79,502	69,911	79,631	86,610	66,576	69,543	76,320	91,454	105,824	121,254	358,800	396,820	437,060
	Barwon South West region	83,900	86,296	89,376	82,407	88,806	95,198	87,089	97,433	104,358	87,520	89,079	95,373	123,410	141,557	160,581	464,080	503,170	544,880
	WVPHN	128,757	131,032	135,126	125,452	134,424	143,776	131,472	146,706	1,56,379	135,227	136,484	144,402	192,557	220,078	249,078	713,110	768,720	828,750
	Victoria	1,192,206	1,242,494	1,295,491	1,276,147	1,455,114	1,605,966	1,434,542	1,614,241	1,737,123	1,211,461	1260402	1,371,473	1,433,466	1,609,374	1,792,451	6,548,000	7,182,000	7,803,000

Appendix 3 – Rates of disease by LGA

Region	Sub-region	LGA ¹²⁸	Arthritis 2021 (ASR per 100)	Asthma 2021 (ASR per 100)	Cancer 2021 (ASR per 100)	Dementia 2021 (ASR per 100)	Diabetes 2021 (ASR per 100)	Heart Disease 2021 (ASR per 100)	Kidney disease 2021 (ASR per 100)	Lung condition 2021 (ASR per 100)	Mental health condition 2021 (ASR per 100)	Any other long-term conditions 2021 (ASR per 100)
Grampians	Ballarat Goldfields	Ballarat	10	11.4	3.3	0.7	5	4.4	0.9	2.3	13.2	9.5
		Central Goldfields	10.9	10.6	3	0.7	5.2	4.4	0.7	3	14.1	8.9
		Hepburn	8.5	9.5	2.9	0.7	3.6	3.9	0.7	2.2	11.1	8.5
		Moorabool*	9.9	9.9	3.1	0.8	4.9	4.2	0.9	2.4	10.5	9
		Pyrenees	9.7	9.8	3	0.4	4.4	4.2	0.7	2.5	11.7	7.6
		Ballarat Goldfields sub-region	9.8	10.24	3.06	0.66	4.62	4.22	0.78	2.48	12.12	8.7
	Wimmera Grampians	Ararat	9.3	9.8	2.9	0.7	4.4	4	0.7	2	10.7	7.6
		Hindmarsh	10.1	10	2.9	0.5	5.2	3.8	0.7	1.8	10.4	7.7
		Horsham	9.9	9.7	3.2	0.5	4.6	4.3	0.9	2	10.2	7.3
		Northern Grampians	10.2	9.5	3.1	0.4	4.8	3.8	0.7	2.2	10.8	7.8
		West Wimmera	9.5	8.4	2.3	0.5	4.2	3.7	0.6	1.7	9.3	6.2
		Yarriambiack	10.6	11.8	2.6	0.5	5	4	0.8	2.1	11.9	8.1
		Wimmera Grampians sub-region	9.93	9.87	2.83	0.52	4.70	3.93	0.73	1.97	10.55	7.45
		Grampians region	9.87	10.05	2.95	0.59	4.66	4.08	0.76	2.22	11.34	8.08
Barwon Southwest	Great South Coast	Corangamite	8.1	9.5	2.8	0.5	4.5	3.9	0.8	2	9.7	6.9
		Glenelg	10.5	8.9	2.9	0.7	4.7	3.7	0.9	2.1	10.5	8
		Moyne	7.6	9.1	2.7	0.4	3.5	3.6	0.7	1.7	8.4	6.5
		Southern Grampians	9.5	9.1	2.9	0.5	4.4	3.5	0.8	1.7	9.9	7.5
		Warrnambool	8.4	9.9	3	0.6	4.4	4.2	0.9	1.7	10.4	7.7
		Great South Coast sub-region	8.82	9.3	2.86	0.54	4.3	3.78	0.82	1.84	9.78	7.32
	Geelong Otway	Colac-Otway	8.6	8.4	2.7	0.6	4	3.6	0.9	1.7	9.2	7
		Golden Plains	9.4	10.5	3	0.8	4.3	4.1	1	1.9	10.2	8.2
		Greater Geelong	8.6	9.8	3	0.8	4.6	4	0.9	1.8	11.2	8.6
		Queenscliffe	6.6	7.3	2.8	0.3	2.3	3.5	0.4	1	7.6	6.3
		Surf Coast	7.1	8.2	3.1	0.8	2.7	3.4	0.7	1.1	7.7	6.9
		Geelong Otway sub-region	8.06	8.84	2.92	0.66	3.58	3.72	0.78	1.5	9.18	7.4
		Barwon South West region	8.44	9.07	2.89	0.6	3.94	3.75	0.8	1.67	9.48	7.36
		WVPHN	9	9.9	3	0.7	4.4	4	0.8	1.9	11	8.3
		Victoria	8.1	8.3	2.8	0.7	4.7	3.8	0.9	1.5	8.7	8

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