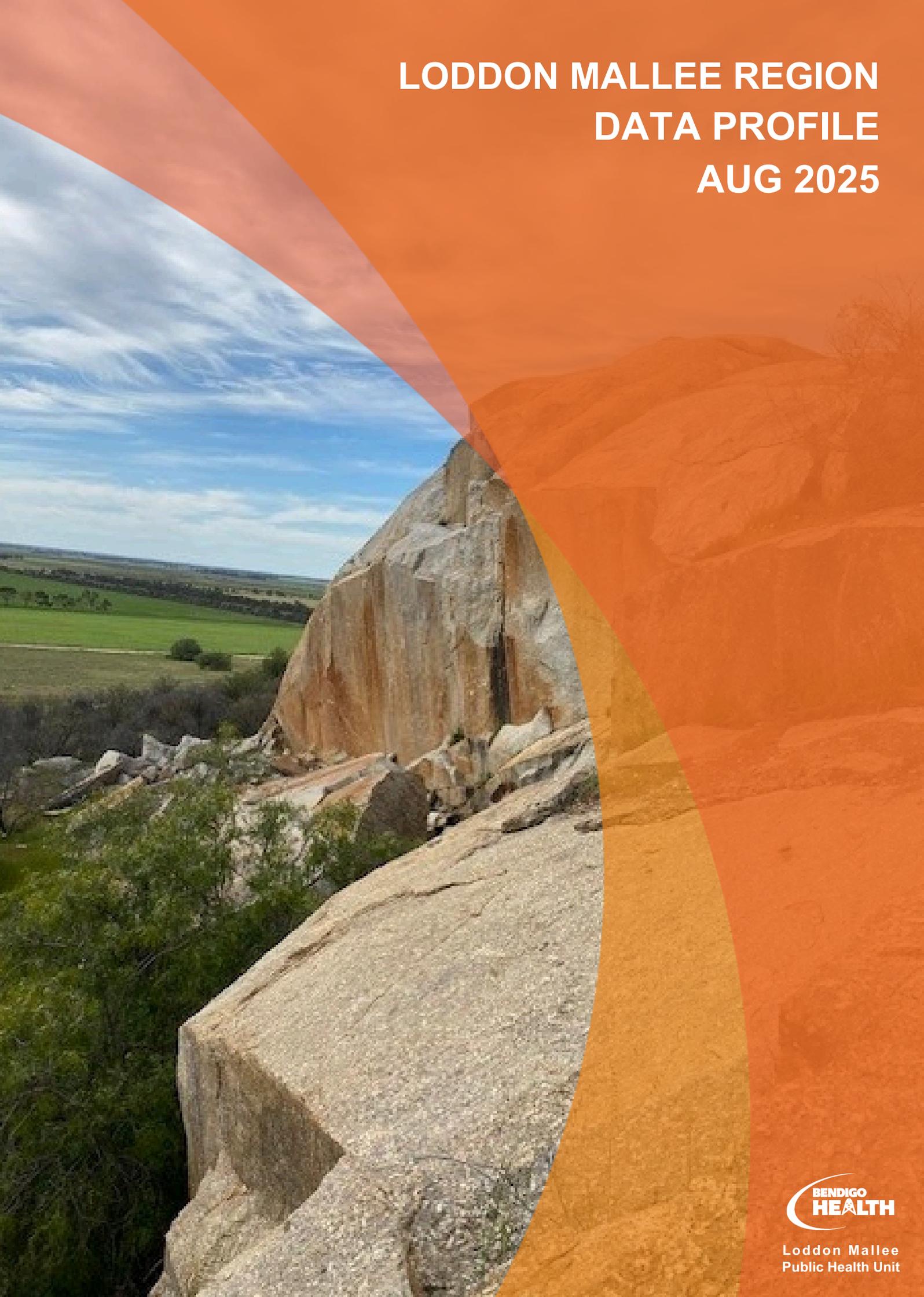


# LODDON MALLEE REGION DATA PROFILE AUG 2025



Loddon Mallee  
Public Health Unit

# Loddon Mallee Community Profile

This document has been prepared to provide a data profile on the health and wellbeing of the local government area of Loddon Mallee. It contains publicly available data that has been collated and summarised to inform local government, health services, advocacy and community groups.

All effort has been made to report data accurately and represent data available at time of publishing. These estimates may differ from those seen elsewhere due to differences in calculation methodologies and/or source data used.

Produced by Bendigo Health,  
Loddon Mallee Public Health Unit  
Aug 2025

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We acknowledge the First Peoples of Australia who are the Traditional Custodians of the land and water where we live, work and play. We celebrate that this is the oldest living and continuous culture in the world. We are proud to be sharing the land that we work on and recognise that sovereignty was never ceded.



We welcome all cultures, nationalities and religions. Being inclusive and providing equitable healthcare is our commitment

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# Summary



## Population

The Loddon Mallee region (LMR) is home to 334,911 people and is the largest region in Victoria by area. It includes both urban centres like Bendigo and Mildura and remote rural communities. The population is older than the state average, with 21.5% aged over 65, and many local government areas (LGAs) have mean ages above 50. This ageing population contributes to increased demand for healthcare and aged support services.



## Priority Groups

The region has the highest proportion of Aboriginal and Torres Strait Islander people in Victoria (2.6%) and a strong multicultural presence due to refugee settlement and seasonal migrant workforces. LGBTIQ+ populations, though underrepresented in local data, face increased health challenges. People with disabilities are overrepresented due to the older population, yet NDIS participation varies. Experiences of racism and discrimination, particularly among women and diverse cultural groups, are notable across the region.



## Health Determinants

The region experiences marked socioeconomic disadvantage, especially in Mildura, Swan Hill, and Loddon. Educational attainment is below state average, with only 10.2% completing Year 12. Low household income, rental stress, and high rates of family violence and homelessness are prevalent. Food insecurity affects over 7% of adults, especially in Mildura and Loddon, and disadvantage is often geographically concentrated in rural areas.



## Health Risk Factors

Smoking, alcohol consumption, and obesity are significantly higher in most LGAs compared to the state average. Poor dietary behaviours, such as low fruit and vegetable intake and high consumption of sugary drinks, are widespread. Physical inactivity, sunburn risk, and poor dental health also contribute to chronic disease risk. Childhood development vulnerabilities and loneliness are also common across several LGAs.



## Health Conditions

Chronic health conditions like asthma, arthritis, mental illness, and cancer are prevalent. Greater Bendigo and Mildura reports high rates across multiple long-term conditions. Avoidable deaths, especially from circulatory diseases, cancer, and transport accidents, exceed the Victorian average in several LGAs. Mildura, in particular, has concerning adolescent birth rates and heart disease prevalence.



## Environmental Factors

The region faces multiple environmental health risks, including extreme heat, ultraviolet exposure, and bushfire. Over 97% of the Loddon Mallee is bushfire prone. Municipal emissions are highest in transport and agriculture. Flood risk is significant in low-lying areas, and mosquito-borne diseases, particularly Ross River virus, are common. Climate change is expected to exacerbate these risks, particularly heat-related illnesses.

# How to read this profile

The boundaries of the LMR varies for different government departments, service catchments and networks. This document supplements the local government area's (LGAs) community profiles which are available on the Loddon Mallee Public Health Unit (LMPHU) website [page](#).

When referencing the LMR in this document, the LMR includes nine LGAs:

- Buloke
- Campaspe
- Gannawarra
- Greater Bendigo
- Loddon
- Macedon Ranges
- Mildura
- Mount Alexander
- Swan Hill

The data of each LGA is represented in this regional community profile to allow for comparisons and identify geographical target areas. To support interpretation of data and graphs each LGA has been designated a colour. See legend below for LGA colour and symbols that are used throughout this document.

Where there is information available, the statistical significance will be calculated. Where this information is not available, the Loddon Mallee LGAs will be identified if they are in the top ten highest or lowest of the LGA's in Victoria.

## LGA colours

Victoria
LMR
Swan Hill
Mildura
Greater Bendigo
Campaspe
Macedon Ranges
Gannawarra
Loddon
Mount Alexander
Buloke

## Symbols



Ranked top ten in a negative direction in Victoria



Ranked top ten in a positive direction in Victoria



Statistically significantly higher: calculated on the confidence intervals where available within the data source (significantly)



Statistically significantly lower: calculated on the confidence intervals where available within the data source (significantly)

# Snapshot

This snapshot highlights the indicators where the LMR local government areas (LGAs) are significantly different than Victoria or is ranked in the top 10 LGAs in Victoria (79 LGAs in Victoria).

■ Worse than Victoria average/rate
 ■ Better than Victoria average/rate

	Buloke	Campaspe	Gannawarra	Greater Bendigo	Loddon	Mildura	Macedon Ranges	Mount Alexander	Swan Hill
Disadvantage (IRSD)									
Minimum wage (F)									
Rental affordability									
Homelessness									
Family violence									
<b>Health risk factors</b>									
Tobacco									
Tolerance of diversity									
Alcohol and other drugs									
Obesity									
Fruit consumption									
Sugar sweetened beverage									
Sunburn									
Feeling lonely									
Childhood development									
Adolescent birth rate									
<b>Long-term conditions</b>									
Asthma									
Diabetes (type 2)									
Heart disease									
Cancer									
<b>Avoidable deaths</b>									
Circulatory disease									
Cancer									
Respiratory disease									
Transport accidents									
Diabetes									

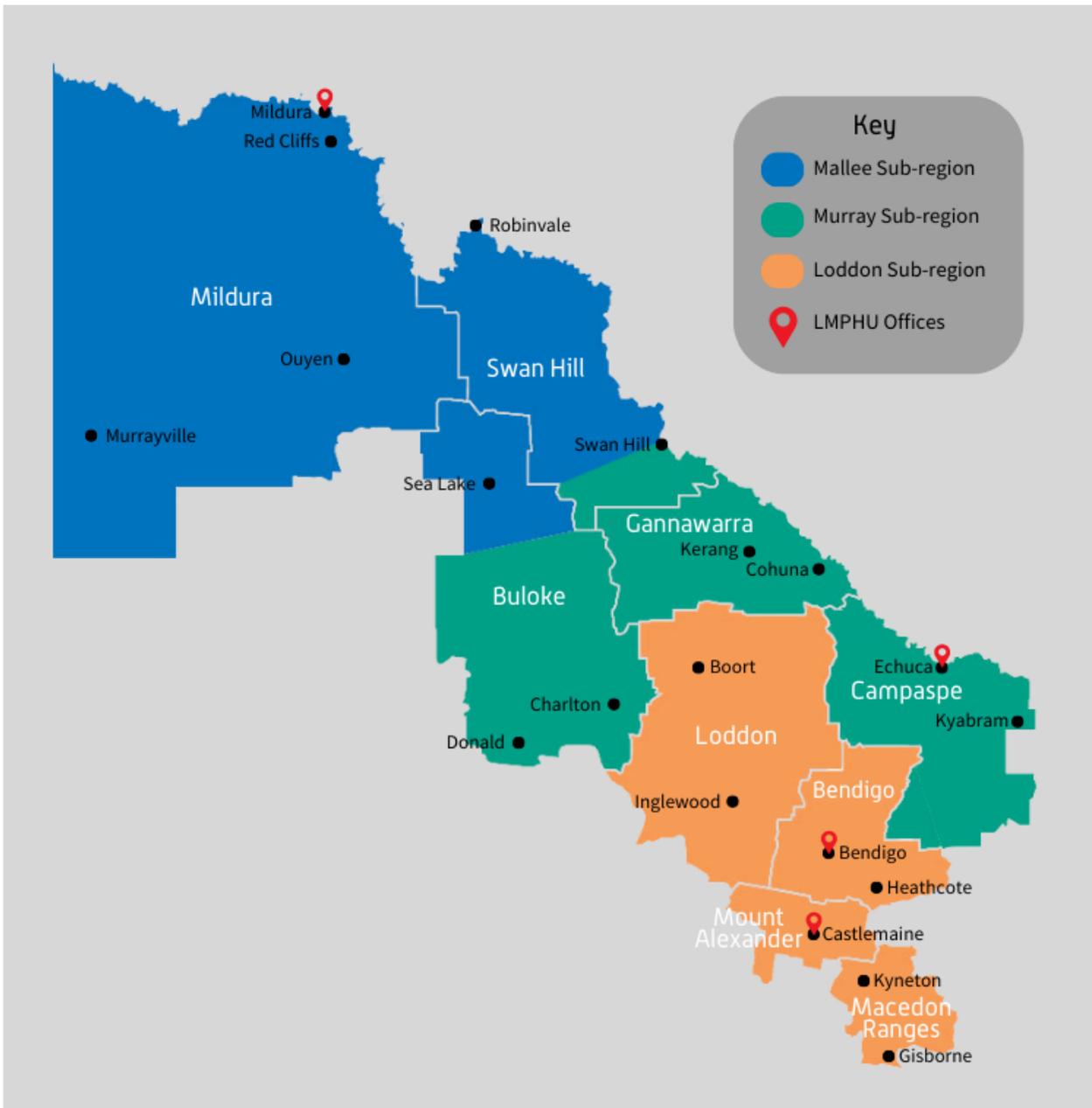
# LMPHU Region

The LMPHU region is located in the north-western part of Victoria, Australia, extending from the edge of Greater Melbourne to the borders of South Australia and New South Wales. It covers a vast and diverse area of approximately 58,961 square kilometers, making it the largest region in Victoria. The region includes significant urban centers such as Bendigo and Mildura, as well as a large number of rural and remote communities, with a total population of 334,911 (2021).

The LMR is characterised by varying levels of socioeconomic disadvantage, particularly in its rural and remote areas. Many small towns and farming communities experience higher levels of unemployment, lower income levels, and reduced access to healthcare and education, contributing to higher levels of disadvantage compared to urban centers.

Land use in the LMR is dominated by agriculture (45%<sup>1</sup>), with major activities including cropping (grain, fruit, and vegetables), livestock farming, and viticulture. The region's proximity to the Murray River also supports irrigation-based farming.

Additionally, the area features large expanses of national parks, conservation areas, and bushland, reflecting its mix of agricultural, environmental, and recreational land use. The region's climate and reliance on water resources make it particularly vulnerable to the impacts of climate change, including droughts, floods, and bushfires.



[1] Department of Agriculture, Fisheries and Forestry, Land use and management, 2023

# 1. LMPHU Region Population

The age distribution of a population is important to understand the current and future demand on services, economic impact and community infrastructure and public health planning.

The total population of the LMR is 334,911 (2021), with seasonal fluctuations in agricultural areas. The age distribution pyramid below demonstrates an older population in the LMR compared to Victoria. In LMR 21.5% of the population is over 65 years of age, higher than the proportion in Victoria (16.8%). All of the LMR LGAs have a higher mean age compared to Victoria (38 years) and range from 39 -52 years.



