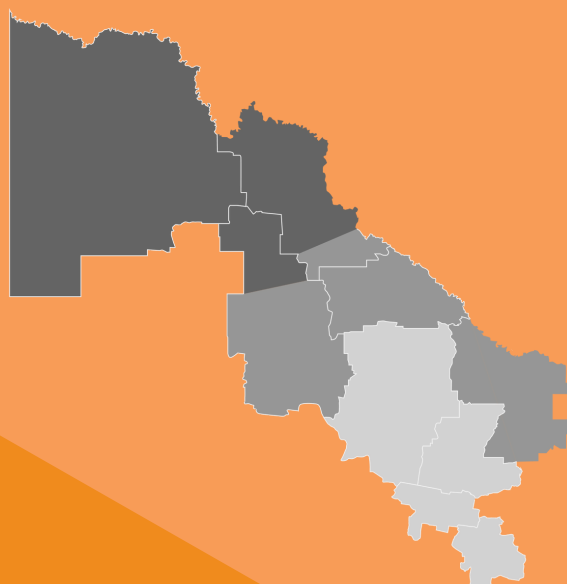# LODDON MALLEE REGION
DATA PROFILE

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.

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

Contents

Summary

Population

The Loddon Mallee region (LMR) spans northwest Victoria, covering urban centers like Bendigo and Mildura, and rural areas. It has a population of approximately 334,911 with a higher than average proportion (21.5%) of residents over 65, contributing to increased demand for healthcare services. The area experiences significant socioeconomic disparities, particularly in remote communities where unemployment and lower income levels are prevalent.

Priority Groups

The region is home to the largest proportion of Aboriginal and Torres Strait Islander people in Victoria (2.6%) and has a notable multicultural presence, including refugee communities and seasonal immigrant workers. Data indicates health inequities, with Aboriginal and Torres Strait Islander people experiencing systemic disadvantages and LGBTIQA+ individuals facing higher rates of mental health issues and substance use.

Health Determinants

Educational attainment is generally lower than the state average, with only 10.2% completing Year 12 or equivalent. Socioeconomic challenges include high levels of poverty, limited affordable housing, and significant family violence incidents, particularly in Mildura and Swan Hill. Food insecurity is also an issue, with 8.1% of adults unable to afford food at times.

Health Risk Factors

Smoking, alcohol consumption, and obesity rates are higher than state averages, especially in rural LGAs like Buloke and Gannawarra. Physical activity and healthy eating rates show mixed results, with some areas surpassing and others lagging behind state averages.

Health Conditions

Mental health, arthritis, and asthma are prevalent across the region. In particular Greater Bendigo reports high rates of these conditions. Avoidable deaths are mainly due to circulatory diseases, cancers and notably transport accidents. Evidence suggests that sexual and reproductive health is an area that needs exploring in Mildura.
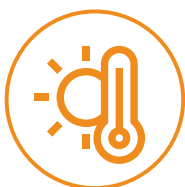
Environmental Factors

The region faces environmental challenges, including climate change impacts such as rising temperatures, bushfire risks, and increased flooding. LMR's highest municipal emissions result largely from transport and agriculture.

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Snapshot

This snapshot highlights the indicators where the LMR LGAs are statistically 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 Victorian average/rate

Indicator	Buloke	Campaspe	Gannawarra	Greater Bendigo	Loddon	Mildura	Macedon Ranges	Mount Alexander	Swan Hill
Disadvantage (IRSD)						🔴	🟢		🔴
Minimum wage (F)	🔴		🔴		🔴				
Rental affordibility	🟢		🟢		🟢				
Homelessness	🟢					🔴			🔴
Family violence						🔴			🔴
Alcohol and other drugs	🔴		🔴						
Obesity	🔴	🔴	🔴	🔴	🔴				🔴
Fruit consumption							🟢	🟢	
Vegetable consumption			🔴						
Physically active		🟢	🟢						
Childhood development		🔴							
Adolescent birth rate						🔴			
Long-term conditions									
Mental health				🔴					
Arthritis				🔴					
Asthma			🔴	🔴					
Diabetes								🟢	
Heart disease						🔴			
Cancer				🔴				🔴	
Lung condition					🔴				
Kidney disease						🔴			
Dementia					🟢		🔴	🟢	
psychological distress	🟢								🟢
Avoidable deaths									
Circulatory disease				🔴		🔴	🟢		🔴
Cancer				🔴		🔴			
Respiratory disease		🔴		🔴		🔴			
Transport accidents	🔴	🔴			🔴	🔴	🔴		🔴
Diabetes							🟢		

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How to read this regional 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 |
| Greater Bendigo |
| Campaspe |
| Macedon Ranges |
| Gannawarra |
| Loddon |
| Mount Alexander |
| Buloke |

| 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)

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LMPHU region

The LMPHU region is located in the northwestern 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, with major activities including cropping (grain, fruit, and vegetables), livestock farming, and viticulture. The region's proximity to the Murray River 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.

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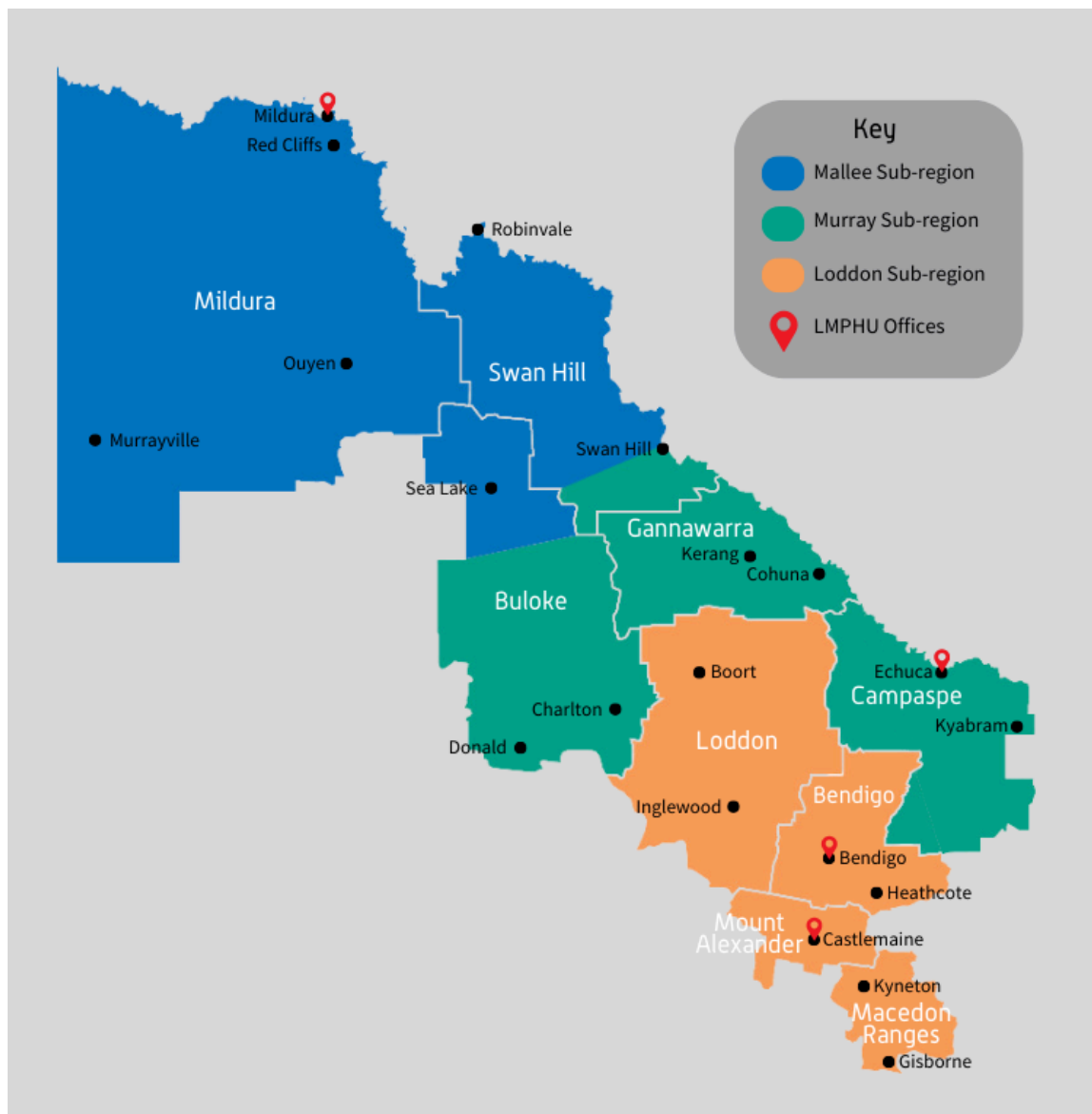
1 LMPHU region population

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)

Loddon Mallee age distribution, 2021

Age	Males	Female
85+	2.1	3.2
75-84	6.6	6.9
65-74	12.1	12
55-64	13.5	13.8
45-54	12.6	12.9
35-44	11.4	11.9
25-34	11.5	11.6
20-24	5.4	4.9
15-19	6.0	5.4
5-14	13.2	12.1
0-4	5.6	5.3
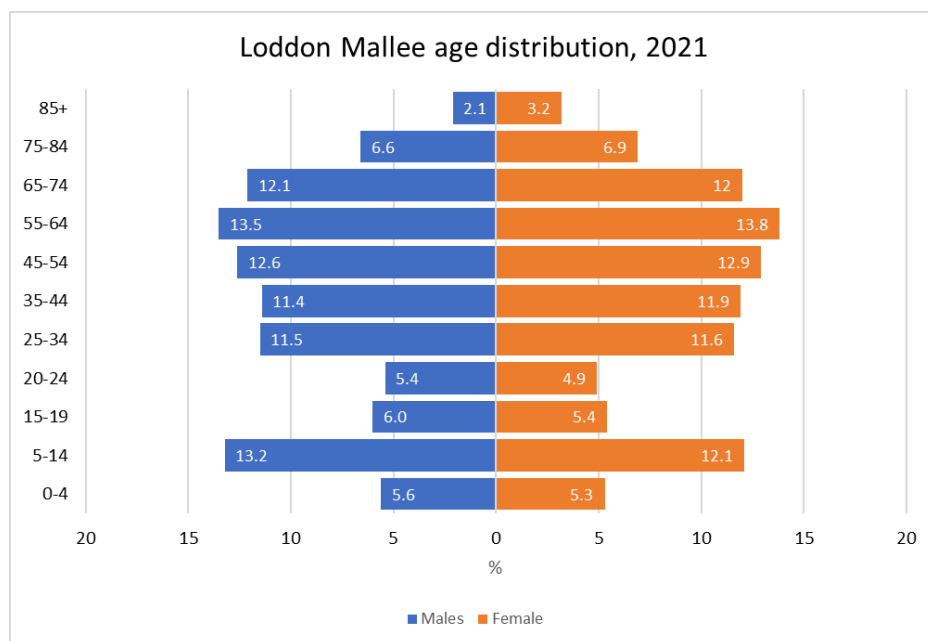
LGA	Population (2021)
Greater Bendigo	121,470
Mildura	56,972
Macedon Ranges	51,458
Campaspe	38,735
Swan Hill	21,403
Mount Alexander	20,253
Gannawarra	10,683
Loddon	7,759
Buloke	6,178