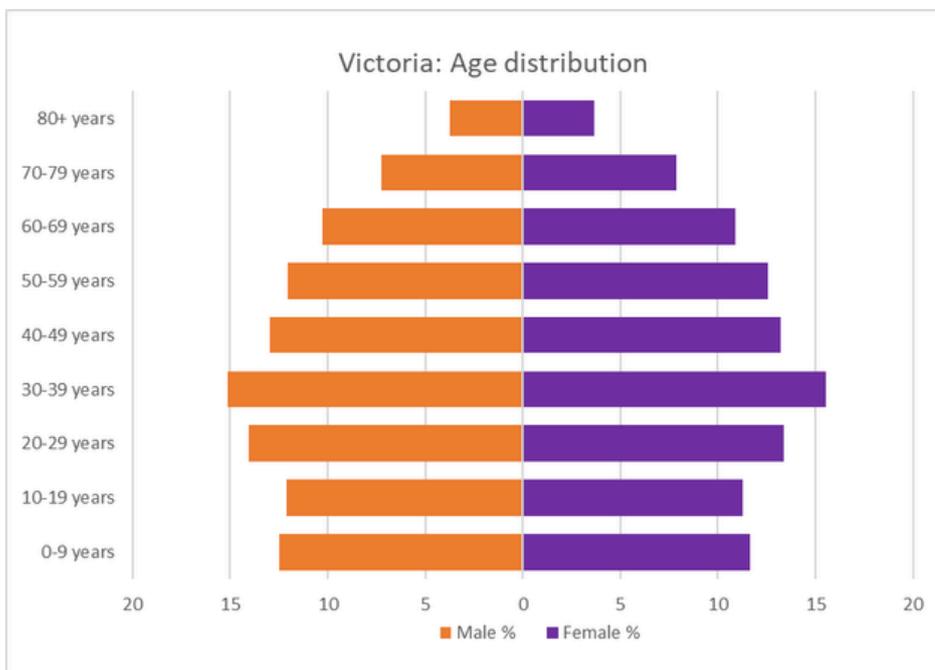
334,911 people reside in the Loddon Mallee PHU region (2021)



Source: Australian Bureau of Statistics, 2021

LGA	Population (2021)
Greater Bendigo	121,470
Mildura	56,972
Macedon Ranges	51,458
Campaspe	38,735
Swan Hill	21,403
Mount Alexander	20,253
Gannawarra	10,683
Loddon	7,759
Buloke	6,178

Source: Australian Bureau of Statistics, 2021



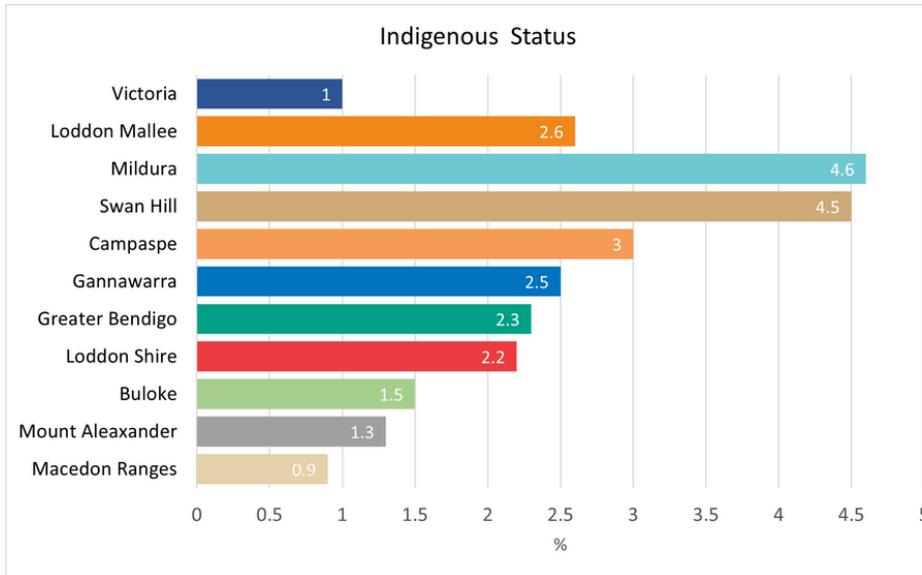
Source: Australian Bureau of Statistics, 2021

LGA	Mean Age (2021)
Victoria	38
Swan Hill	39
Mildura	40
Greater Bendigo	40
Macedon Ranges	43
Campaspe	47
Gannawarra	51
Mount Alexander	51
Loddon	52
Buloke	52

Source: Australian Bureau of Statistics, 2021

## 2. Priority Groups

### 2.1 Indigenous Status



Source: Australian Bureau of Statistics, 2021

LMR is fortunate to have the highest proportion Aboriginal and Torres Strait Islander peoples in Victoria. With opportunities to learn from their spiritual and cultural connection to Country.

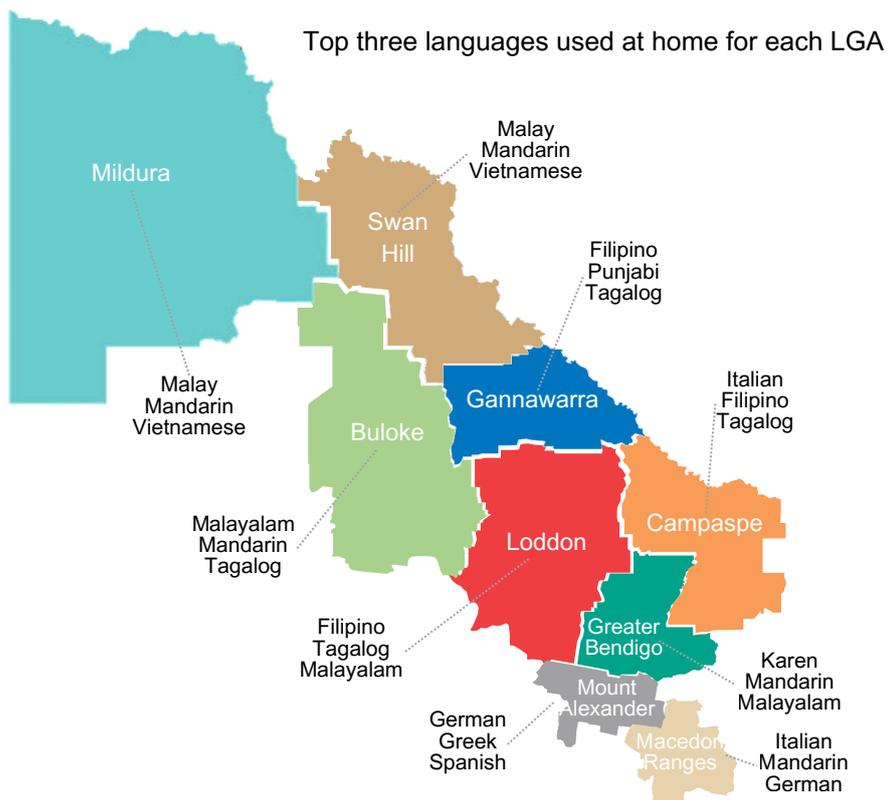
However, we also know Aboriginal and Torres Strait Islander peoples disproportionately experience systemic disadvantage compared to the whole of population.

### 2.2 Multicultural Communities

The LMR has a long history of diverse and multicultural communities. There are a number of refugee settlement programs based around Bendigo, Castlemaine, Macedon Ranges and Mildura. Many agricultural and meat processing industries, especially in the northern parts of the LMR, are supported by seasonal immigrant workforces, both documented and undocumented, which intermittently increases population and demand on services.



Mandarin is the top non-English language spoken at home in the LMR



LGA	Uses other languages and speaks English not well/not at all (%)
Victoria	4.4
Swan Hill	5.4
Mildura	3.3
Greater Bendigo	1.3
Campaspe	0.6
Macedon Ranges	0.4
Gannawarra	0.3
Loddon	0.3
Mount Alexander	0.3
Buloke	0.2

Source: Australian Bureau of Statistics, 2021

## 2.3 LGBTIQ+

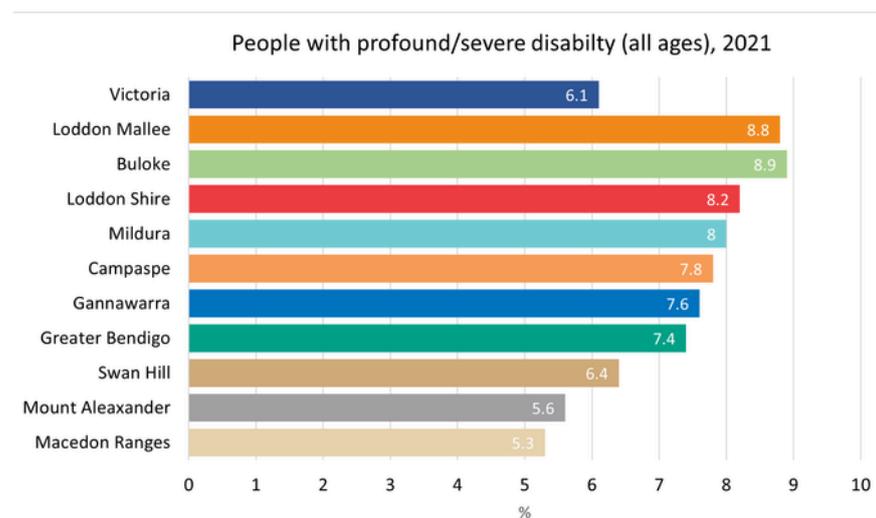
Unfortunately, there is a lack of local data on LGBTIQ+ population including population size and health and wellbeing data. There is data at a state and national level that can be used as an indicator. The Victorian Population Health Survey 2017 estimates 5.7 per cent of Victorian adults identify as LGBTIQ+, however some rural areas have attracted significant higher proportion of LGBTIQ+ people to their communities.

State and national data indicate poorer mental and physical health for LGBTIQ+ community members with significantly higher rates of drug use, alcohol, smoking, chronic disease, homelessness, and disability along with higher rates of anxiety and depression, psychological stress and low satisfaction with life.

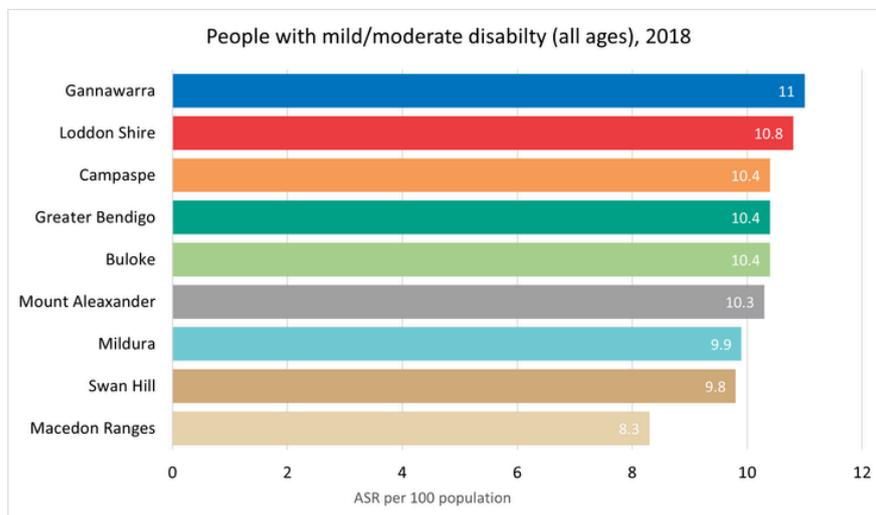
Sources and for more information: [Pride in our future: Victoria's LGBTIQ+ strategy 2022–32 | vic.gov.au \(www.vic.gov.au\)](https://www.vic.gov.au/pride-in-our-future-victoria-s-lgbtiqa-strategy-2022-32); [The health and wellbeing of the lesbian, gay, bisexual, transgender, intersex and queer population in Victoria - Findings from the Victorian Population Health Survey 2017 | Victorian Agency for Health Information \(vahi.vic.gov.au\)](https://www.vic.gov.au/the-health-and-wellbeing-of-the-lesbian-gay-bisexual-transgender-intersex-and-queer-population-in-victoria)

## 2.4 People with Disability

The likelihood of disability generally increases with age and the LMR's higher proportion of people with profound or severe disability, compared to Victoria, may reflect the LMR's older population profile. The National Disability Insurance Scheme (NDIS) participation rates do not correlate with the disability rates.



Source: [Social Health Atlas](https://www.socialexpress.com.au/social-health-atlas), People with profound or severe disability, includes people in long-term accommodation, 2021.



Source: [Social Health Atlas](https://www.socialexpress.com.au/social-health-atlas), Estimated number of total persons, living in households, with moderate or mild care activity limitations (modelled estimates), 2018

LGA	NDIS participants ASR per 100 (No)
Victoria	2.5 (163,241)
Greater Bendigo	4 (4,854)
Campaspe	3.2 (1,168)
Mount Alexander	3.1 (547)
Swan Hill	2.8 (591)
Buloke	2.6 (143)
Mildura	3.2 (1,851)
Loddon	2.5 (172)
Macedon Ranges	2.5 (1,353)
Gannawarra	2.4 (232)

Source: [Social Health Atlas](https://www.socialexpress.com.au/social-health-atlas), National Disability Insurance Scheme (NDIS) participants, 2023

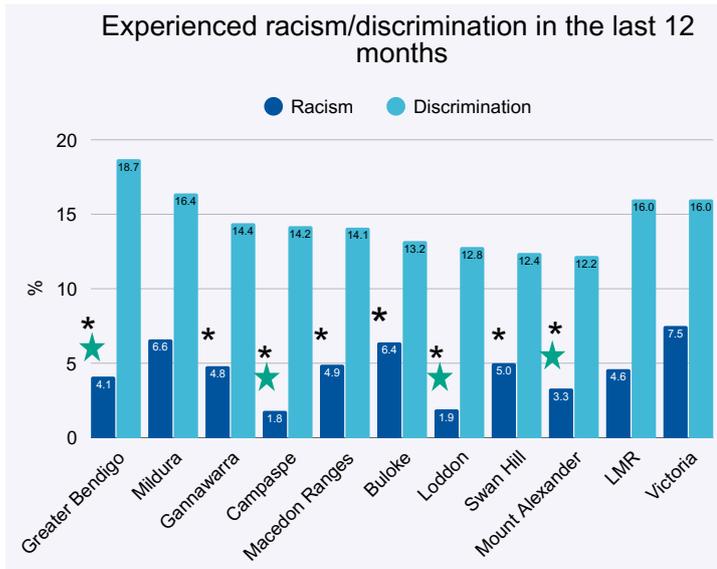
## 2.4 Racism and Discrimination

On an individual level, racism refers to the beliefs and attitudes members of certain groups have of their superiority in relation to other groups who are regarded as inferior based on race, ethnicity or cultural background (Sanson et al, 1998).

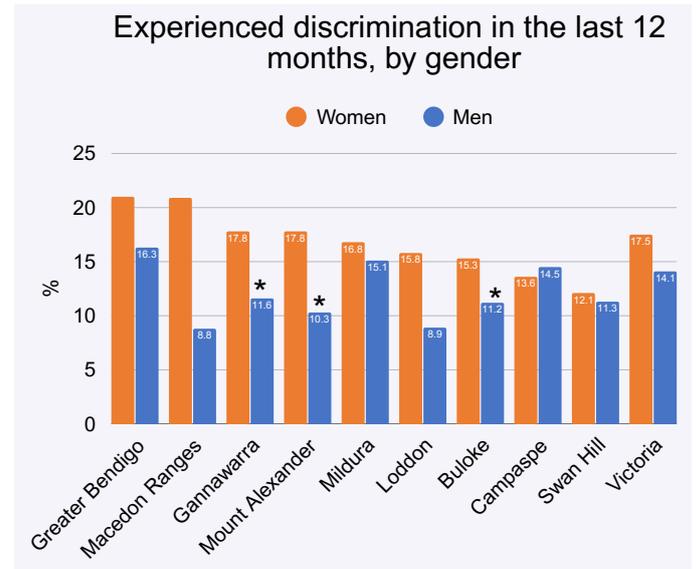
Racism was defined as experiences of discrimination due to First People’s status, skin colour, nationality, race, ethnic group or language spoken at home.

Discrimination was defined as experiences of discrimination due to gender identity, sexual orientation or intersex status.

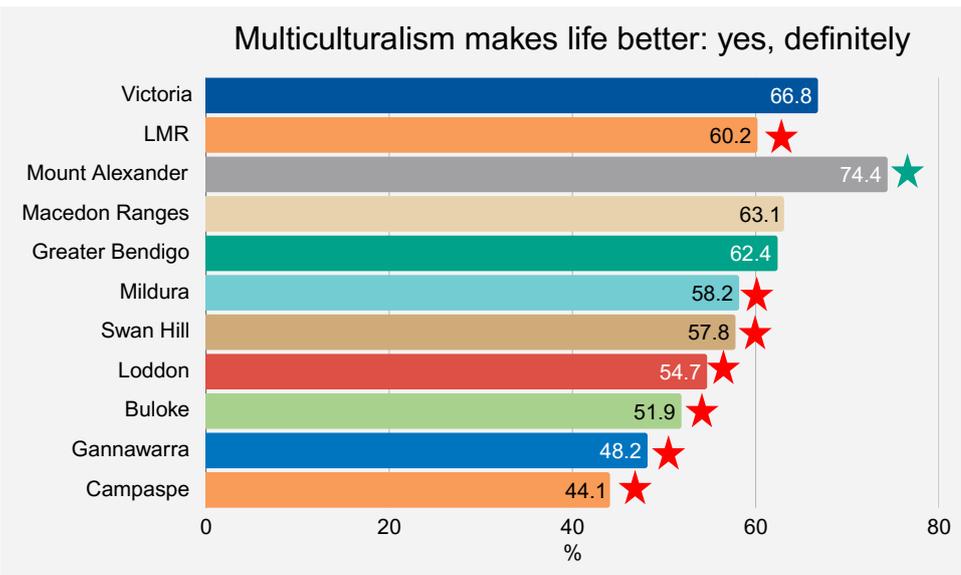
In all LGAs, women experienced discrimination more than men, with the exception of Campaspe. The biggest gap between men and women’s experience of discrimination is in the Macedon Ranges, which also has the highest pay gap in the LMR.



Source: Victorian Population Health Survey 2023, age adjusted.  
\*high relative standard error so interpret with caution



Source: Victorian Population Health Survey 2023, age adjusted.  
\*high relative standard error so interpret with caution



Source: Victorian Population Health Survey 2023, age adjusted.

To measure tolerance of diversity, adults were asked if multiculturalism makes life better.

In the LMR, there was a significantly lower proportion of people that thought multiculturalism definitely makes life better.

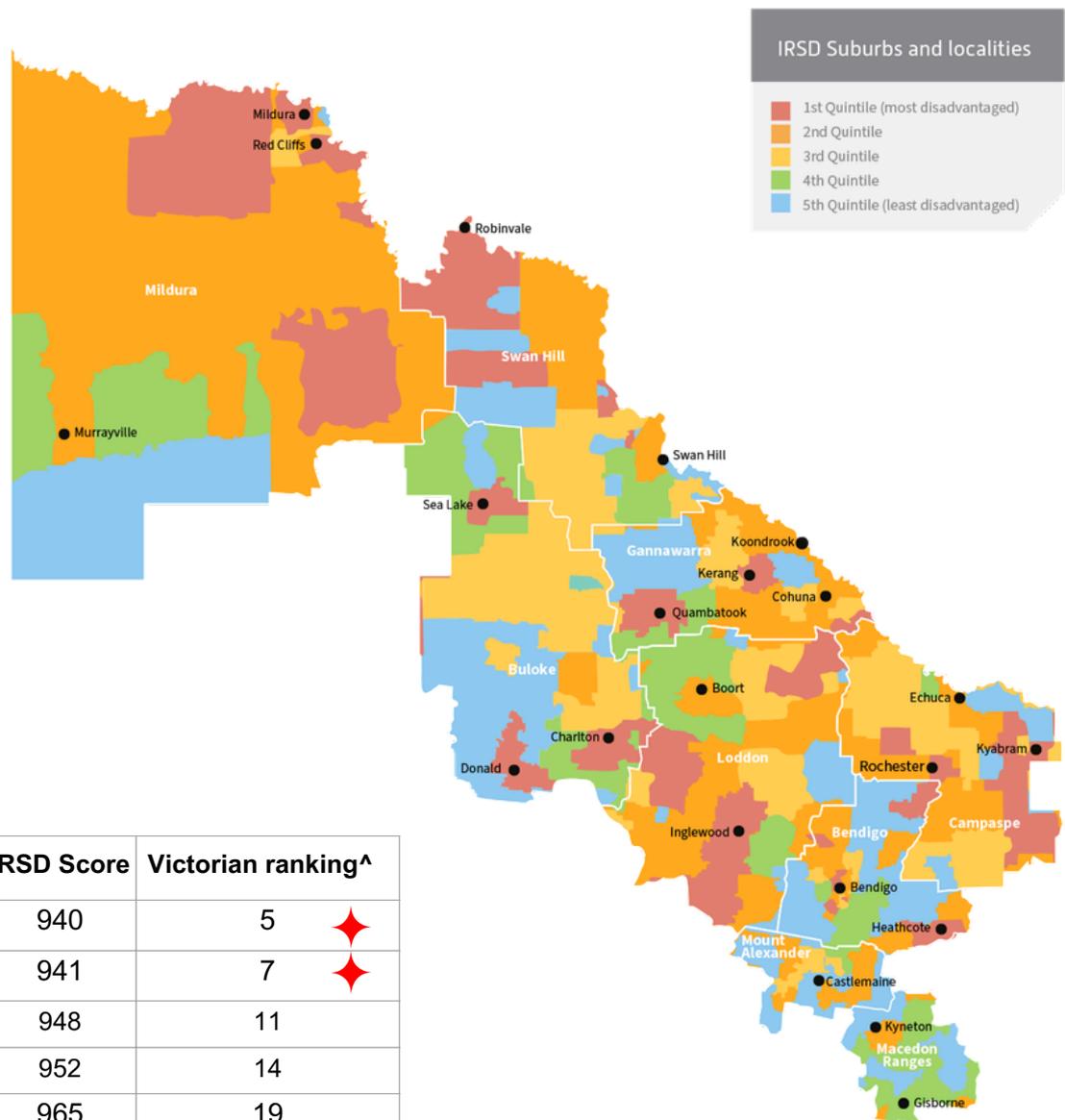
This was the same for Campaspe, Gannawarra, Buloke, Loddon, Swan Hill and Mildura.

# 3. Determinants of Health

## 3.1 Areas of Disadvantage

The Index of Relative Socio-economic Disadvantage (IRSD) is a general socio-economic index that summarises a range of information about the economic and social conditions of people and households within an area.

A low score indicates relatively greater disadvantage. For example, an area could have a low score if there are: many households with low income, or many people without qualifications, and many people in low skilled occupations. A high score indicates a relative lack of disadvantage. For example, an area may have a high score if there are: few households with low incomes, few people without qualifications, few people in low skilled occupations.



LGA, 2021	IRSD Score	Victorian ranking <sup>^</sup>
Mildura	940	5 <span style="color: red;">◆</span>
Swan Hill	941	7 <span style="color: red;">◆</span>
Loddon	948	11
Gannawarra	952	14
Campaspe	965	19
Buloke	972	24
Greater Bendigo	985	27
Mount Alexander	1007	47
Macedon Ranges	1063	73 <span style="color: green;">◆</span>

Source: Socio-Economic Index for Areas, ABS, 2021

<sup>^</sup> rank 1 = most disadvantage; rank 79 = least disadvantage

## 3.2 Level of Highest Educational Attainment

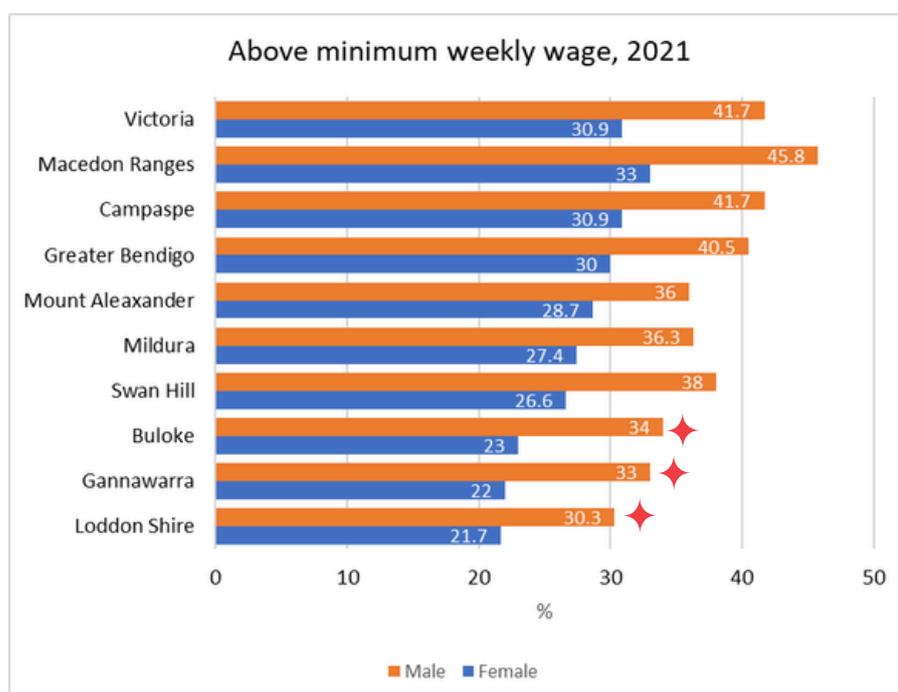
Education is an important determinant of health and is strongly associated with life expectancy, morbidity, health behaviours. The difference between the Loddon Mallee LGAs level of education may reflect physical and financial access to higher education. Macedon Ranges, Mount Alexander and Greater Bendigo, who have the highest level of education are also the least disadvantaged (refer to page 7) and have closer proximity to universities in Melbourne and Bendigo.

 In the LMR, 10.2% completed year 12 or equivalent (Vic. 14.9%)

LGA	% people aged 15 years and over						
	Bachelor degree level and above	Advanced Diploma and diploma level	Certificate level III & IV	Year 12	Year 11	Year 10	Year 9 or below
Victoria	29.2	9.8	14.3	14.9	5.7	7.3	7.9
Macedon Ranges	26.7	10.8	18.0	13.5	6.5	7.3	7.1
Mount Alexander	28.7	10.1	43.6	10.1	6.1	10.4	7.0
Greater Bendigo	19.7	9.1	20.0	12.6	7.1	10.2	9.8
Mildura	12.7	7.8	18.8	13.0	7.8	11.8	12.8
Campaspe	11.8	7.9	21.2	11	8.9	12.7	13.3
Buloke	11.4	7.0	19.0	11.7	9.9	12.5	13.2
Swan Hill	11.2	7.3	17.7	15.6	8.2	11.1	12.6
Loddon	10.6	7.3	18.7	10.2	8.8	12.9	13.6
Gannawarra	9.1	6.8	20.2	9.8	9.3	14.6	16.1

Source: [Census All persons QuickStats](#) | Australian Bureau of Statistics (abs.gov.au), 2021

## 3.3 Household Income



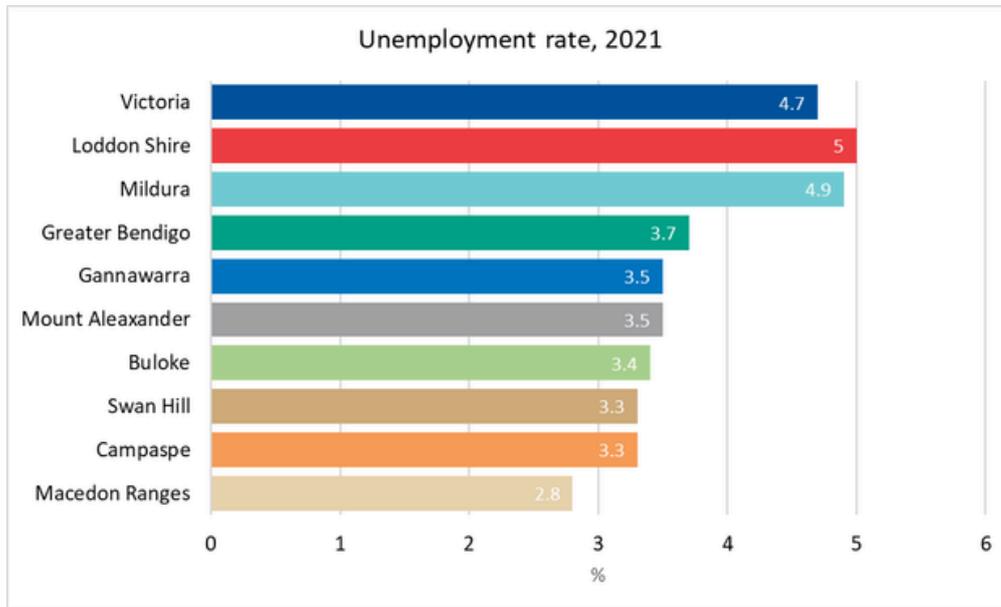
Source: [Women's Health Atlas](#), 2021

The calculation above minimum weekly wage includes persons who are aged 15 years and over, who are earning \$800 or more per week.

- In the LMR, Macedon Ranges (12.8%) and Swan Hill (11.4%) have the highest gender pay gap based on these figures.
- Loddon, Gannawarra and Buloke have the second, third and fourth (respectively) lowest percentage above minimum wage for females in Victoria.

### 3.4 Unemployment

The psychosocial stress caused by unemployment has a strong impact on physical and mental health and wellbeing. Once employed, participating in quality work helps to protect health, instilling self-esteem and a positive sense of identity, while providing the opportunity for social interaction and personal development.<sup>[1]</sup>



The data represents people aged 18 and over who are seeking employment and yet to find it.

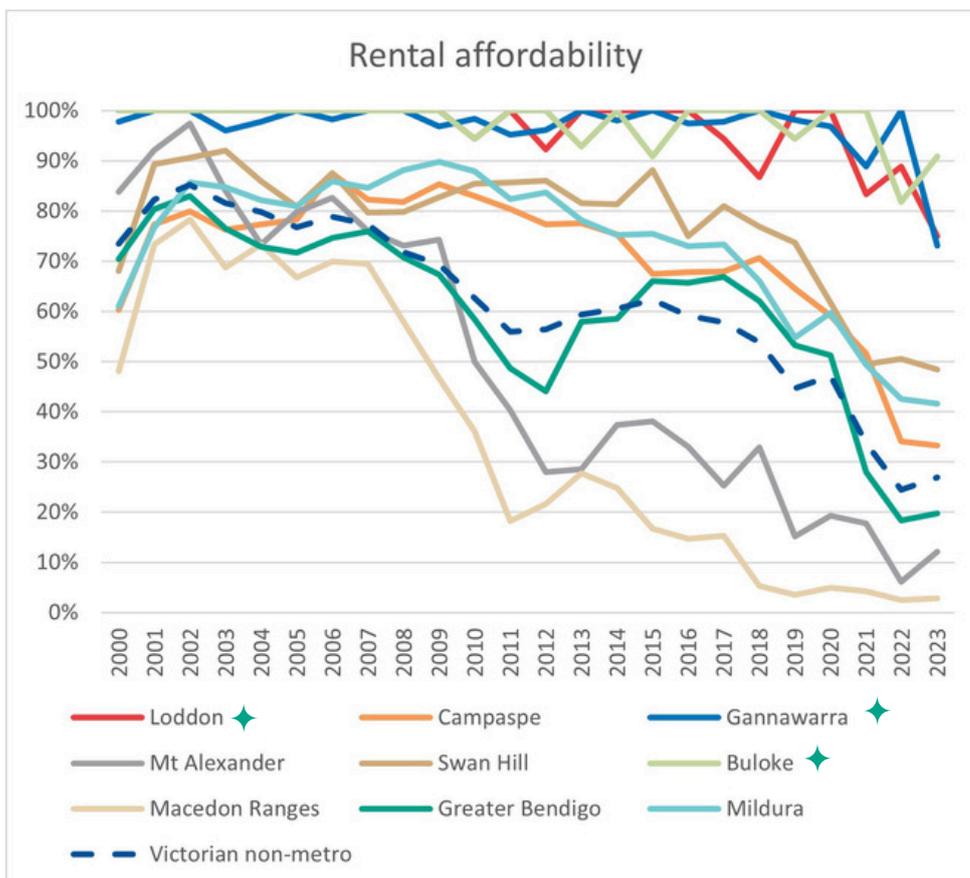
Loddon Shire and Mildura have higher unemployment rates compared to Victoria.