Source: Australian Bureau of Statistics, 2021

Victorian age distribution, 2021

Age	Male	Female
85+	1.7	2.6
75-84	5.0	5.6
65-74	9.0	9.6
55-64	11.3	11.7
45-54	12.6	12.9
35-44	14.1	14.1
25-34	15.1	14.9
20-24	6.6	6.1
15-19	5.8	5.4
5-14	12.7	11.7
0-4	6.0	5.5
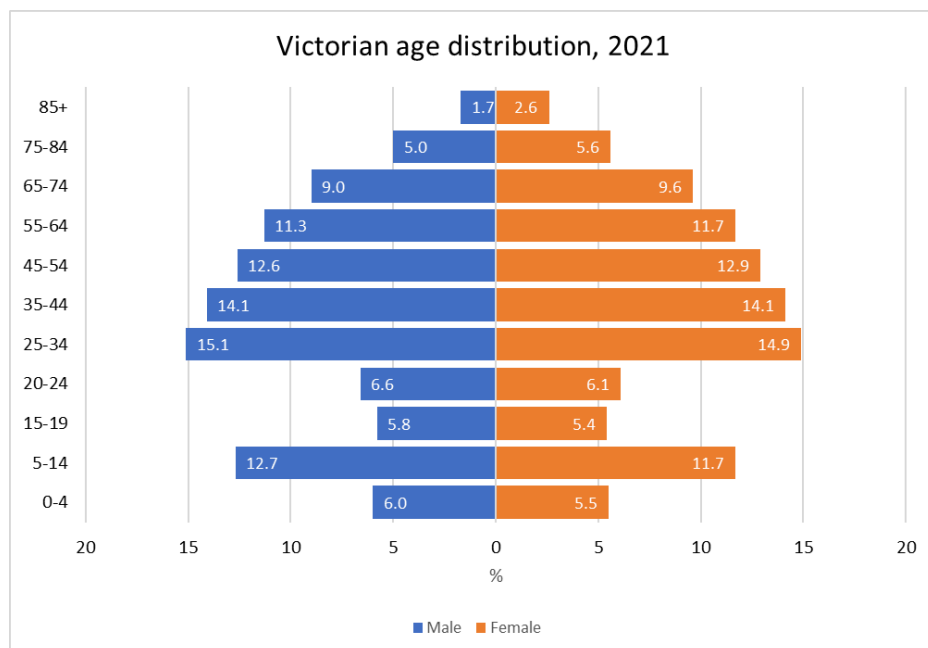
Source: Australian Bureau of Statistics, 2021

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

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2.1 Indigenous status

Indigenous Status

LGA	%
Victoria	1
Loddon Mallee	2.6
Mildura	4.6
Swan Hill	4.5
Campaspe	3
Gannawarra	2.5
Greater Bendigo	2.3
Loddon Shire	2.2
Buloke	1.5
Mount Aleaxander	1.3
Macedon Ranges	0.9

Source: Australian Bureau of Statistics, 2021
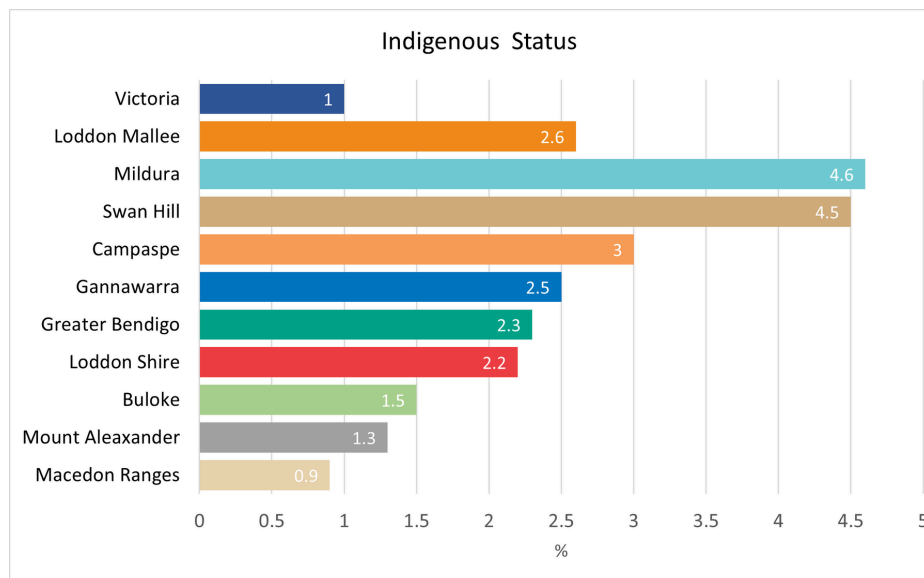
LMR is fortunate to have the highest proportion Aboriginal and Torres Strait Islander peoples in Victoria. With opportunities to learn from their spiritual and cultural connection to Country. However, we also know that Aboriginal and Torres Strait Islander peoples dis-proportionally experience systemic 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.

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

Top three languages used at home for each LGA

Mildura: Malay Mandarin Vietnamese

Swan Hill: Malay Mandarin Vietnamese

Gannawarra: Filipino Punjabi Tagalog

Campaspe: Italian Filipino Tagalog

Buloke: Malayalam Mandarin Tagalog

Loddon: Filipino Tagalog Malayalam

Greater Bendigo: Karen Mandarin Malayalam

Mount Alexander: German Greek Spanish

Macedon Ranges: Italian Mandarin German

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

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2.3 LGBTIQA+

Unfortunately, there is a lack of local data on LGBTIQA+ 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 that 5.7 per cent of Victorian adults identify as LGBTIQA+, however some rural areas have attracted significant higher proportion of LGBTIQA+ people to their communities.

State and national data indicate poorer mental and physical health for LGBTIQA+ 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 LGBTIQA+ strategy 2022–32 | vic.gov.au (www.vic.gov.au); 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)

2.4 People with disability

The likelihood of disability generally increases with age and LMR's higher proportion of people with profound or severe disability, compared to Victoria may reflect LMR's older population profile. Interestingly, the NDIS participation rates does not correlate with the disability rates.

People with profound/severe disabilty (all ages), 2021

LGA	%
Victoria	6.1
Loddon Mallee	8.8
Buloke	8.9
Loddon Shire	8.2
Mildura	8
Campaspe	7.8
Gannawarra	7.6
Greater Bendigo	7.4
Swan Hill	6.4
Mount Aleaxander	5.6
Macedon Ranges	5.3
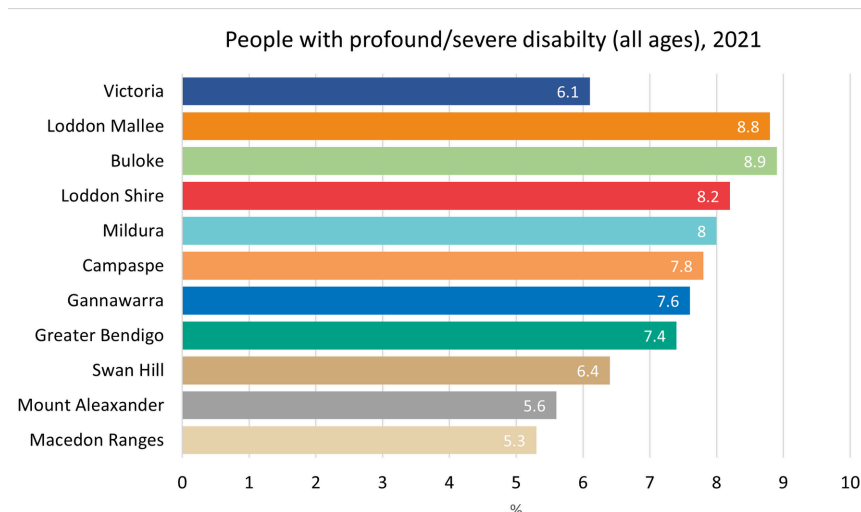
Source: Social Health Atlas, People with profound or severe disability , includes people in long-term accomodation.

LGA	NDIS participants ASR per 100 (No)
Victoria	2.2 (142,240)
Greater Bendigo	3.5 (4,249)
Campaspe	2.9 (1,060)
Mildura	2.7 (1,551)
Mount Alexander	2.6 (452)
Swan Hill	2.4 (501)
Buloke	2.4 (133)
Gannawarra	2.3 (217)
Loddon	2.2 (150)
Macedon Ranges	2.1 (1,123)

Source: Social Health Atlas, National Disability Insurance Scheme (NDIS) participants

People with mild/moderate disabilty (all ages), 2018

LGA	ASR per 100 population
Gannawarra	11
Loddon Shire	10.8
Campaspe	10.4
Greater Bendigo	10.4
Buloke	10.4
Mount Alexander	10.3
Mildura	9.9
Swan Hill	9.8
Macedon Ranges	8.3

Source: Social Health Atlas , Estimated number of total persons, living in households, with moderate or mild care activity limitations (modelled estimates)

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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^
Mildura	940	5 ✦
Swan Hill	941	7 ✦
Loddon	948	11
Gannawarra	952	14
Campaspe	965	19
Buloke	972	24
Greater Bendigo	985	27
Mount Alexander	1007	47
Macedon Ranges	1063	73 ✦