Macedon Ranges has the lowest unemployment rate in the LMR.

Source: [Victorian Public Health and Wellbeing Outcomes Dashboard](#), 2021

### 3.5 Rental Affordability

In many parts of Victoria, median rent prices are continuing to increase and therefore becoming less affordable. The graph below represents affordability of rental homes for lower income households. The affordability benchmark used is no more than 30% of gross income is spent on rent. Buloke (third highest in the state), Loddon (fifth highest in the state) and Gannawarra (sixth highest in the state) are bucking the trend and continue to have high rental affordability. Macedon Ranges, Mount Alexander and Greater Bendigo have lower rental affordability compared to non-metro Victoria.



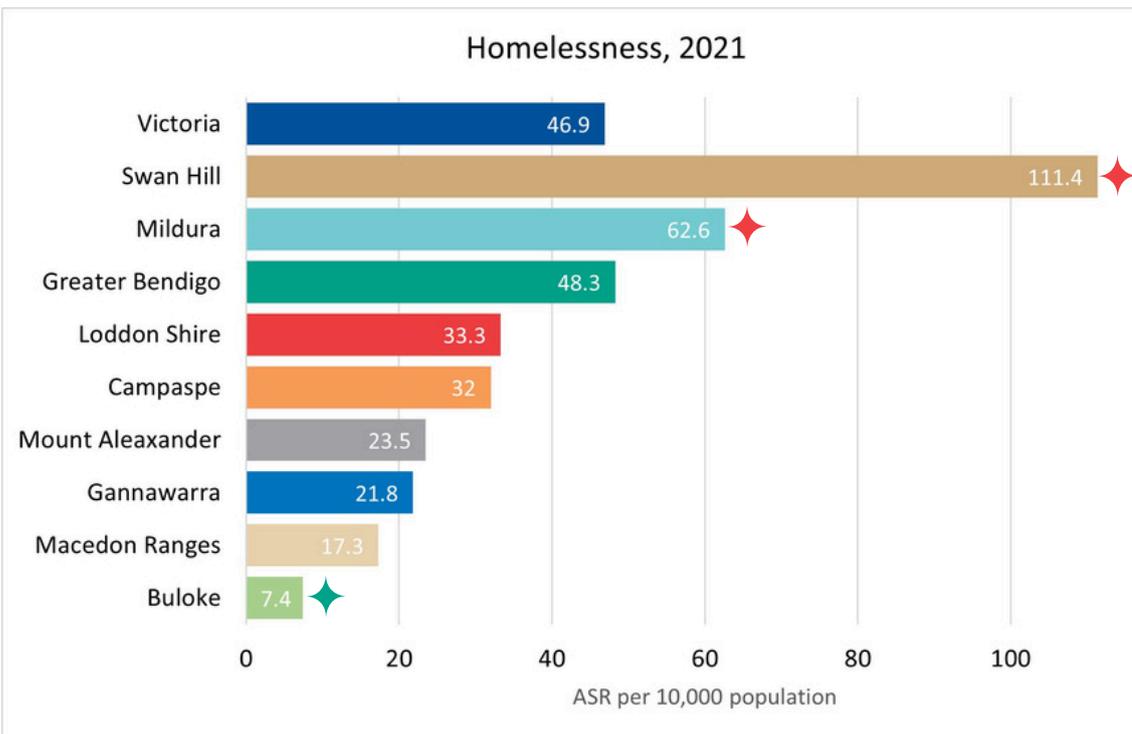
Source: [Rental Report - Quarterly: Affordable Lettings by LGA - Dataset - Victorian Government Data Directory](#)

## 3.6 Homelessness

Access to safe, adequate housing is central to the health and wellbeing of individuals and families. Secure and affordable housing is the basis for social connectedness and a contributor to the social determinants of health and wellbeing. This data includes:

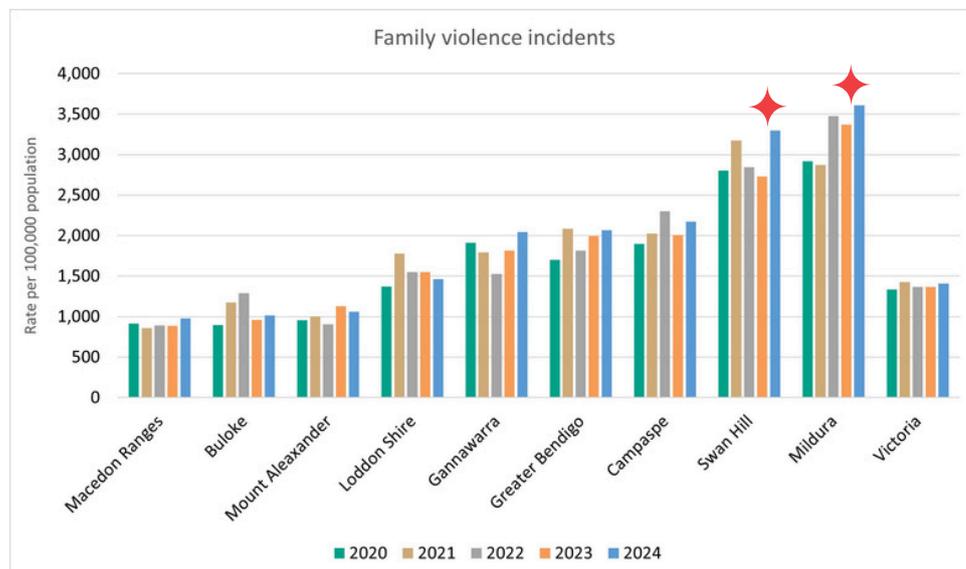
- Living in improvised dwellings, tents or sleeping out
- Living in supported accommodation for the homeless
- Staying temporarily with other households
- Living in boarding houses
- Living in 'severely' crowded dwellings.

Swan Hill has the second highest and Mildura has the tenth highest homelessness rate in Victoria. Buloke has the third lowest rate in the state.



Source: [Social Health Atlas](#), 2021

## 3.7 Family Violence



Source: [Crime Statistics Agency](#).

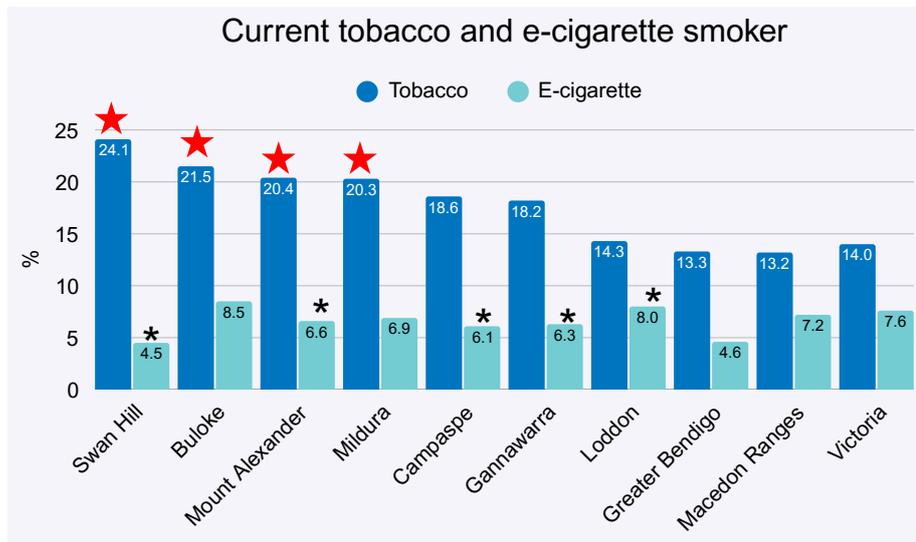
A family incident is an incident attended by Victoria Police and a police report has been completed.

- Mildura has the 3rd highest and Swan Hill has the 5th highest family violence incident rate in Victoria in 2023/24.
- Gannawarra, Greater Bendigo, Campaspe, Swan Hill and Mildura are all above the Victorian rate in 2023/24.

# 4. Health Risk Factors

## 4.1 Smoking and Vaping

Smoking increases the risk of chronic diseases such as heart disease, diabetes, kidney disease, eye disease, stroke, dementia, certain cancers (for example, oral cancer), gum disease and respiratory diseases such as asthma, emphysema and bronchitis. Vapes are relatively new compared to cigarettes, so we are yet to see all the long-term effects it may have on the body. What we know now is vaping can damage many parts of the body, including the cardiovascular system, lungs and airways, and the brain and nervous system.<sup>[1]</sup>

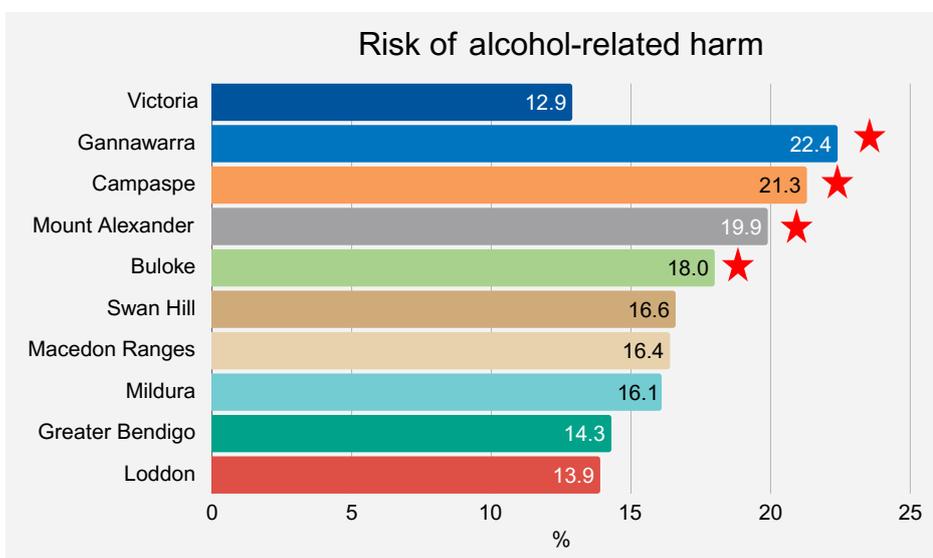


- Swan Hill, Buloke, Mount Alexander and Mildura are significantly higher than Victoria for prevalence of adults currently smoking (tobacco).
- Loddon and Buloke have higher prevalence of e-cigarette/vaping than Victoria.
- No LGA data is available for the prevalence of children smoking or vaping.

Source: Victorian Population Health Survey 2023, age adjusted.  
\* high Relative Standard of Error and should be interpreted with caution

## 4.2 Alcohol and Other Drugs

While the impacts of drug use on health and wellbeing can vary, related harms can impact physical health through increased risk of chronic disease, exposure to infectious diseases, and mental health and wellbeing impacts. Adults who live in rural Victoria (16.9%) are significantly more likely to consume alcohol at levels that put them at increased risk of alcohol-related harm than adults living in metropolitan Victoria (11.8%). Increased risk of alcohol-related harm is greater than 10 standard drinks a week and more than four standard drinks in one day.



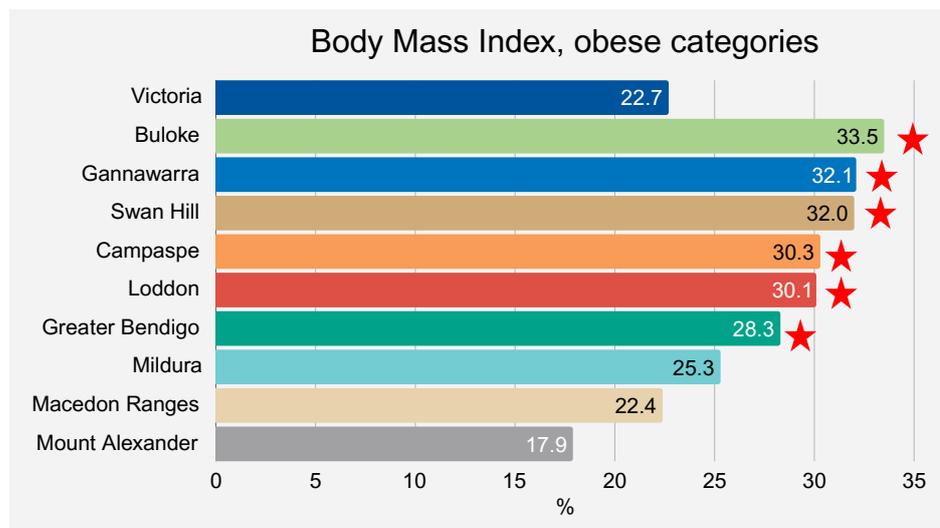
- Gannawarra, Campaspe, Mount Alexander and Buloke are statistically higher proportion of adults with increased risk of alcohol-related harm, compared to Victoria.
- All LGAs in the LMR have higher prevalence compared to Victoria.

Source: Victorian Population Health Survey 2023, age adjusted.

[1] Quit , [effects of vaping on the body](#).

## 4.3 Obesity

Obesity contributes to cardiovascular disease, type 2 diabetes, musculoskeletal disorders and some cancers. Recent evidence shows the prevalence of obesity spiked in 2022, when compared to previous five-year trends. <sup>[1]</sup>



- Mount Alexander and Macedon Ranges are the only LGAs in LMR with a lower proportion of adults who are obese, compared to Victoria.
- Buloke, Gannawarra, Swan Hill, Campaspe, Loddon and Greater Bendigo all have significantly higher proportion of adults who are obese compared to Victoria.

Source: Victorian Population Health Survey, 2023, age adjusted

## 4.4 Healthy Eating and Active Living

Poor diet and lack of exercise contribute to being overweight and obese, which are leading contributors to chronic disease and premature death in Victoria. <sup>[1]</sup> Campaspe are significantly lower for compliance with fruit consumption guidelines compared to Victoria. There are six LGAs in the LMR with significantly higher proportion of people consuming sugar sweetened beverages daily.



Recommended daily serves of fruit is one medium piece or two small pieces of fruit or one cup of diced fruit.



Recommended daily serves of vegetables is half a cup of cooked vegetables or one cup of salad leaves.

LGA	Compliance with fruit consumption guidelines (%)	Compliance with vegetable consumption guidelines (%)	Daily consumption of sugar sweetened beverage (%)	Moderate to vigorous physical exercise greater than 150mins/day (%)
Victoria	34.9	5.5	19.3	34.9
LMR	31.3	5.3	24.6 ★	34.2
Greater Bendigo	30.5	5.9	22.2	34.6
Buloke	28.8	2.8*	34.8 ★	33.0
Campaspe	27.8 ★	3.8*	34.7 ★	31.1
Gannawarra	34.3	4.2*	25.9 ★	29.4
Loddon	36.9	4.6*	22.9	34.2
Macedon Ranges	34.1	5.9	21.2	41.1
Mildura	30.2	3.7*	27.4 ★	31.2
Mount Alexander	32.7	5.9	19.5	37.9
Swan Hill	31.3	7.7	28.5 ★	32.2

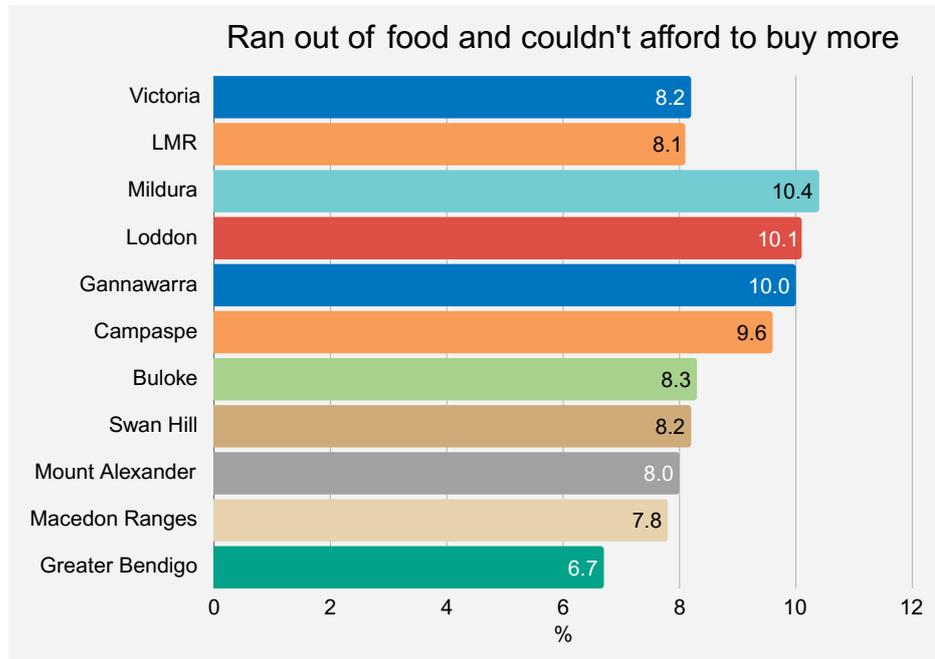
Source: Victorian Population Health Survey, 2023, age adjusted

\*high relative standard error so interpret with caution

## 4.5 Food Insecurity

Food security is defined as access by all people at all times to enough food for an active, healthy life and includes at a minimum:

- the ready availability of nutritionally adequate and safe foods
- the assured ability to acquire food in socially acceptable ways.



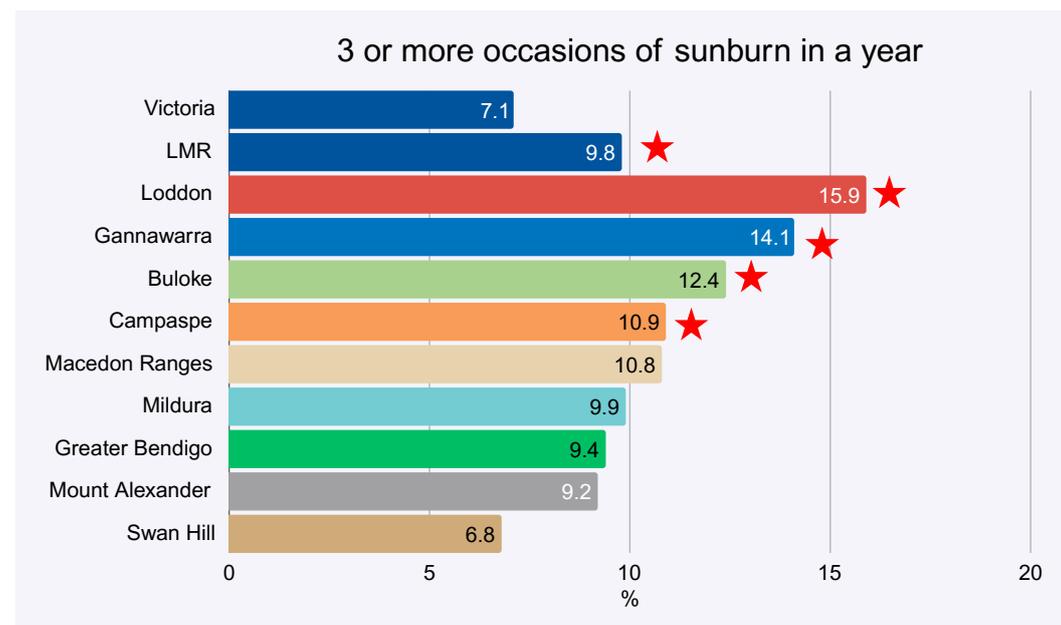
Most of the LGAs in LMR have higher proportion of people running out of food and couldn't afford to buy more compared to the Victorian proportion.

Mildura and Loddon had the highest proportion of people running out of food and couldn't afford to buy more in the LMR.

Source: [Victorian Population Health Survey](#), 2023, age adjusted

## 4.6 Sun Exposure

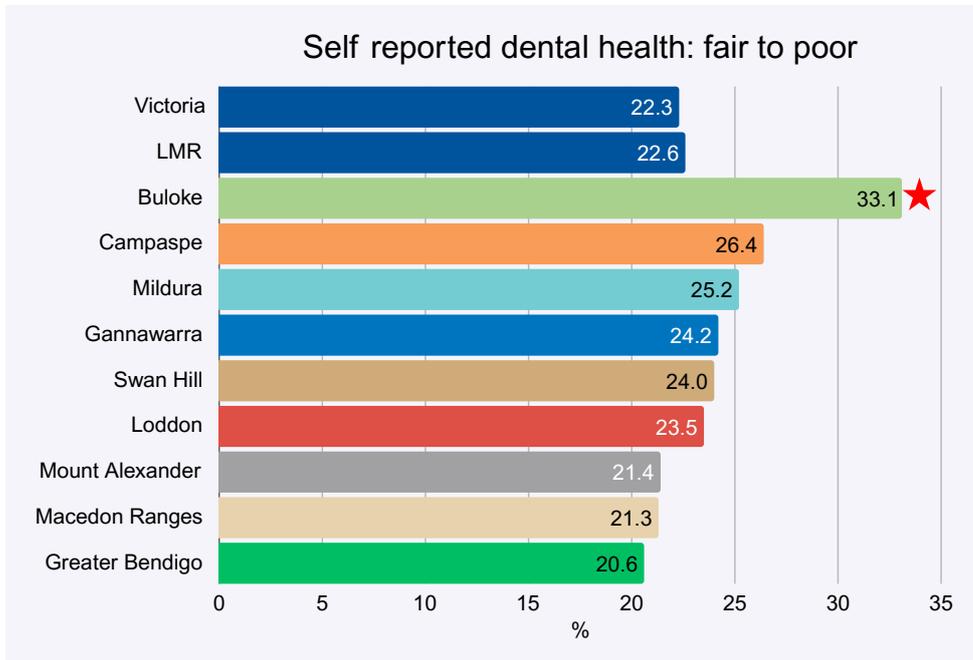
Australia has one of the highest rates of skin cancer in the world. Skin cancer occurs when skin cells are damaged, for example by overexposure to ultraviolet radiation from the sun. Loddon, Gannawarra, Buloke and Campaspe have significantly higher proportion of people reporting three or more occasions of sunburn in a year, compared to Victoria.



Source: [Victorian Population Health Survey](#), 2023, age adjusted

## 4.7 Dental Health

Oral disease can destroy the tissues in the mouth, leading to lasting physical and psychological disability. Tooth loss can make chewing and swallowing more challenging, which can then compromise nutrition. Poor oral health is also associated with a number of chronic diseases including stroke and cardiovascular disease. Dental disease can also impair a person's appearance and speech, impacting their self-esteem, which can lead to restricted participation at school, the workplace and other social settings.



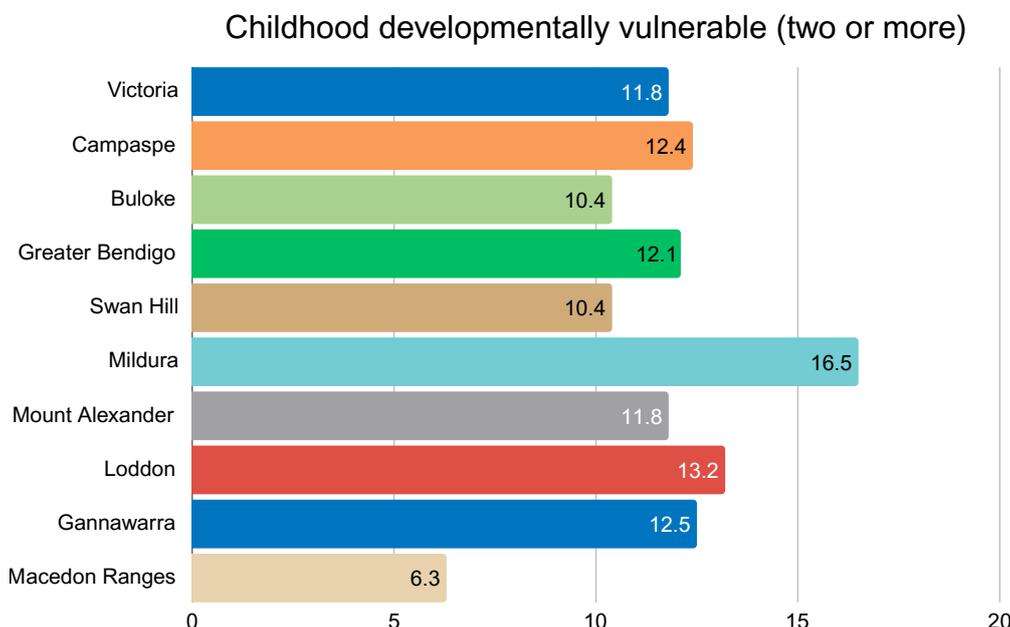
The Loddon Mallee proportion of adults reporting fair to poor dental health is comparable to the whole of Victoria. However, Buloke is significantly higher compared to Victoria.

Source: [Victorian Population Health Survey, 2023](#), age adjusted

## 4.8 Childhood Development

The Australian Early Development Census (AEDC) is a nationwide census of early childhood development that shows how young children have developed as they start their first year of full-time school. There are five domains, which are physical, social, emotional, language and communication. For more information on each domain go to [AEDC website](#).

Mildura has the highest proportion of children with two or more developmental vulnerabilities in the LMR.

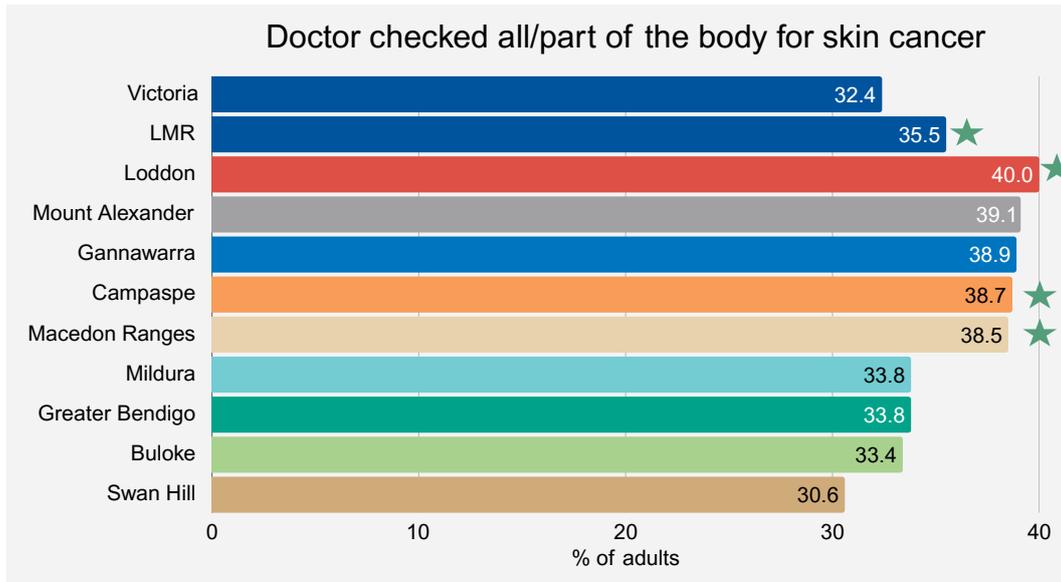


Source: [Australian Early Development Census, 2024](#)

# 5. Health Screening

## 5.1 Skin Screening

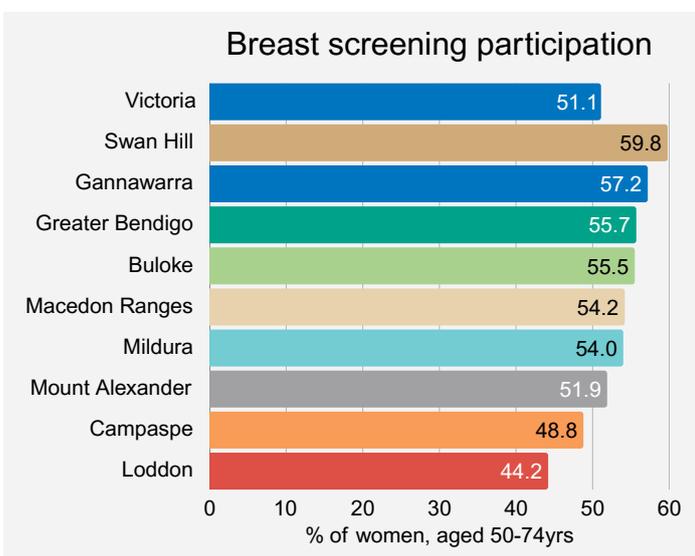
Australia has one of the highest rates of skin cancer in the world. Skin cancer occurs when skin cells are damaged, for example by overexposure to ultraviolet radiation from the sun. Loddon, Gannawarra, Buloke and Campaspe have significantly higher proportion of people reporting three or more occasions of sunburn in a year, compared to Victoria. It is therefore encouraging to see that most of the LGAs in the LMR have a higher proportion of people have had their skin checked by a doctor for skin cancer.



Source: Victorian Population Health Survey, 2023, age adjusted

## 5.2 Breast Screening

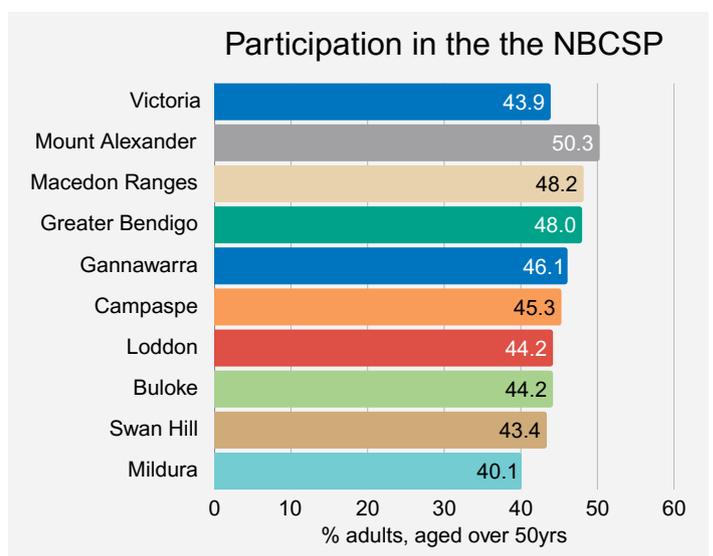
Research has shown that screening mammography is currently the most effective tool for the early detection of breast cancer in asymptomatic women in the target age group of women aged 50 to 74 years; and, that having a screening mammogram every two years, reduces the chance of dying from breast cancer by up to 40%



Source: Social Health Atlas, 2021-22

## 5.3 Bowel Screening

Bowel cancer, is the third most common type of newly diagnosed cancer in Australia. The National Bowel Cancer Screening Program (NBCSP) aims to reduce deaths from bowel cancer by detecting early signs of the disease. If found early, more than 90% of cases can be successfully treated.