^ rank 1 =most disavantage; rank 79 = least disadvantage
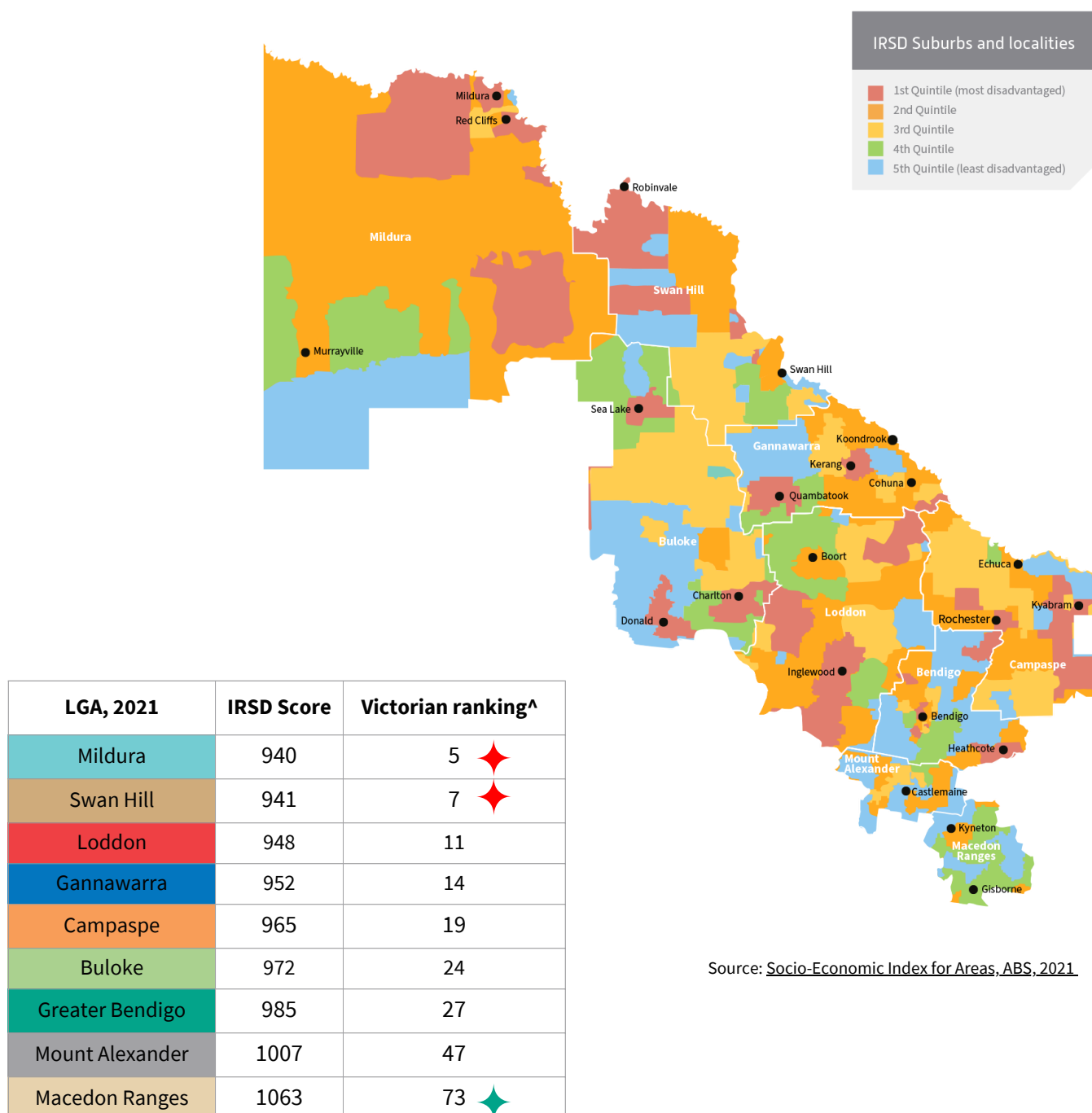
Source: Socio-Economic Index for Areas, ABS, 2021

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3.2 Level of highest educational attainment

Education is an important determinant of health and is strongly associated with life expectancy, morbidity, health behaviours[1]. 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 pg 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, 2021						
	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)

3.3 Household Income

Above minimum weekly wage, 2021

Source: Women's Health Atlas
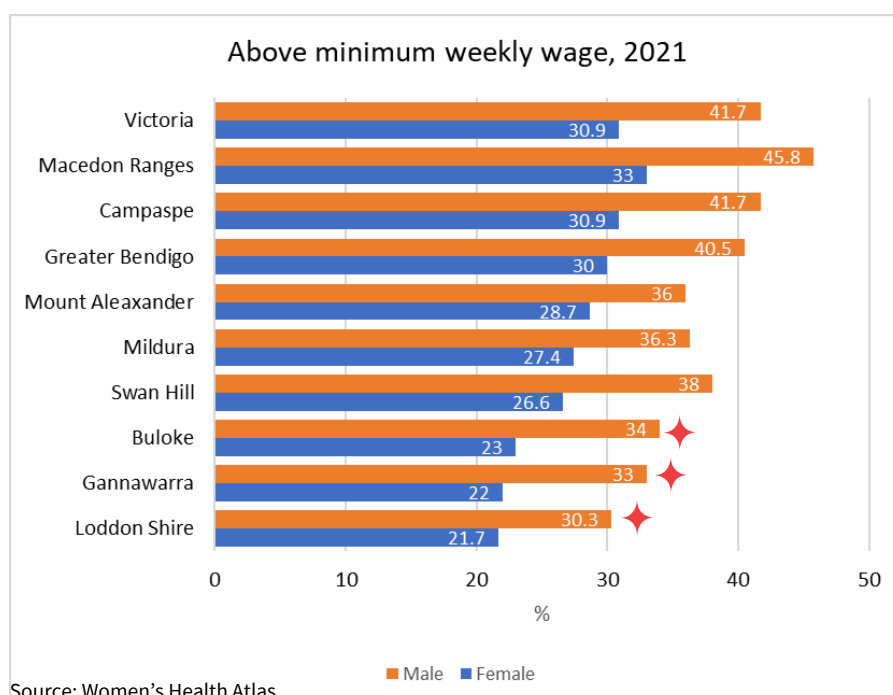
The calculation above minimum weekly wage includes persons who are aged 15 years and over, who are earning $800 or more per week.

- 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 2nd, 3rd and 4th (respectively) lowest percentage above minimum wage for females in Victoria.

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3.4 Rental affordability

In many parts of Victoria, median rent prices are continuing to increase and becoming less affordable. The graph below represents affordability of rental homes for lower income households. The affordability benchmark used is that 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 (6th 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.
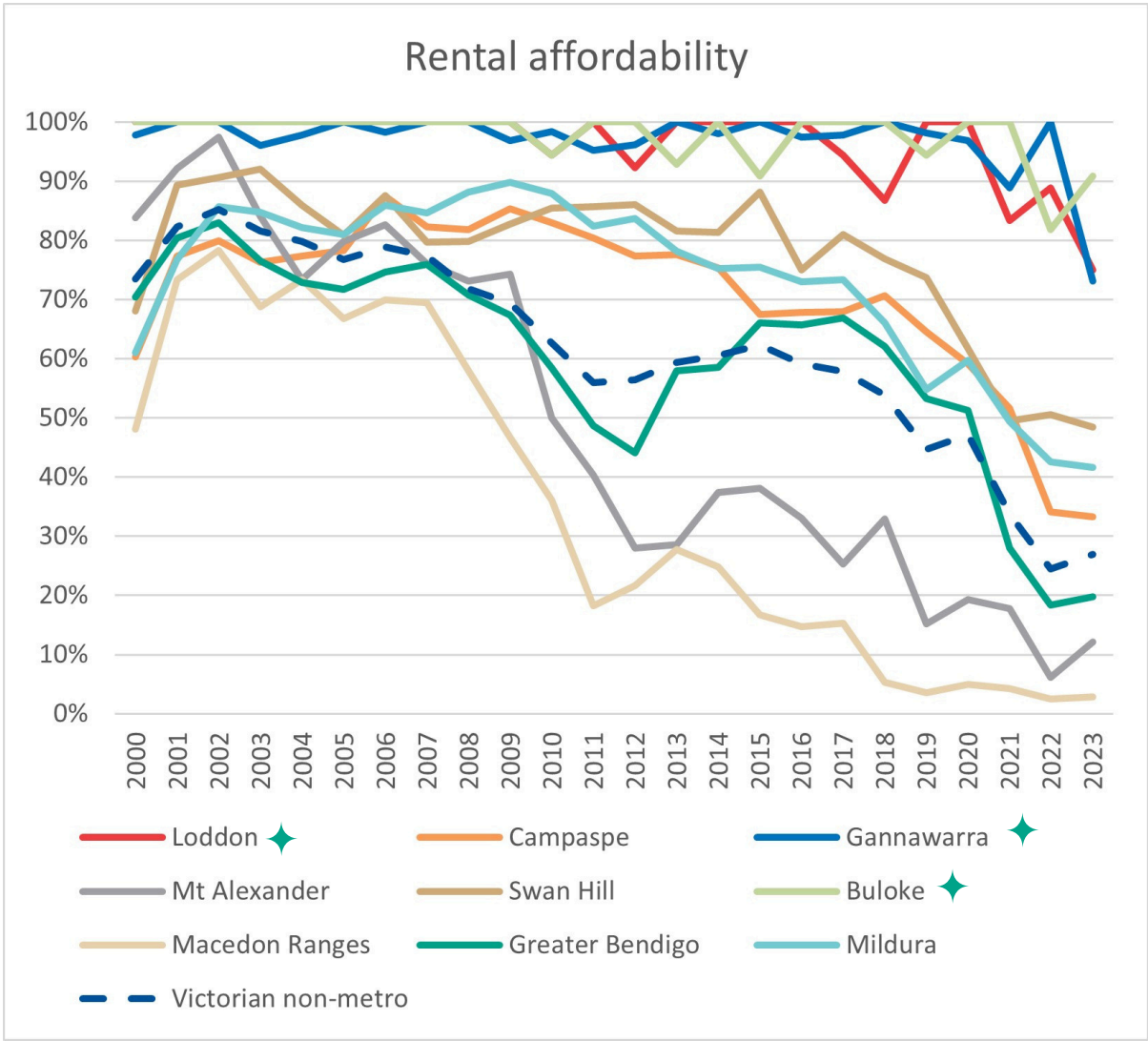
Source: Rental Report - Quarterly: Affordable Lettings by LGA - Dataset - Victorian Government Data Directory

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3.5 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 homelessness rate in Victoria.

Homelessness, 2021

Region	ASR per 10,000 population
Victoria	46.9
Swan Hill	111.4 ✦
Mildura	62.6 ✦
Greater Bendigo	48.3
Loddon Shire	33.3
Campaspe	32
Mount Aleaxander	23.5
Gannawarra	21.8
Macedon Ranges	17.3
Buloke	7.4 ✦
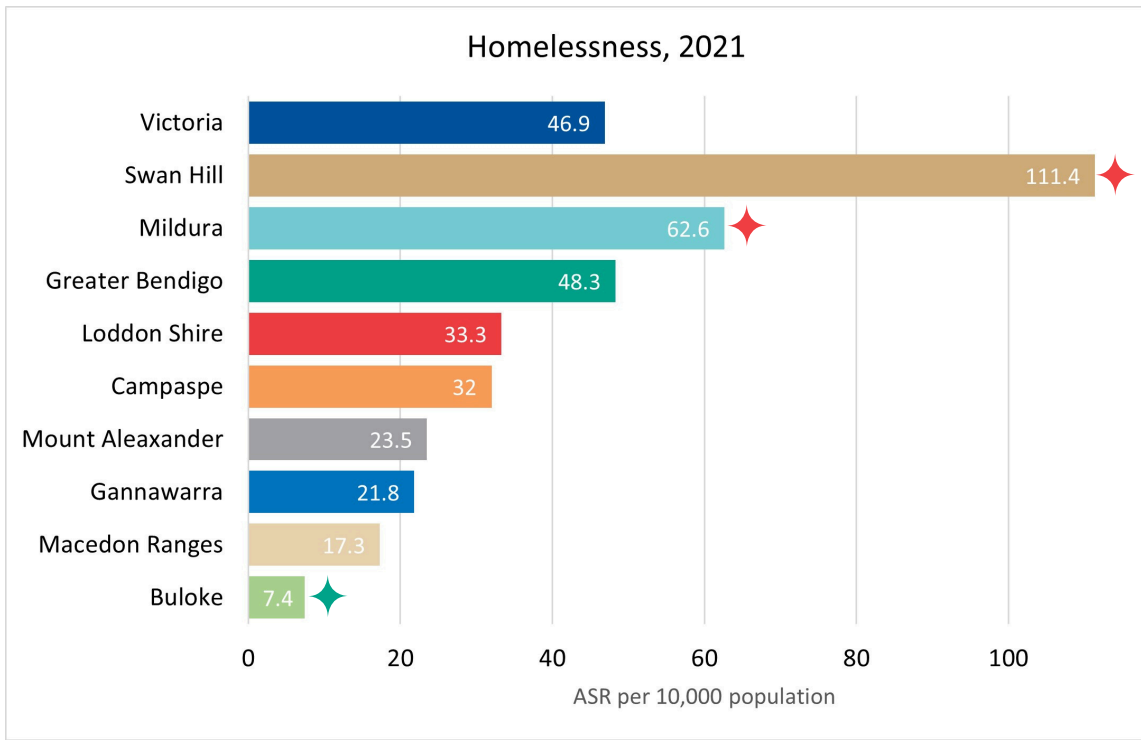
Source: Social Health Atlas