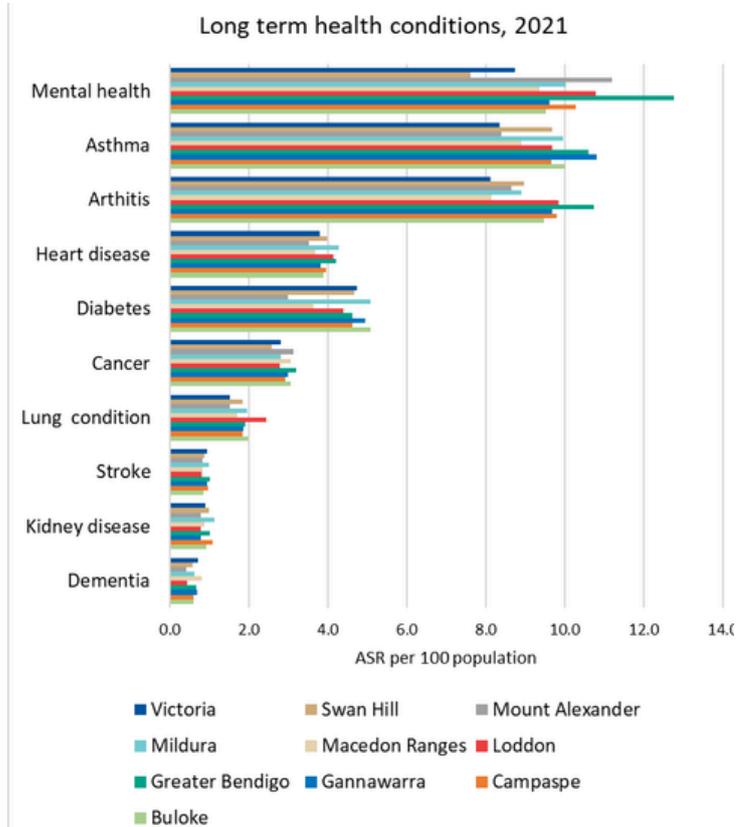


Source: Social Health Atlas, 2021-22

# 6. Health Conditions

## 6.1 Physical Health Conditions

In the census, people were asked to select long-term conditions (six months or more) that has been diagnosed by a doctor or nurse.



- Mental health conditions , arthritis and asthma are the highest rates for long-term conditions in the LMR.
- The table below shows which LGAs are ranked in the top 10 highest (red star) or lowest 10 in Victoria, for each health condition.
- Greater Bendigo is ranked in the top ten highest for mental health conditions, arthritis, asthma, cancer and kidney disease.
- Mount Alexander is ranked in the 10 lowest rates for diabetes, cancer and dementia in Victoria.

Source: Social Health Atlas, 2021

The proportion of adults reporting they suffer from asthma was significantly higher in the LMPHU compared to Victoria. This includes Campaspe and Loddon. Other areas of statistical significance is heart disease in Mildura and Cancer in Campaspe. The proportion of people with Diabetes Type 2 is low in Mount Alexander

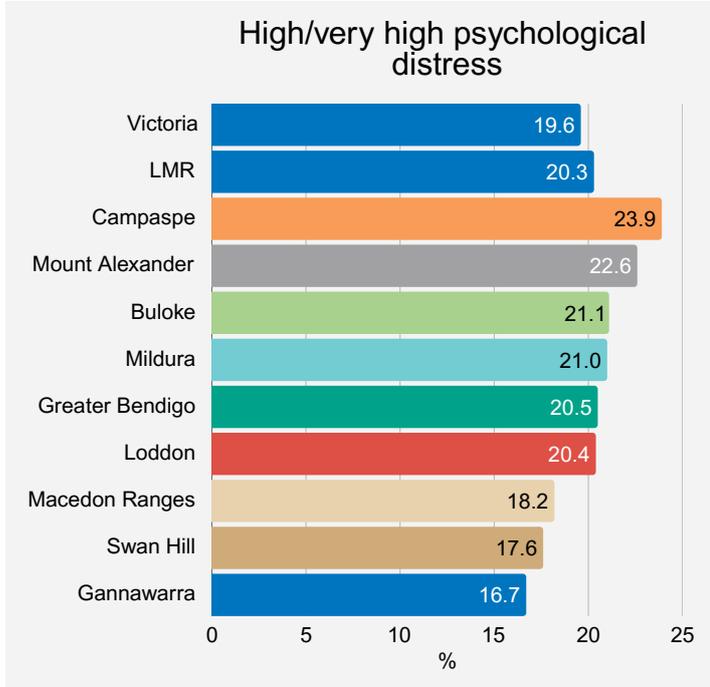
LGA	COPD*	Asthma	Osteoarthritis	Diabetes (type 2)	Heart disease	Cancer
Victoria	3.6	20.1	13.8	6.2	8.3	8.3
LMR	4.6	23.5 ★	15.5	6.2	8.6	11.3
Buloke	5.6	25.1	12.9	6.4	8.2	10.6
Greater Bendigo	5.1	24.1	16.1	6.6	7.5	11.1
Campaspe	4.8	28.3 ★	17.4	5.9	8.6	13.7 ★
Gannawarra	5.6	23.1	15.0	6.6	6.9	9.0
Loddon	4.2	26.8 ★	17.2	8.1	8.9	10.3
Macedon Ranges	3.1	20.1	14.8	5.1	9.5	10.8
Mildura	5.0	22.4	13.2	7.3	11.4 ★	11.9
Mount Alexander	4.0	21.9	15.4	2.8 ★	7.2	11.0
Swan Hill	4.9	24.0	15.8	7.4	9.0	11.7

Source: Victorian Population Health Survey, 2023, age adjusted

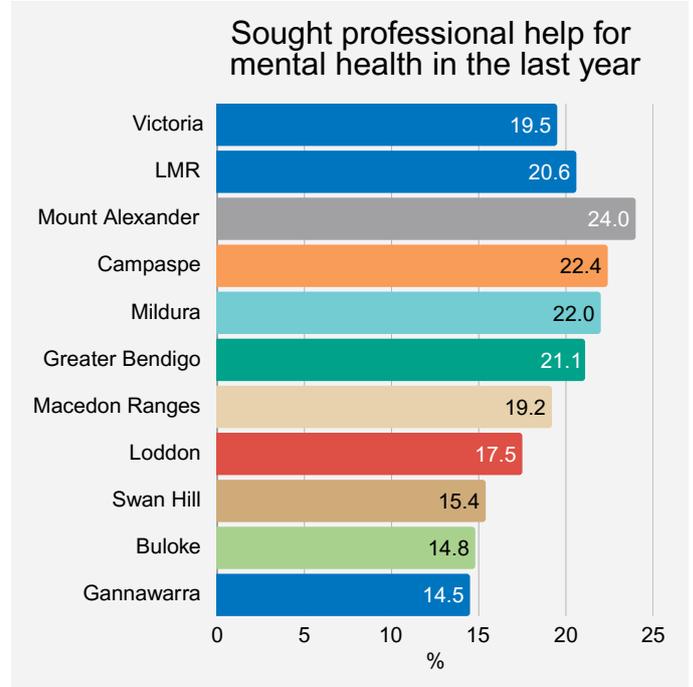
\*COPD: Chronic Obstructive Pulmonary Disease

## 6.2 Mental Wellbeing

By prioritising good mental health and wellbeing we reduce stigma, increase social connection, improve physical health, promote productivity and create safer environments. Our mental health and our physical health are linked. Most LGAs have a higher proportion of people experiencing high/very high psychological distress compared to Victoria and Mount Alexander, Campaspe, Mildura and Greater Bendigo had a higher proportion of people seeking and receiving professional help for a mental health related problem in the last year, compared to Victoria.

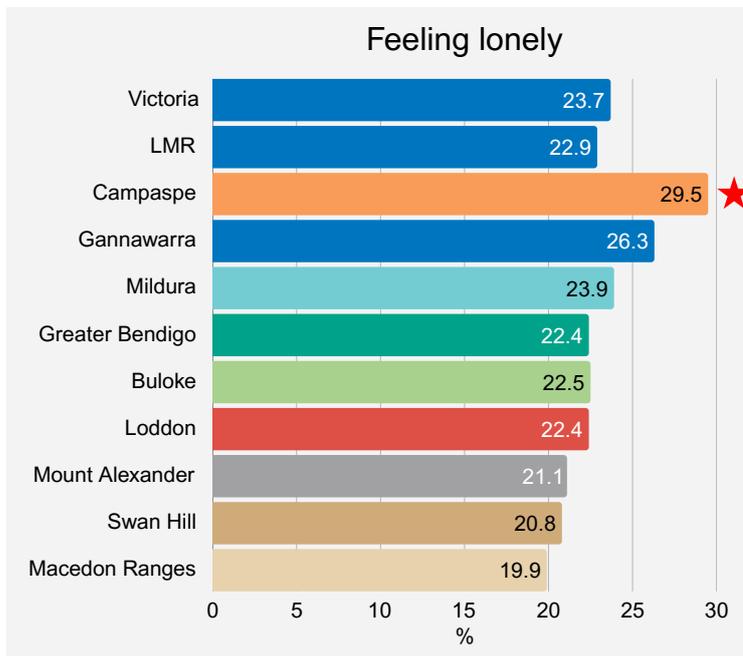


Source: Victorian Population Health Survey, 2023, age adjusted

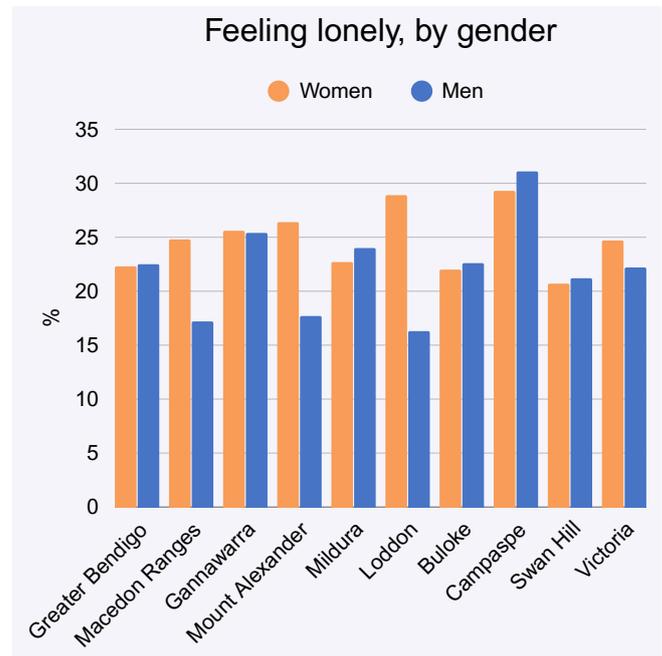


Source: Victorian Population Health Survey, 2023, age adjusted

Social connection is essential for our health and wellbeing. Loneliness is a subjective measure of low social connection and is defined as an 'unpleasant or distressing feeling of a lack of connection to other people, along with a desire for more, or satisfying, social relationships' (Badcock et al, 2022). Loneliness was measured using the three-item UCLA Loneliness Scale. Campaspe has a significantly higher proportion of people feeling lonely, compared to Victoria. with more men reporting loneliness. Gender difference is variable across the LGAs.



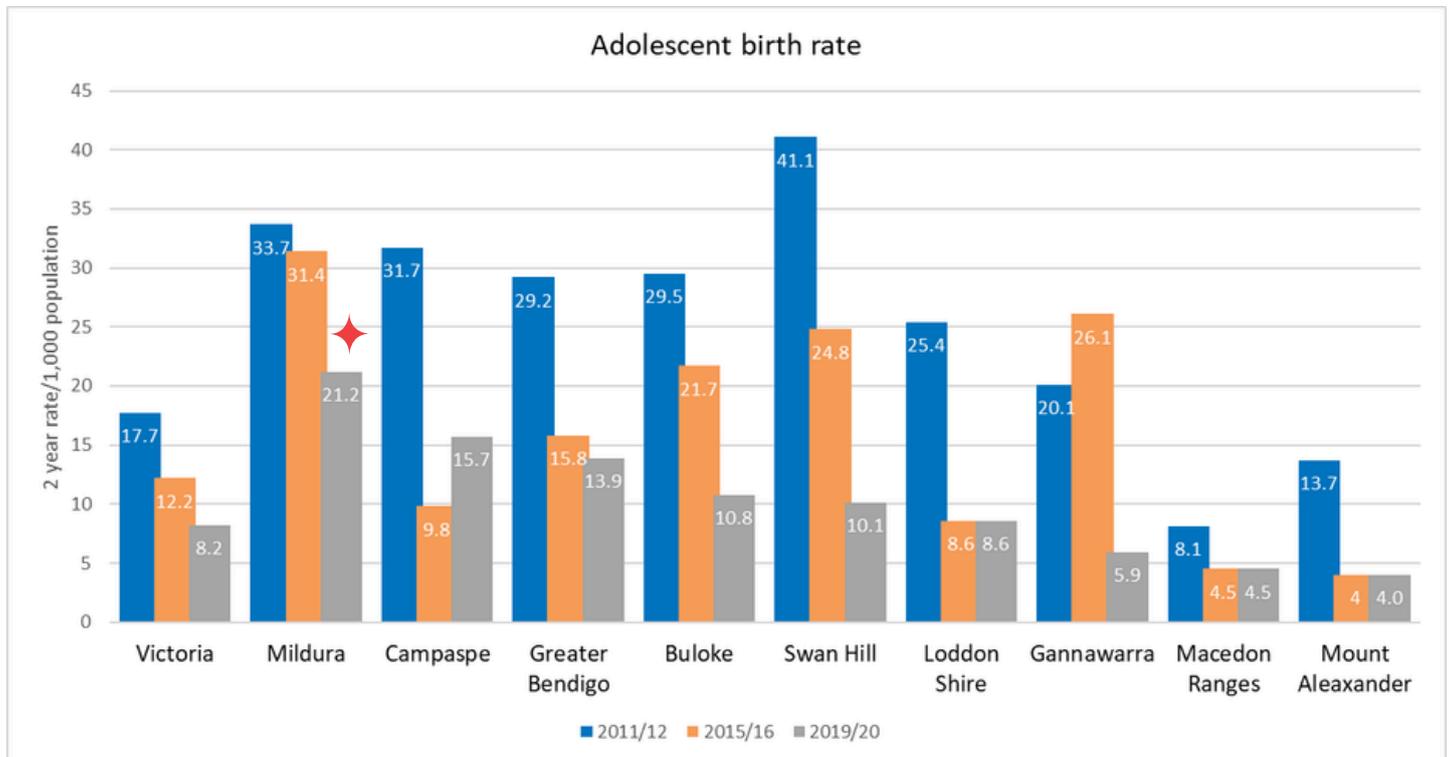
Source: Victorian Population Health Survey, 2023, age adjusted



Source: Victorian Population Health Survey 2023, age adjusted.

## 6.3 Sexual and Reproductive Health

The average adolescent birth rate for the two-year periods is calculated as live births per 1,000 teenage women. Across the LMR, the adolescent birth rates from 2017-18 to 2019-2020, have generally remained the same or decreased, with the notable exception of Mildura. Mildura's adolescent birth rate has increased and is ranked the fourth highest in Victoria. Campaspe, Greater Bendigo and Buloke also have higher rates compared to Victoria.



Source: [Womens Health Atlas](#)

Sexually Transmitted Infection (STI) data is not reported where there are less than five cases. STIs in the LMR are lower than the Victorian rate with the exception of chlamydia in females in Swan Hill and Greater Bendigo.