3.6 Family violence

Family violence incidents

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, Campapse, Swan Hill and Mildura are all above the Victorian rate in 2023/24.
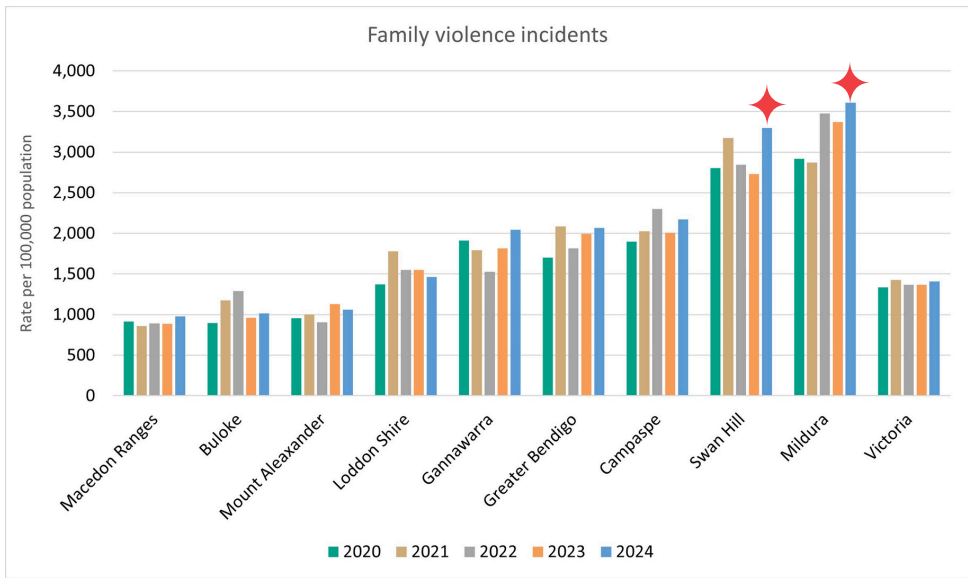
Source: Crime Statistics Agency

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4 Health risk factors

4.1 Smoking

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.

Adults who smoke daily

	2017	2020
Victoria	12.4	12
	13.9	13.5
Buloke	11	17.4
	12.4	16.2
Mildura	15.1	15.5
	8.5	15.3
Greater Bendigo	12.4	14.3
	15.3	14.1
Swan Hill	21.5	12.3
	25.5	12
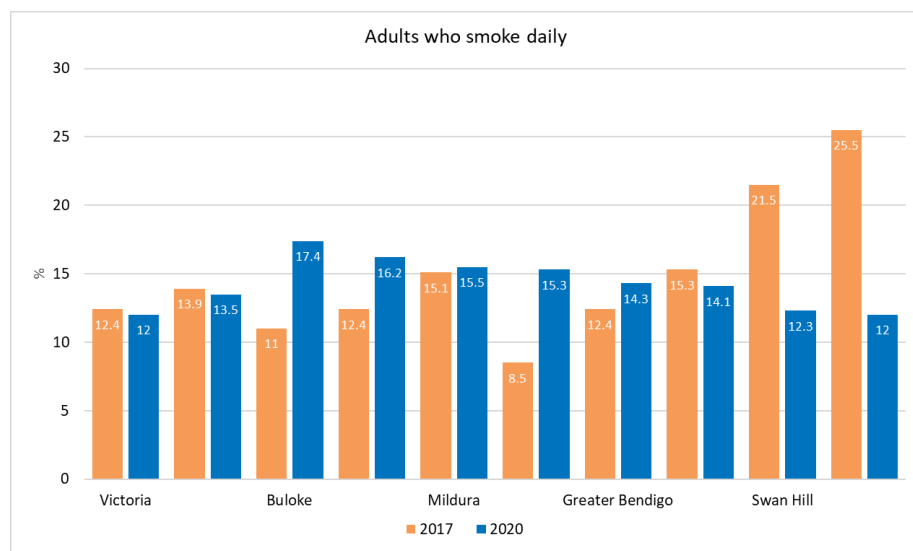
Source: Victorian Population Health and Wellbeing Dashboard.

- Loddon shire, Macedon Ranges and Swan Hill have all recorded large decrease from 2017 to 2020 in the proportion of adults smoking.
- Buloke, Campaspe and Mount Alexander have recorded an increase from 2017 to 2020 in the proportion of adults smoking.
- Buloke has the 5th highest proportion of adults who smoke daily in Victoria but the difference is not significant (caution in interpreting this result due to small numbers).

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.

Consumed more than two standard alcoholic drinks per day, 2017/18

LGA	ASR per 100 population
Victoria	14.4
Buloke	25
Gannawarra	24.7
Loddon Shire	23.1
Swan Hill	22.1
Campaspe	21
Mildura	20.4
Mount Aleaxander	20.1
Macedon Ranges	19.8
Greater Bendigo	17.1
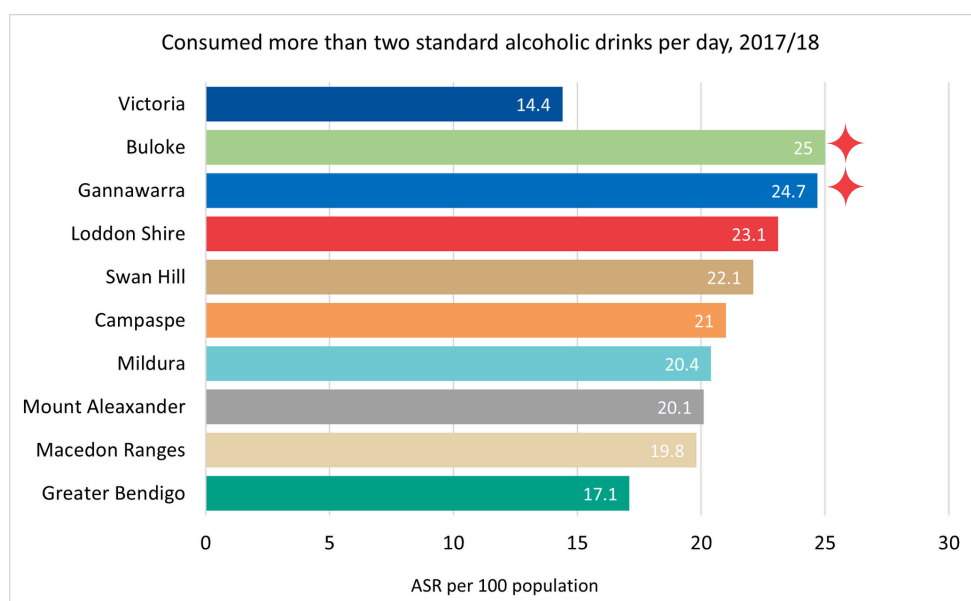
Source: Social Health Atlas, 2023,
Estimated number of persons aged 18 years and over who consumed more than two standard alcoholic drinks per day on average (modelled estimates)

- Buloke and Gannawarra are the 6th and 7th respectively highest rates in the state of people consuming more than two standard alcohol drinks per day.
- All LGAs in the LMR have higher rates compared to Victoria.

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4.3 Obesity

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

Obesity (self reported), 2020

LGA	%
Victoria	20.9
Loddon Mallee	27.9 ★
Buloke	37.8 ★
Loddon Shire	37.2 ★
Swan Hill	33.2 ★
Gannawarra	31 ★
Greater Bendigo	29.7 ★
Campaspe	28.2 ★
Mildura	24.5
Macedon Ranges	23.1
Mount Aleaxander	22.7

Source: Victorian Population Health and Wellbeing Dashboard.
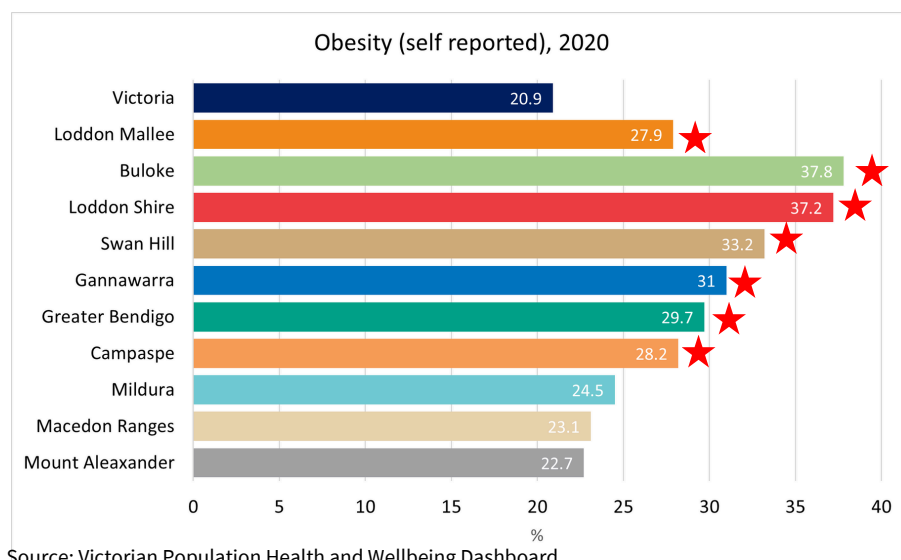
- All LGAs in the LMR have higher proportion of adults reporting obesity compared to Victoria.
- Swan Hill, Gannawarra, Loddon, Campapse, Buloke and Greater Bendigo all have significantly higher proportion of adults reporting they are obese.
- Self reported obesity has risen in each LGA from 2017 to 2020, with the exception of Mildura and Gannawarra.

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.[1] Macedon Ranges and Mount Alexander are significantly higher for mean daily serves of fruit compared to Victoria, while Gannawarra is significantly lower for mean daily serves of vegetables. Gannawarra and Campaspe have significantly higher proportion of people who are sufficiently physically active.