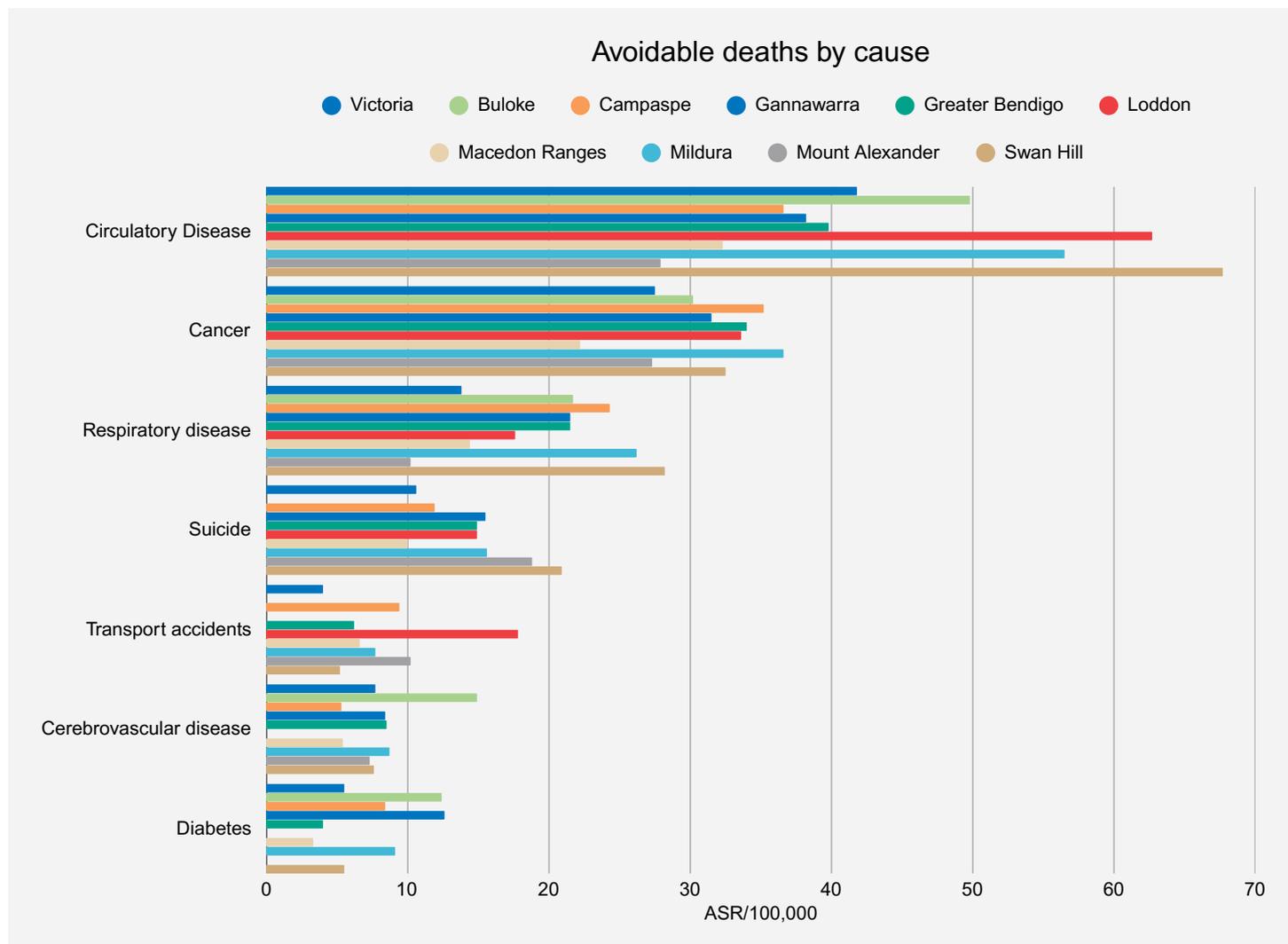
Rate per 10,000 (2023)	Chlamydia		Gonorrhoea		Hep B		Syphilis	
	Female	Male	Female	Male	Female	Male	Female	Male
Victoria	16.3	18.7	2.5	8.6	0.6	0.8	0.7	2.7
Greater Bendigo	17.2	12.0	1.7	1.2	0.7	0.7	^	^
Buloke	11.3	9.7	^	^	^	^	^	^
Campaspe	16	7.6	^	1.6	^	^	^	2.3
Gannawarra	9.4	6.6	^	^	^	^	^	^
Loddon	7.7	3.2	^	^	^	^	^	^
Macedon Ranges	9.7	11.7	1.5	5.4	^	^	^	0.9
Mildura	15.5	8.8	1.4	1.1	1.8	1.1	1.8	1.1
Mount Alexander	7.4	16.8	^	6.4	^	^	^	2.9
Swan Hill	20.1	8.9	^	2.8	^	^	^	^

Source: [Womens Health Atlas](#), 2023

^ less than five cases

## 6.4 Avoidable Deaths by Cause

Deaths are defined as avoidable in the context of the present health system. The highest avoidable deaths in the LMR is circulatory system disease and cancer, which aligns with the state. The table below depicts where the LMR LGA's rates are significantly higher (red star) or significantly lower (green star) than Victoria.



Source: [Social Health Atlas](#), 0-74 years, 2018-22

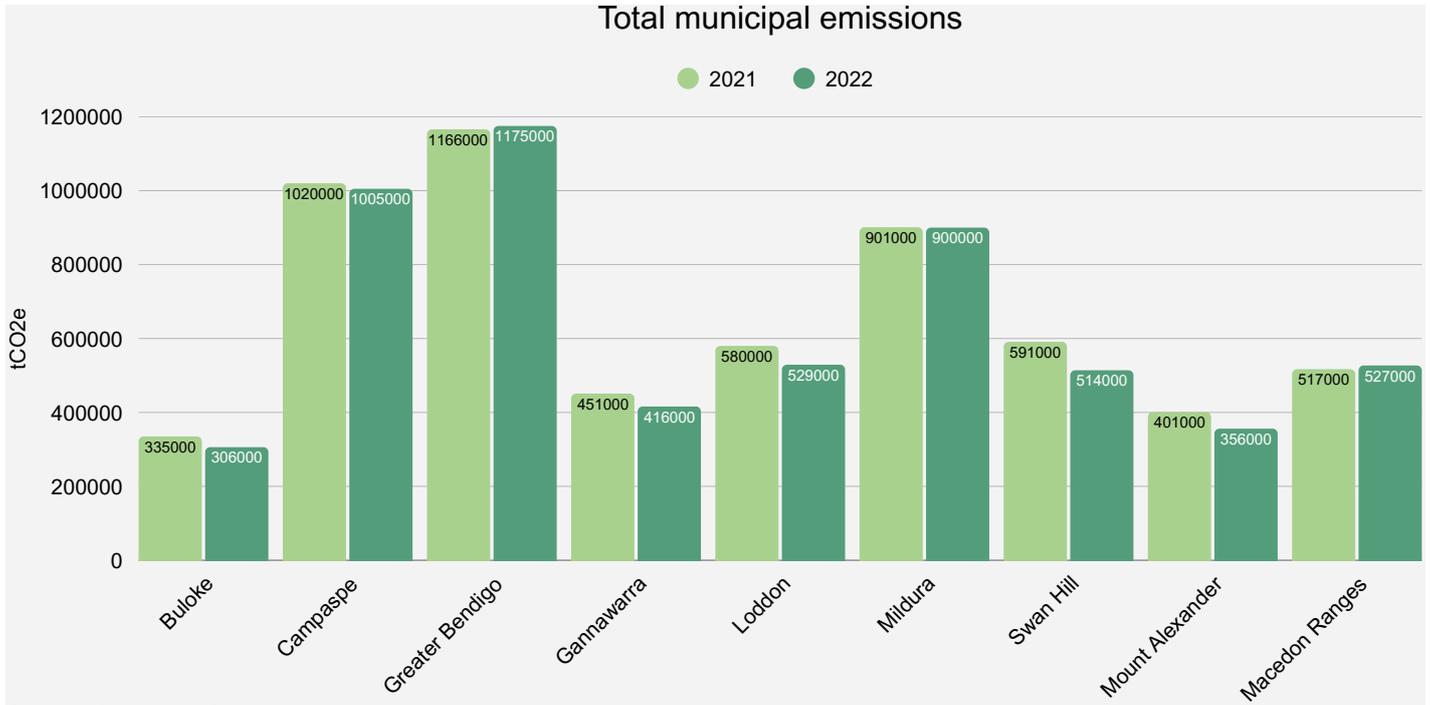
	Circulatory disease	Cancer	Suicide	Respiratory disease	Transport accidents	Cerebrovascular disease	Diabetes
Buloke	49.8	30.2	na	21.7	na	14.9	12.4
Campaspe	36.6	35.2 ★	11.9	24.3 ★	9.4 ★	5.3	8.4
Gannawarra	38.2	31.5	15.5	21.5	na	8.4	12.6
Greater Bendigo	39.8 ★	34 ★	14.9	21.2 ★	6.2 ★	8.5	4.0
Loddon	62.7 ★	33.6	14.9	17.6	17.8 ★	na	na
Macedon Ranges	32.3 ★	22.2	10.0	14.4	6.6	5.4	3.3 ★
Mildura	56.5 ★	36.6 ★	15.6	26.2 ★	7.7 ★	8.7	9.1
Mount Alexander	27.9 ★	27.3	18.8	10.2 ★	10.2	7.3	na
Swan Hill	67.7 ★	32.5	20.9 ★	28.2 ★	5.2	7.6	7.6
Victoria	41.8	27.5	10.6	13.8	4.0	7.7	5.5

Source: [Social Health Atlas](#), 0-74 years, ASR/100,000 population, 2018-22

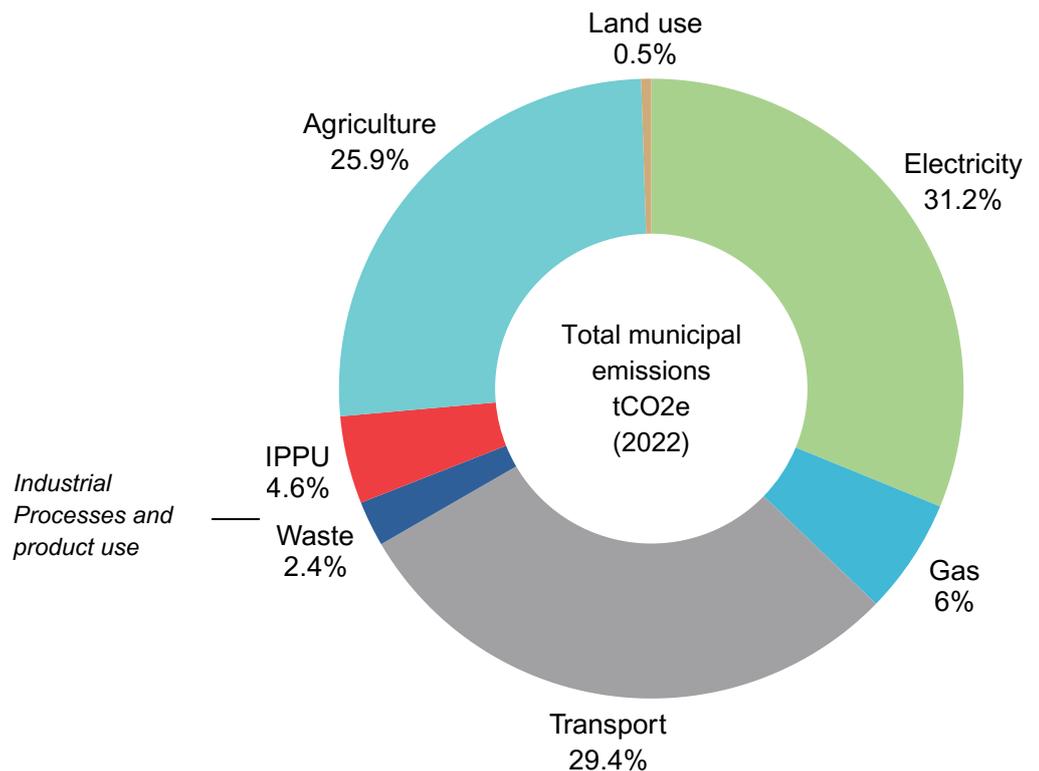
# 7. Environment

## 7.1 Municipal Emissions

The LMPHU's climate change and health work is guided by the Loddon Mallee Climate Change and Health Framework. Greater Bendigo has the highest total municipal emissions, which aligns with its higher population number. Although Mildura and Macedon Ranges have a higher population than Campaspe, Campaspe has the second highest emissions in the LMR. The top causes of emissions in the LMR are electricity (31.2%) and agriculture (25.9%).



Source: Snapshot Climate - Australian Emissions Profiles, calendar year  
tCO2e: Tonnes of Carbon Dioxide Equivalent



Source: Snapshot Climate - Australian Emissions Profiles, 2022 calendar year  
tCO2e: Tonnes of Carbon Dioxide Equivalent

## 7.2 Average Temperature

Temperatures in the LMR differ significantly from north to south. The northern part of the region sees hotter summers while winters are mild. Conversely, the southern part of the region experiences cool and rainy winters and warm and arid summers. In the elevated southern regions, the average maximum temperature is below 25°C. Frosty weather is frequent in the whole region.

LGA (1961-1990)	Summer (Ave oC)		Winter (Ave oC)	
	Maximum	Minimum	Maximum	Minimum
LMR	28.9	13.5	13.7	4.1
Swan Hill	31.2	15	15.6	4.6
Mildura	31	14.8	15.9	5.2
Gannawarra	30.5	14.7	14.8	4.5
Buloke	30	14	14.6	4.4
Loddon	29.4	13.9	13.9	4.2
Campaspe	29.3	14.1	13.9	3.9
Greater Bendigo	28.2	13.4	13.1	3.9
Mount Alexander	27	12	12	3.1
Macedon Ranges	24.1	11.2	10.3	3.2

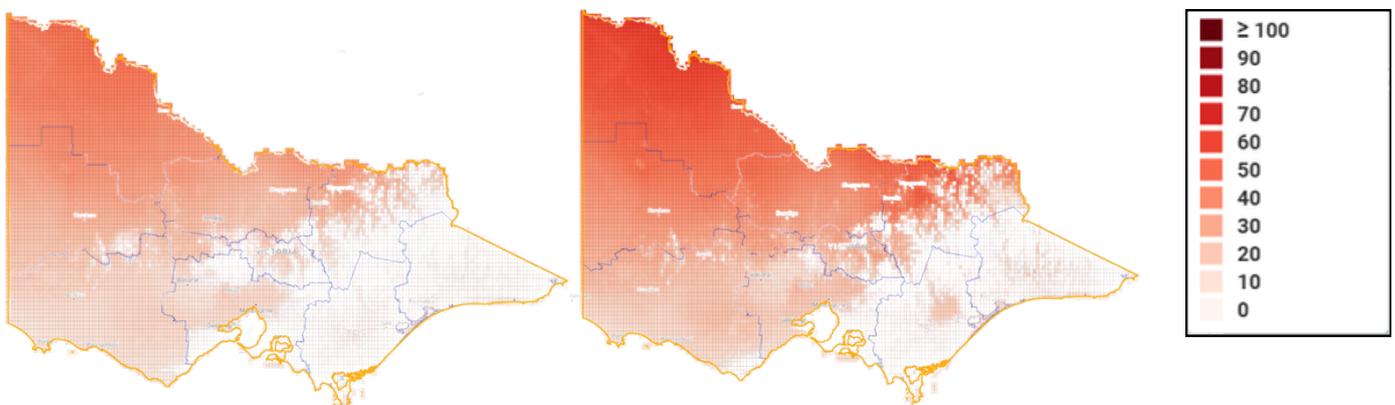
Source: Loddon Mallee Environmental Scan | Emergency Management Victoria (emv.vic.gov.au), 1961-1990

Projected number of days above 35oC in 2030s and 2090s by Bureau of Meteorology Forecast Districts. This data demonstrates that the Mallee and Murray areas are projected to experience increasing days above 35oC, which will impact health and wellbeing. Heat kills more Australians than any other natural disaster.