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	Mean daily serves of fruit in adults , 2017	Mean daily serves of vegetables in adults, 2017	Proportion of adults who are sufficiently physically active (%), 2017
Victoria	2.2	1.6	51.1
LMR	2.3	1.6	56.5
Greater Bendigo	2.4	1.6	56.2
Buloke	2.1	1.5	56.6
Campaspe	2.3	1.6	58.2 ★
Gannawarra	2.1	1.3 ★	60.3 ★
Loddon	2.0	1.4	52.8
Macedon Ranges	2.4 ★	1.6	57.5
Mildura	2.1	1.5	54.1
Mount Alexander	2.6 ★	1.7	58.1
Swan Hill	2.1	1.7	55.9

Source: Victorian Population Health and Wellbeing Dashboard.

[1] Victorian Population Health and Wellbeing Plan 2023-27

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4.5 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 AECD website.

Campaspe has the highest proportion of children with two or more developmental vulnerabilities in the LMR and is the third highest in Victoria.

Childhood developmentally vulnerable (two or more)

Region	%
Victoria	10.3
Campaspe	19.7
Buloke	14
Greater Bendigo	13.3
Swan Hill	12.7
Mildura	11.7
Mount Alexander	11.2
Loddon	9.1
Gannawarra	8.7
Macedon Ranges	6.7
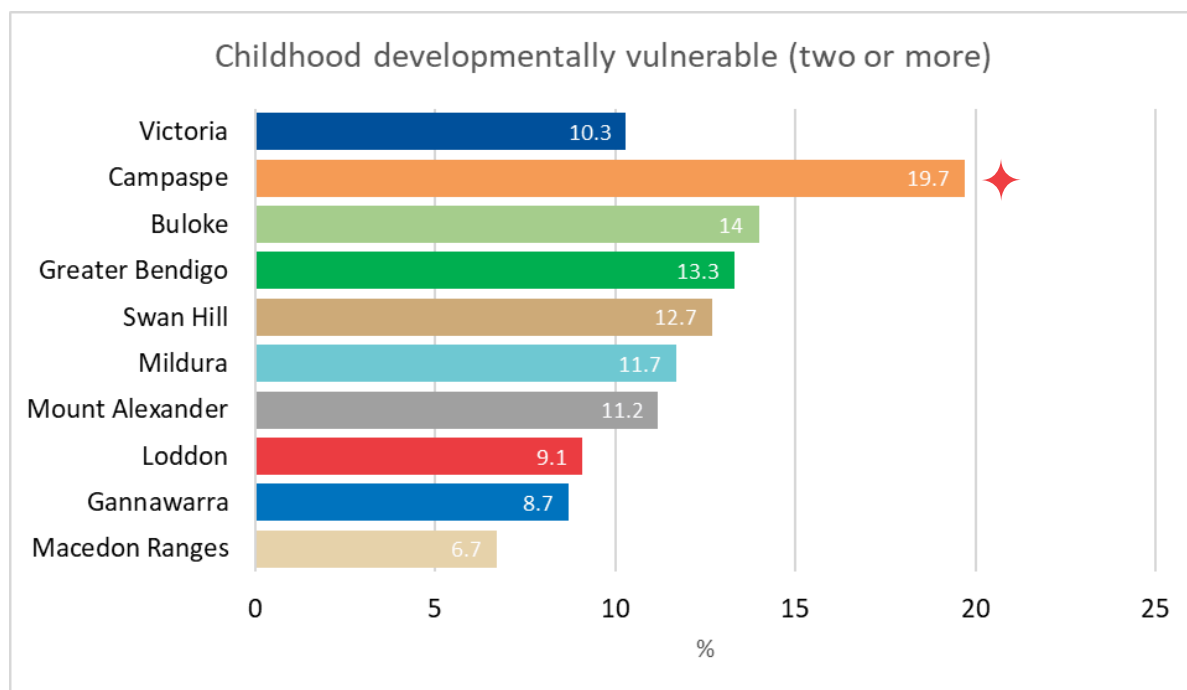
Source: Australian Early Development Census

4.6 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 [1].

Unemployment rate, 2021

Region	%
Victoria	4.7
Loddon Shire	5
Mildura	4.9
Greater Bendigo	3.7
Gannawarra	3.5
Mount Aleaxander	3.5
Buloke	3.4
Swan Hill	3.3
Campaspe	3.3
Macedon Ranges	2.8

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 LMR.

Source: Victorian Public Health and Wellbeing Outcomes Dashboard

[1] Australian Institute of Health and Welfare

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5 Health conditions

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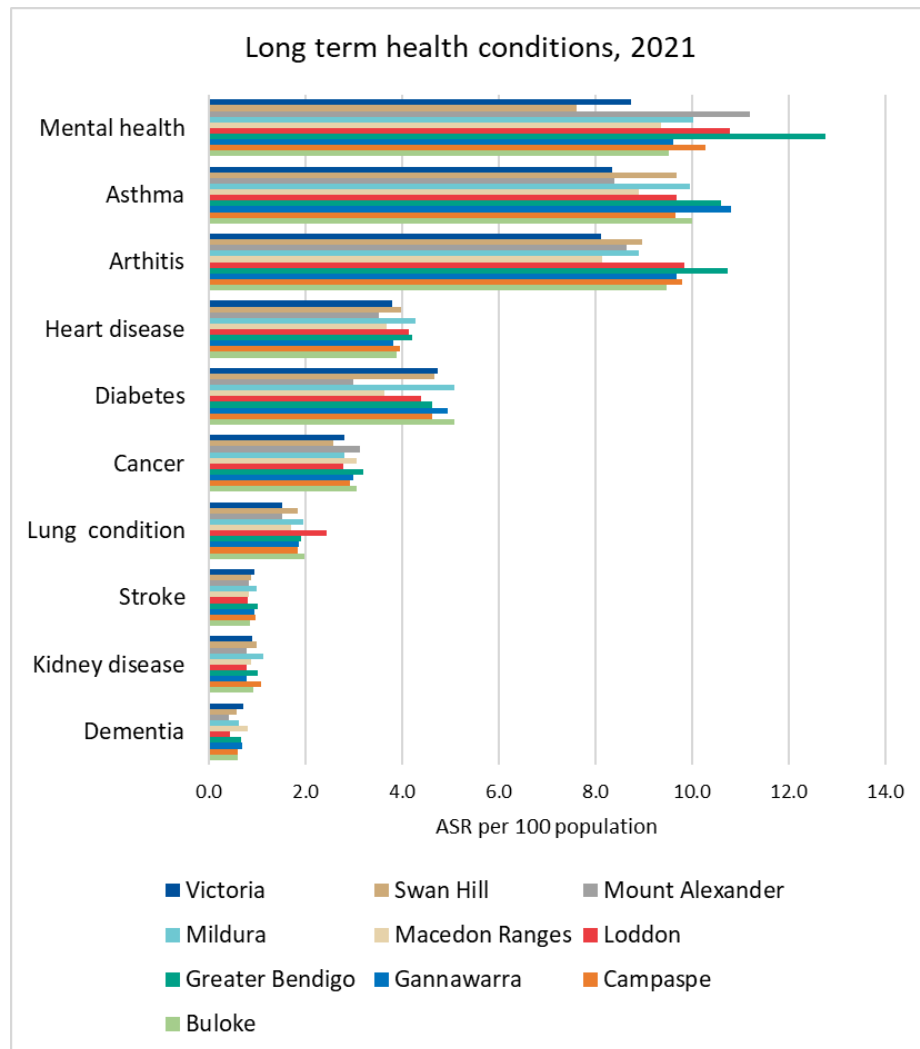
- Mental health conditions , arthritis and asthma are the highest rates for long-term conditions in the LMR.
- The table below shows which LGAs are ranked in the top 10 highest (red star) or lowest 10 in Victoria, for each health condition.
- Greater Bendigo is ranked in the top ten highest for mental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

Long-term health conditions, 2021

LGA	Mental Health	Arthritis	Asthma	Diabetes	Heart disease	Cancer	Lung conditions	Stroke	Kidney disease	Dementia
Buloke	9.5 ★	9.5 ★	10 ★	5.1	3.9	3.06 ★	2.0	0.9	0.9	0.6
Greater Bendigo	12.8	10.7	10.6	4.6	4.2	3.2	1.9	1.0	1.0	0.7
Campaspe	10.3	9.8	9.7 ★	4.6	3.9	2.9	1.9	1.0	1.07	0.6
Gannawarra	9.6	9.7	10.8	5.0	3.8	3.0	1.9 ★	0.9	0.8	0.7 ★
Loddon	10.8	9.8	9.7	4.4	4.1	2.8	2.4	0.8	0.8	0.4 ★
Macedon Ranges	9.3	8.1	8.9	3.6	3.7 ★	3.06	1.7	0.8	0.9 ★	0.8
Mildura	10	8.9	10	5.1 ★	4.3	2.8 ★	2.0	1.0	1.1	0.6 ★
Mount Alexander	11.2	8.6	8.4	3.0	3.5	3.1	1.5	0.8	0.8	0.4
Swan Hill	7.6	9.0	9.7	4.7	4.0	2.6	1.9	0.9	1.0	0.6

Source: Social Health Atlas, 2023

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5.2 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.
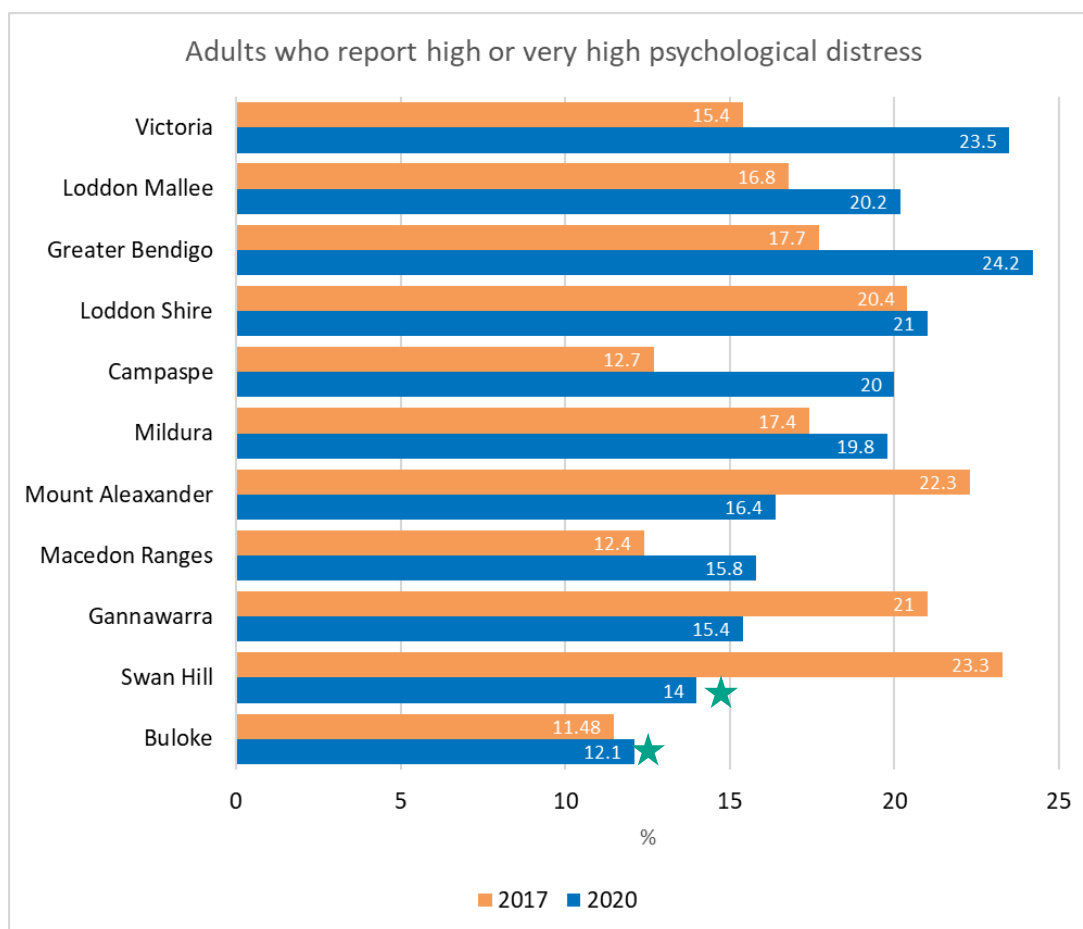
Source: Victorian Population Health and Wellbeing Dashboard.

- Greater Bendigo is the only LGA in the LMR that has a higher proportion of people reporting high or very high psychological distress compared to Victoria.
- All LGAs in the LMR have increased from 2017 to 2020, with the exception of Mount Alexander, Gannawarra and Swan Hill.
- Swan Hill had the highest proportion of people reporting high or very high distress in the LMR in 2017 but dropped to be significantly lower than the Victorian proportion in 2020.

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5.3 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 4th highest in Victoria. Campaspe, Greater Bendigo and Buloke also have higher rates compared to Victoria.

Adolescent birth rate
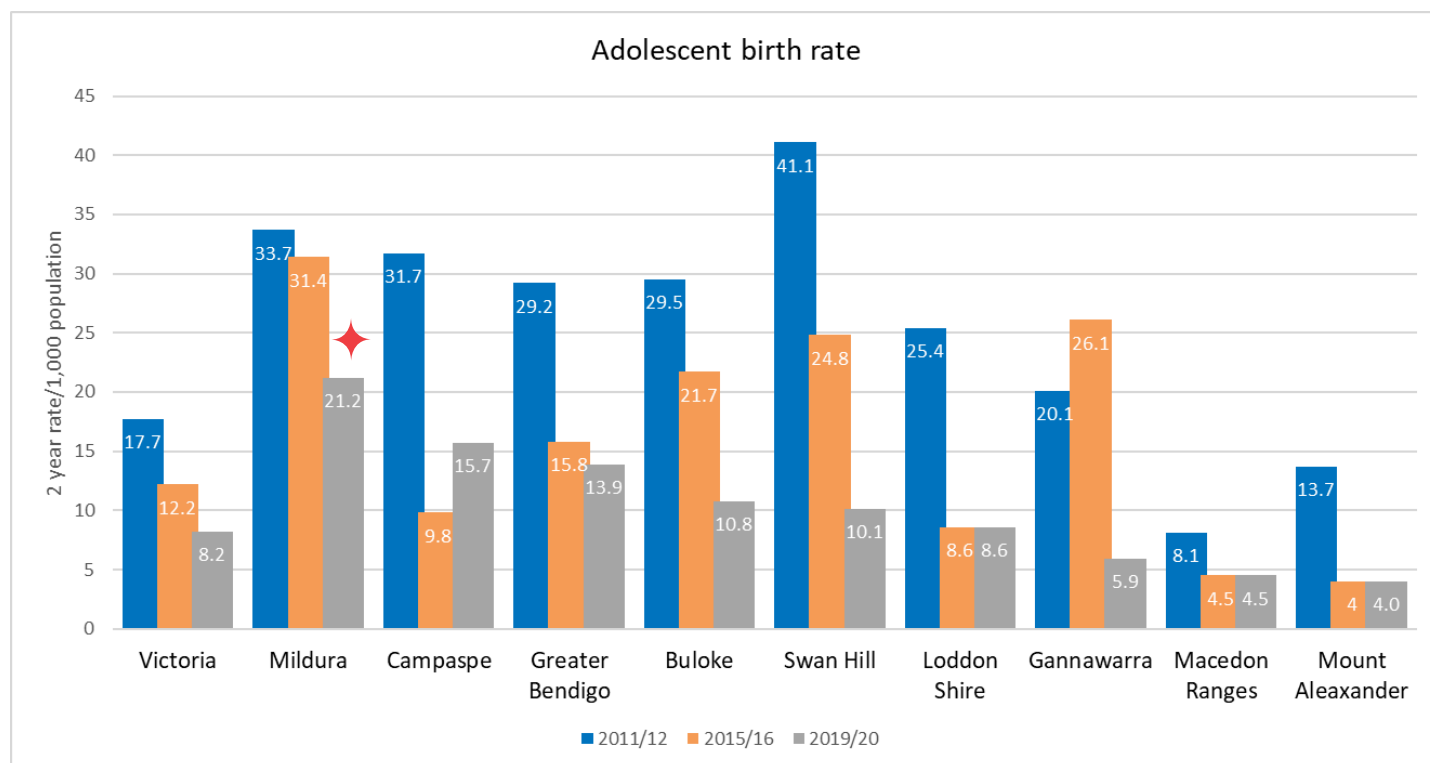
Source: Womens Health Atlas

Sexually transmitted Infection data is not reported where there are less than five cases. STIs in LMR are lower than the Victorian rate with the exception of Chlamydia in females in Swan Hill.

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
^ less than five cases

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5.4 Avoidable deaths by cause

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

Avoidable deaths by cause, 0-74 yrs, 2017-2021

Legend: Victoria, Buloke, Campaspe, Gannawarra, Greater Bendigo, Loddon Shire, Macedon Ranges, Mildura, Mount Aleaxander, Swan Hill
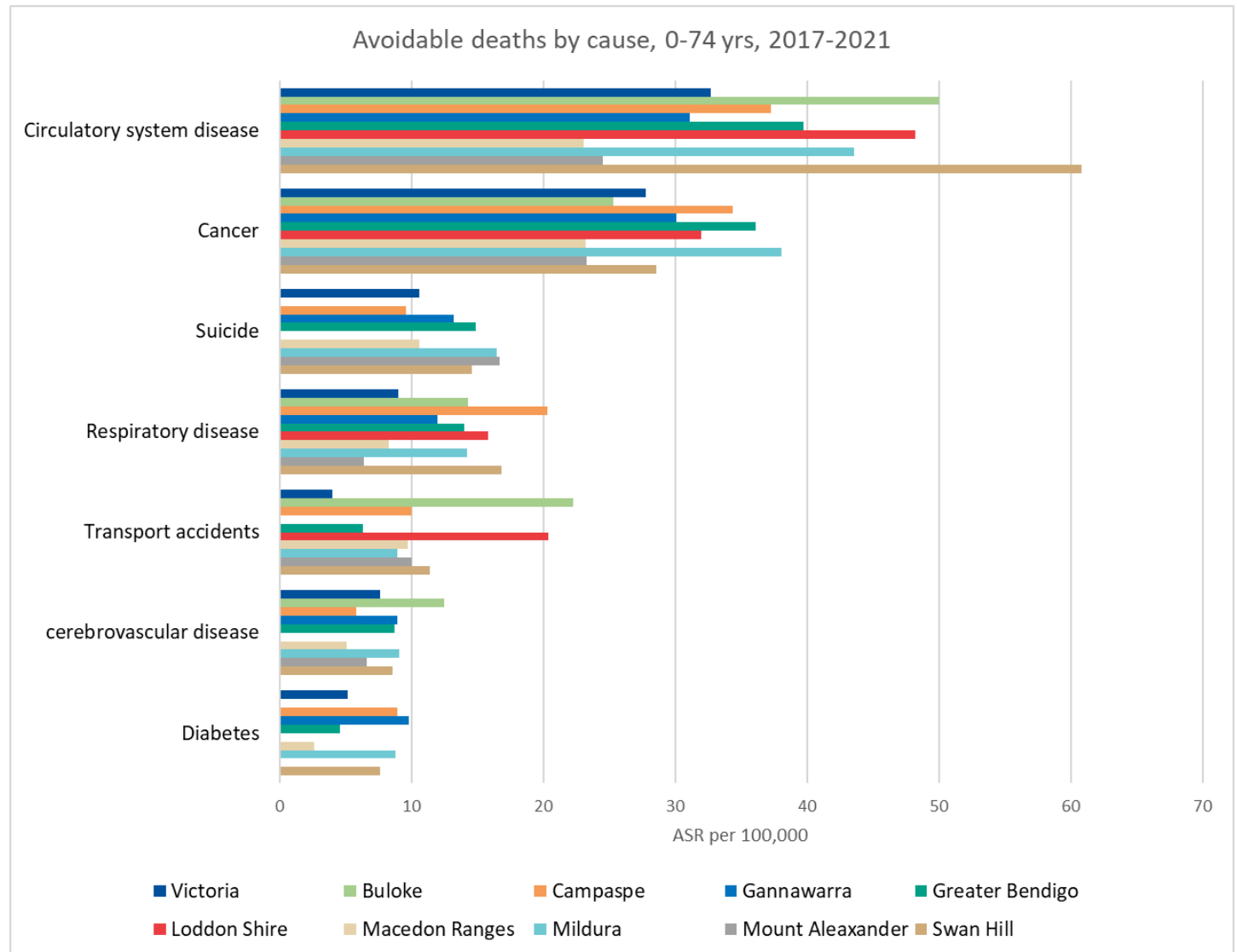
	Circulatory disease	Cancer	Suicide	Respiratory disease	Taransport accidents	Cerebrovascular disease	Diabetes
Buloke	50	25.3	25.3	14.3	22.3 ★	12.5	na
Campaspe	37.3	34.4	34.4	20.3 ★	10 ★	5.8	8.9
Gannawarra	31.1	30.1	30.1	12	na	8.9	9.8
Greater Bendigo	39.7 ★	36.1 ★	14.9	14 ★	6.3	8.7	4.6
Loddon	48.2	32	na	15.8	20.4 ★	na	na
Macedon Ranges	23.1 ★	23.2	10.6	8.3	9.7 ★	5.1	2.6 ★
Mildura	43.6 ★	38.1 ★	16.5	14.2 ★	8.9 ★	9.1	8.8
Mount Alexander	24.5	23.3	16.7	6.4	10	6.6	na
Swan Hill	60.8 ★	28.6	14.6	16.8	11.4 ★	8.6	7.6
Victoria	32.7	27.8	10.6	9.0	4.0	7.6	5.2

Source: Social Health Atlas, 2023

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6.1 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 Ramges have higher population then Campaspe, Campaspe has the second highest emissions in the LMR. The top causes of emissions in the LMR is transport (39.4%) and agriculture (35.2%).