Heat can cause serious and potentially fatal health problems such as heat exhaustion and heatstroke, trigger sudden events like heart attack or stroke, or worsen existing medical conditions like kidney or lung disease.

2030s (2015-2044)

2090s (2075-2104)



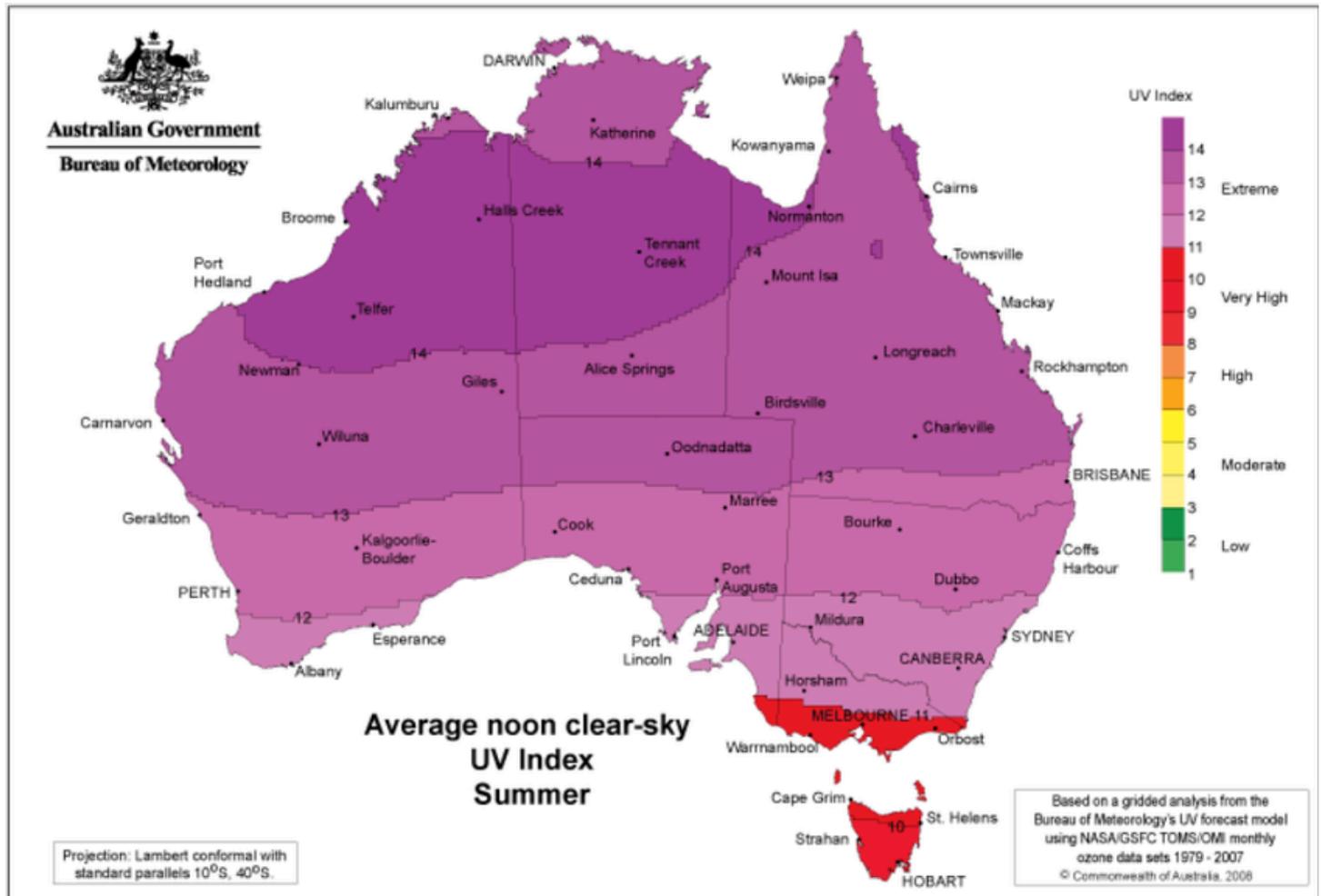
Source: Victorian Government, Energy, Environment and Climate Action

[1] [Better Health Channel](#), Extreme Heat, Victorian Department of Health

## 7.3 Ultraviolet radiation

Exposure to UV radiation from the sun and other sources, such as solariums, is the major cause of skin cancer. Australia has some of the highest levels of UV radiation in the world. Sun exposure has been estimated to cause around 95% of melanoma cases in areas of high exposure, such as Australia and around 99% of non-melanoma skin cancers in Australia. [1]

The map below show the average summer (noon clear sky) solar ultraviolet values over Australia. The LMR experiences extreme Ultraviolet index.



Source: [Australian Bureau of Meteorology](#)

[1] [Australian Government, Cancer Australia](#)

## 7.4 Bushfire Prone Areas

Most of the LMR is classified as bushfire prone area (97.8%). This means high bushfire hazards in the LMR, many of which intersect with settlements and areas are experiencing growth in rural residential and tourism.

The fire danger period in Victoria has become lengthier, indicating a trend towards extended fire seasons. The seasonal fire restriction dates are determined by the municipality and are dependent on factors such as amounts of rain, grassland curing (grass dies, dormant or dry out), and other local conditions.

Smoke from fires, including planned burns, can also pose a hazard within the LMR. The individuals most at risk from smoke exposure include young children, adults over 65 years of age, people with asthma or existing heart or lung conditions, pregnant women, outdoor workers, and smokers. Bushfire-prone areas are either subject to or likely to be subject to bushfires and are subject to specific bushfire construction standards.

	Bushfire prone area (%)	Bushfire prone area (km2)	Total area (km2)
Buloke	97.6	7,807	8,000
Campaspe	97.7	4,415	4,519
Gannawarra	98.7	3,701	3,750
Greater Bendigo	97.6	2,930	3,000
Loddon	100	6,694	6,696
Macedon Ranges	98.6	1,723	1,748
Mildura	98.3	21,710	22,083
Mount Alexander	99.8	1,527	1,530
Swan Hill	92.0	5,625	6,115
Victoria	97.8	5,625	6,115

Source: Loddon Mallee Environmental Scan | Emergency Management Victoria (emv.vic.gov.au)

## 7.5 Areas Potentially Impacted by Flooding

The Mallee sub-region has a significant number of urban settlements exposed to flood risk. Floods have caused significant damage to farms through inundation, isolation, and flash floods following heavy rainfall. Flooding provides important inflows to wetlands and lake systems but may also impact towns and infrastructure.

The flood warning service coverage is shown in the figure below with both the Flood Watch and Flood Warning catchment shown. The flood risk and area impacted by flooding varies around the region. The table (below) shows the percentage of each LGA which is impacted by flooding at the 1:100-year average recurrence interval (ARI). There is a one percent chance (1% annual exceedance probability) of these areas experiencing flooding of this level in any given year based on flood modelling results from flood studies. The main localities listed have some defined built up area in or near the flood impact area defined by the 1:100-year ARI. <sup>[1]</sup>

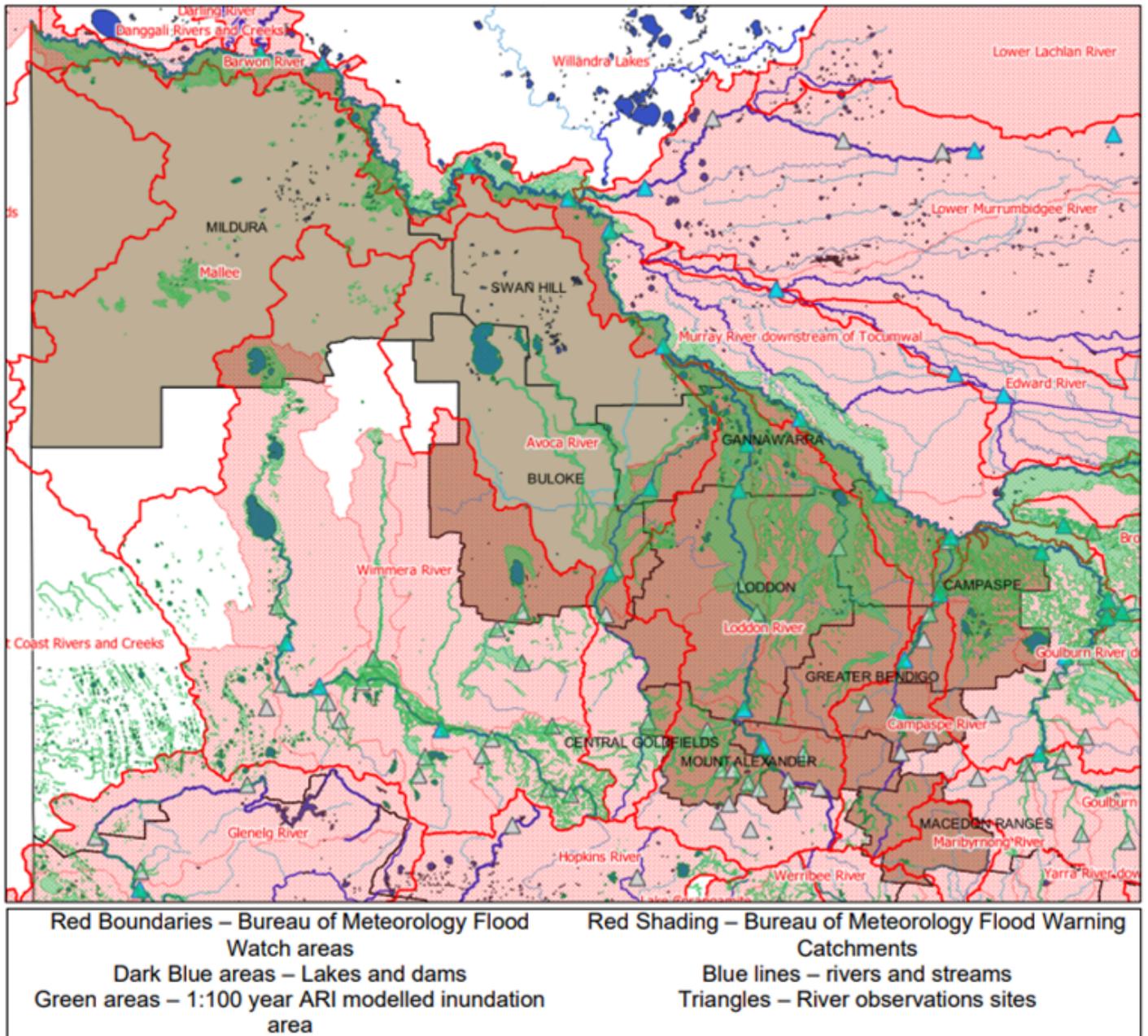


Figure 1: Flood warning and 1:100-year ARI inundation.

[1] Loddon Mallee Environmental Scan

## 7.6 Mosquito Surveillance

In 2024, there were five mosquito-borne viruses identified across Victoria that posed public health risk with the potential for local transmission. These are Japanese encephalitis virus, Murray Valley encephalitis virus, Ross River virus, Barmah Forest virus and West Nile virus Kunjin strain (otherwise known as Kunjin virus). <sup>[1]</sup>

Mosquito surveillance is conducted throughout the Victorian mosquito breeding season by the Department of Health each year. In inland areas, the mosquito season typically starts from early November through to late April the following year, while in coastal areas it typically starts earlier and ends later. The number of mosquito trapping sites within the Loddon Mallee has reduced from 2024 to 2025.

### Mosquito abundance: average number of mosquitoes per trap site per week (W)

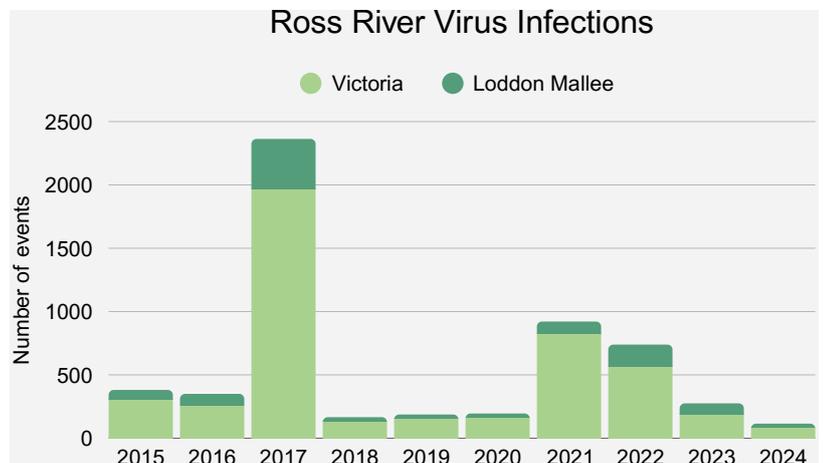
2025	Jan W1	Jan W2	Jan W3	Jan W4	Jan W5	Feb W6	Feb W7	Feb W8	Feb W9	Mar W10	Mar W11	Mar W12	Mar W13	Apr W14	Apr W15	Apr W16	Apr W17	Apr w18
Campaspe		30	20	80	10	50	20	50	40	40	40	10	50	50	40	50	30	
Gannawarra	10	10	10	10	10	10	10	10	40	100	10	30	40	30	10	10		
Mildura	50	10	10	10	10	20	30	10	20	20	60	50	200	100	10	20	20	10
Swan Hill		10	20	40	10	0	10	10	20	10	20	10	10	10	10			

Low 0-49
  Moderate 50-99
  Very high 1,00-9,999
  High 100-999

Source: [Mosquito surveillance report, 2024](#)

## Ross River virus

Ross River virus is a mosquito transmitted disease that occurs throughout most regions of Australia including regional Victoria, particularly around inland waterways and coastal regions. All 9 LGAs within the Loddon Mallee are considered endemic. Epidemics occur from time to time and are related to environmental conditions that encourage mosquito breeding such as heavy rainfall, floods, high tides and temperature. The number of notifications of Ross River Virus from Loddon Mallee ranges from 25 to 397 in a year. In 2023 43.2% of all Victorian notifications were from the Loddon Mallee.



Source: Victorian Department of Health, surveillance summary report

[1] Victorian Department of Health, [Mosquito surveillance report](#)

## 6. References and abbreviations

<b>LMPHU</b>	<a href="https://www.bendigohealth.org.au/LMPHU/">https://www.bendigohealth.org.au/LMPHU/</a>
<b>ABS Quick Stats</b>	<a href="https://abs.gov.au/census/find-census-data/quickstats/2021/POA3523">https://abs.gov.au/census/find-census-data/quickstats/2021/POA3523</a>
<b>AECD</b>	<a href="https://www.aedc.gov.au/data-explorer/">https://www.aedc.gov.au/data-explorer/</a>
<b>Crimes Statistics Agency</b>	<a href="https://www.crimestatistics.vic.gov.au/">https://www.crimestatistics.vic.gov.au/</a>
<b>Social Health Atlas</b>	<a href="https://phidu.torrens.edu.au/social-health-atlases">https://phidu.torrens.edu.au/social-health-atlases</a>
<b>Womens Health Atlas</b>	<a href="https://victorianwomenshealthatlas.net.au/#/">https://victorianwomenshealthatlas.net.au/#/</a>

### Abbreviation table

AEDC	Australian Early Development Census
ARI	Average recurrence interval
COPD	Chronic Obstructive Pulmonary Disease
Greater Bendigo	City of Greater Bendigo
IRSD	Index of Relative Socio-economic Disadvantage
LGA	Local government area
LMPHU	Loddon Mallee Public Health Unit
LMR	Loddon Mallee region
LGBTIQA+	Lesbian, gay, bisexual, transgender, intersex, queer, asexual and other sexually or gender diverse people
NBCSP	National Bowel Cancer Screening Program
NDIS	National Disability Insurance Scheme



Loddon Mallee  
Public Health Unit