Macedon Ranges
547000

Buloke
316000

Mount Alexander
445000

Campaspe
951000

Swan Hill
498000

Total municipal emissions
^tCO2e
(2021/22)

Greater Bendigo
1383000

Mildura
721000

Loddon
424000

Gannawarra
401000

Electricity
3.4%

Gas
10.8%

Agriculture
35.2%

Total municipal emissions
^tCO2e
(2021/22)

Transport
39.4%

Industrial Processes and product use

IPPU
7.2%

Waste
3.2%
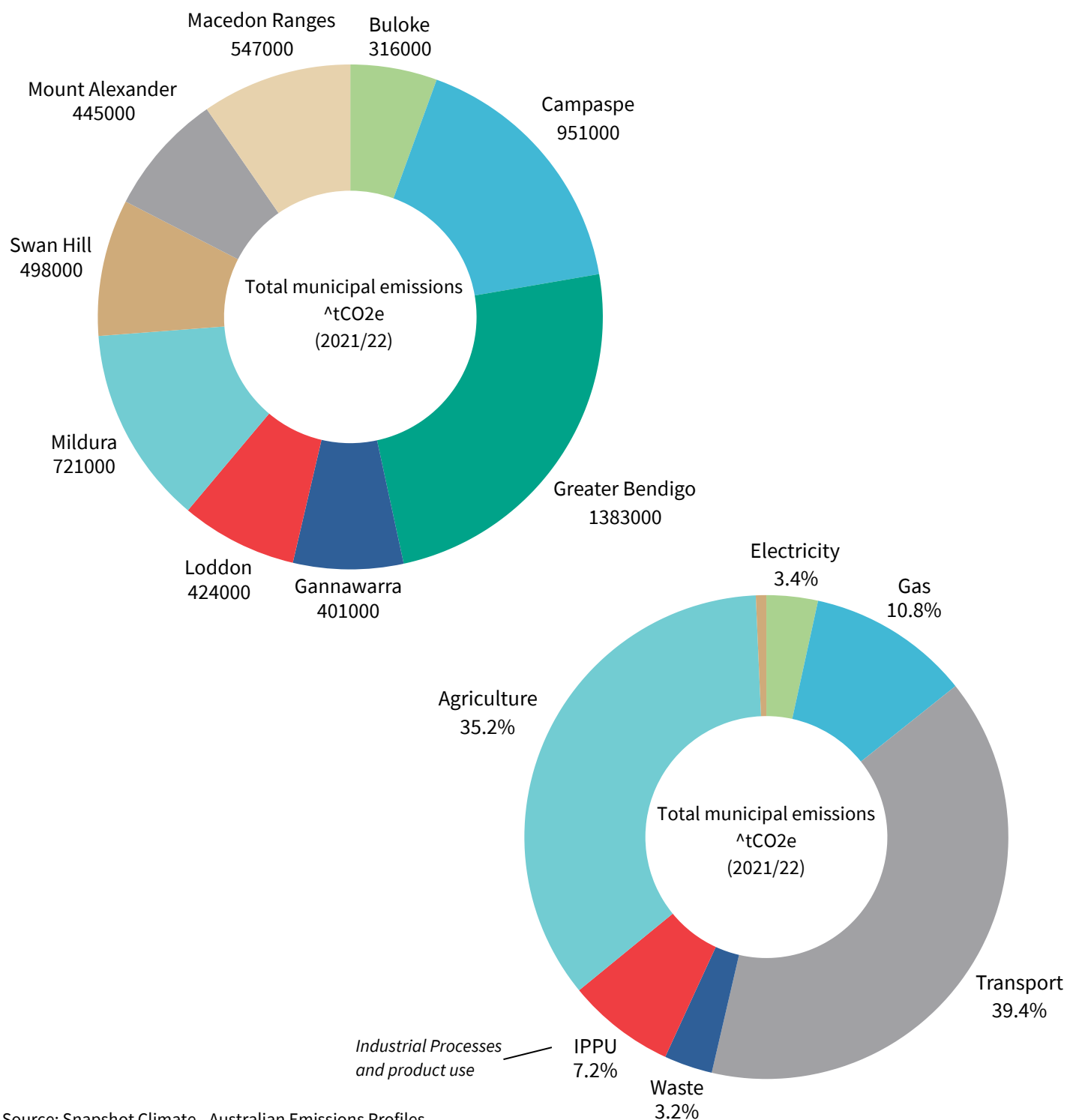
Source: Snapshot Climate - Australian Emissions Profiles
^ tCO2e: Tonnes of Carbon Dioxide Equivalent

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6.2 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)	
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)

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. [1]

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. [1]

2030s (2015-2044)

2090s (2075-2104)

≥ 100
90
80
70
60
50
40
30
20
10
0
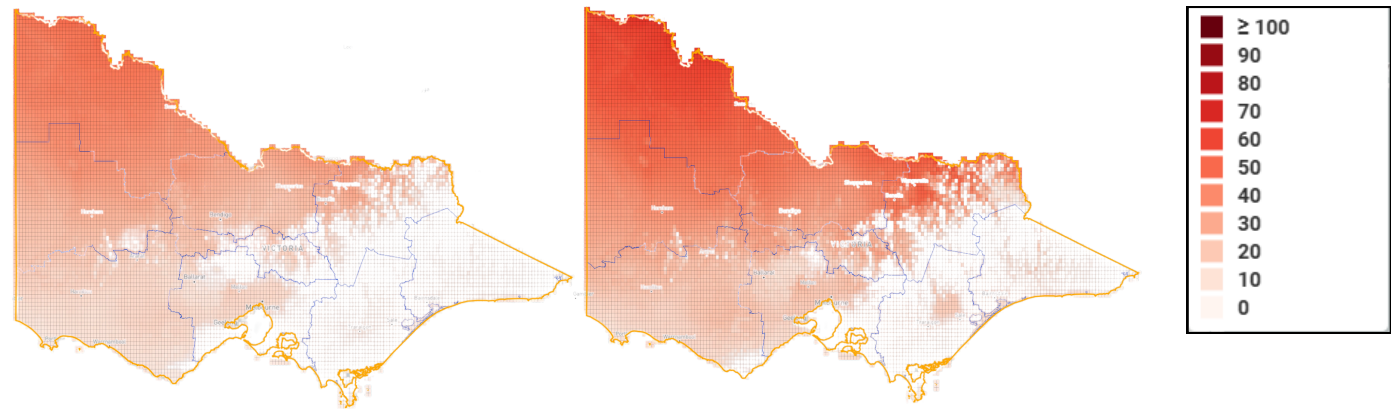
Source: Victorian Government, Energy, Environment and Climate Action

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

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6.3 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.
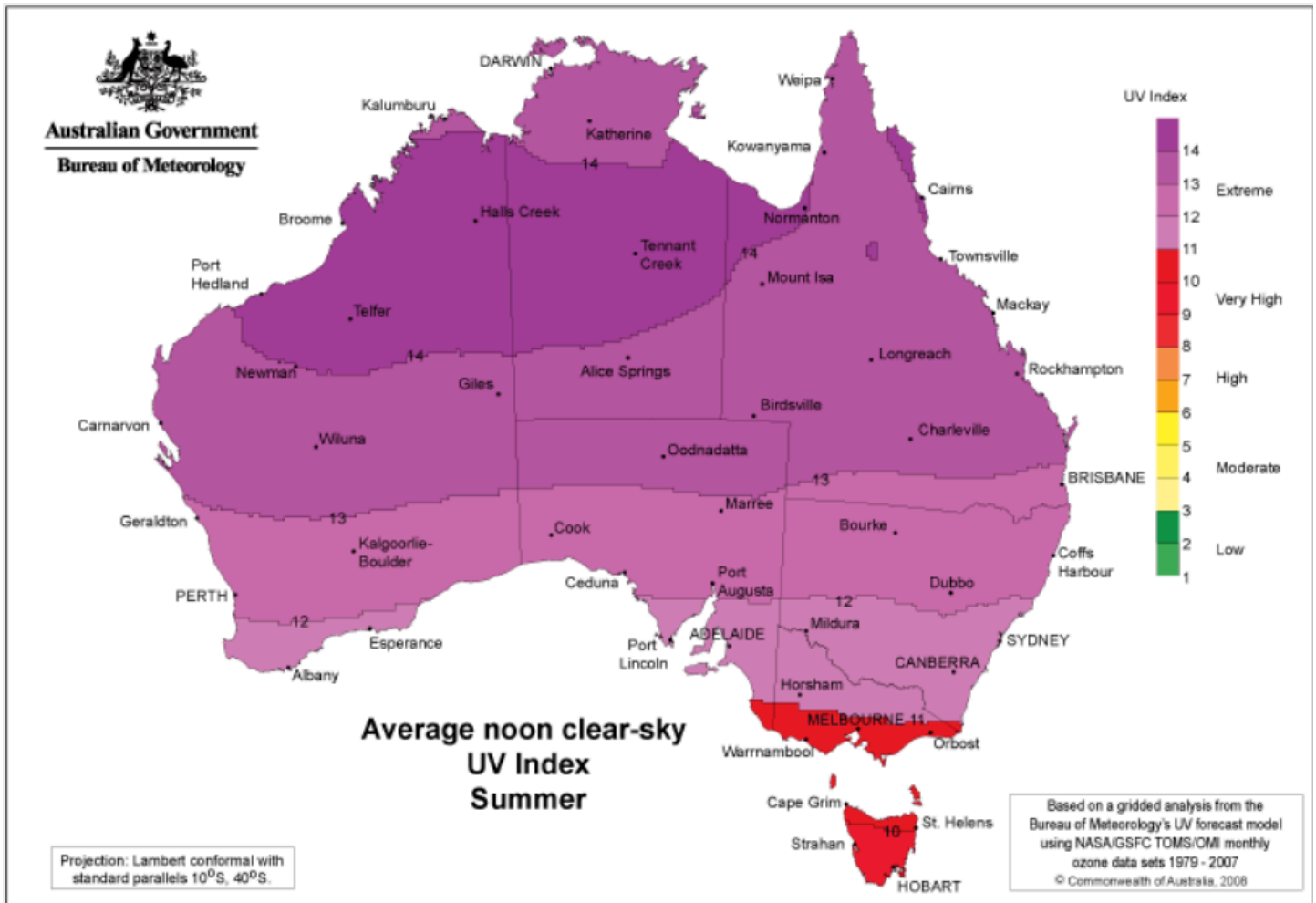
Source: Australian Bureau of Meteorology

[1] Australian Government, Cancer Australia

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6.4 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)

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6.5 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 (AEP)) 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. [1]

Red Boundaries – Bureau of Meteorology Flood Watch areas
Dark Blue areas – Lakes and dams
Green areas – 1:100 year ARI modelled inundation area

Red Shading – Bureau of Meteorology Flood Warning Catchments
Blue lines – rivers and streams
Triangles – River observations sites
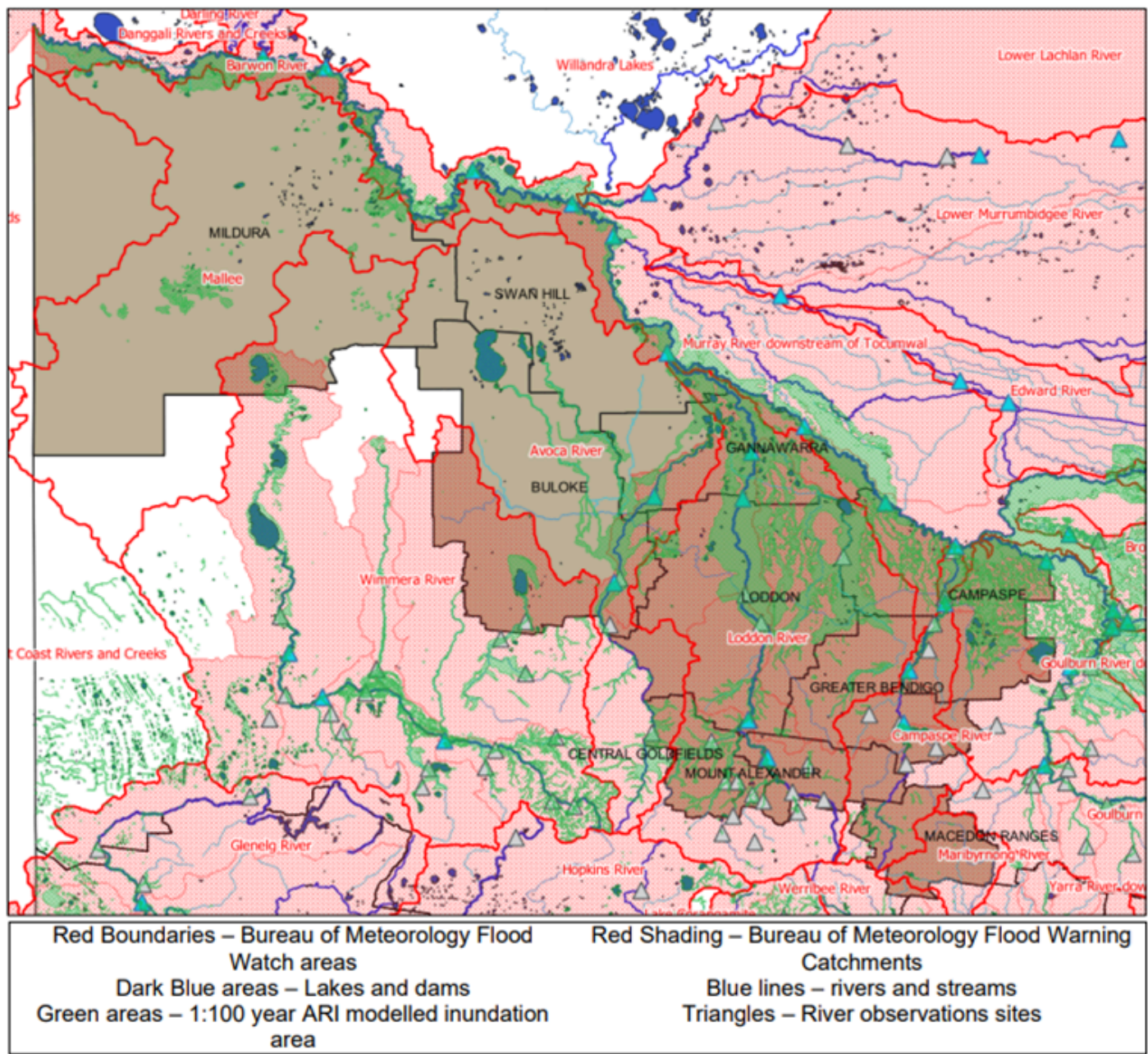
Figure 1: Flood warning and 1:100-year ARI inundation.

[1] Loddon Mallee Environmental Scan

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6.6 Mosquito surveillance

In 2024, there have been five mosquito-borne viruses identified across Victoria to pose public health risk in Victoria 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).[1]

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.

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

2024	Apr W16	Apr W15	Apr W14	Mar W13	Mar W12	Mar W11	Mar W10	Feb W9	Feb W8	Feb W7	Feb W6	Jan W5	Jan W4	Jan W3	Jan W2	Jan W1
Buloke							6				38	44	758			
Campaspe	10	10	4	54	89	59	43	60	116	333	369	800	1286	1052		288
Gannawarra	1	4	6		65	3	59	81	10	236	93	360	564	441		14
Greater Bendigo	21	5	6	21	28	40	35	62	109	118	113	171	924	76	130	30
Loddon		4	2	8	72	92	68	342	820	298			338	1671	587	180
Macedon Ranges	4	0	3	10	6		10	30	29	8	2	10	114	8	6	21
Mildura	15	4	8	14	52	44	17	47	41	45	44	97	160	133	25	103
Mount Alexander																
Swan Hill	2	2	1	16	32		20	42	32	262	61	652	1172		121	

Source: Mosquito surveillance report, 2024

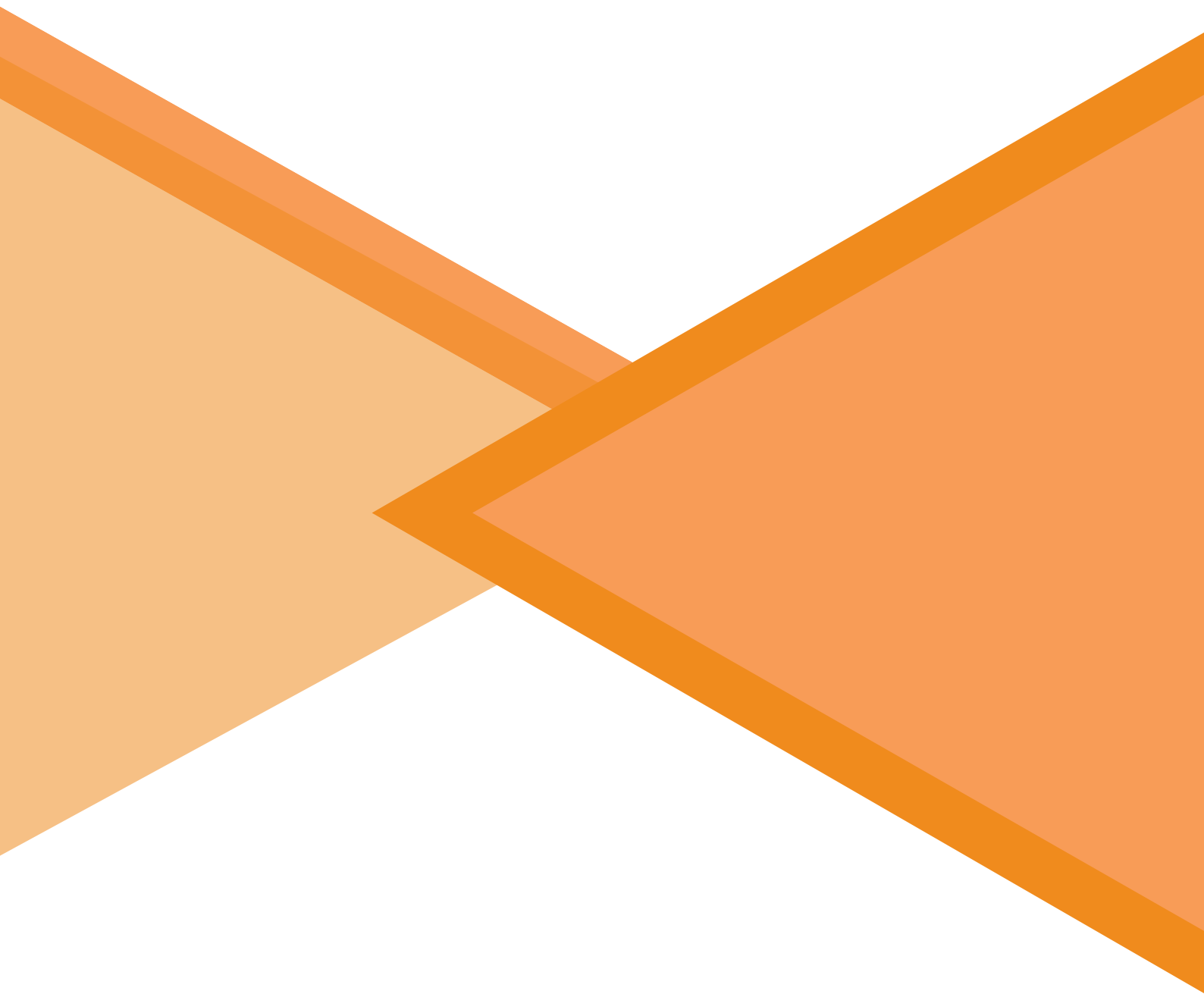|	
Very high 1,00-9,999	Moderate 50-99
High 100-999	Low 0-49
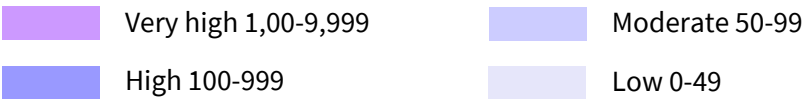
Ross River virus

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 30 to 390 in a year. In 2023 41.9% of all Victorian notifications were from the Loddon Mallee.
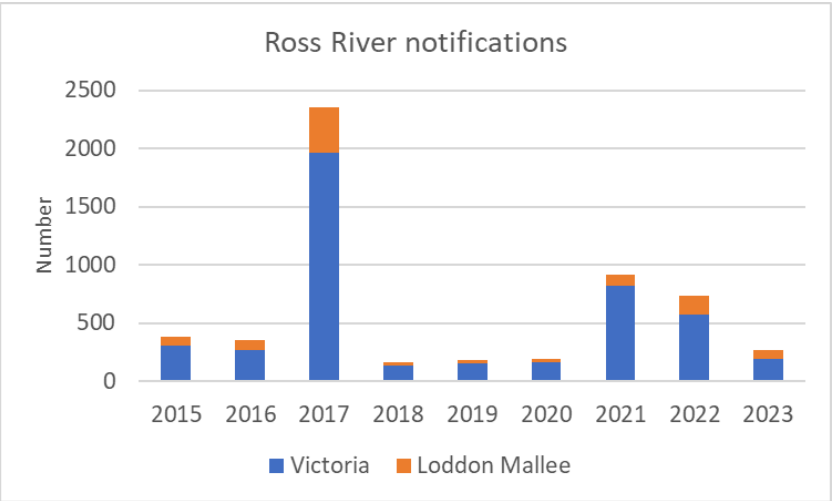
Source: Victorian Department of Health, surveillance summary report

[1] Victorian Department of Health, Mosquito surveillance report

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