BENDIGO HEALTH

LODDON MALLEE
PUBLIC HEALTH UNIT

Swan Hill Community Profile

2026

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.

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Data snapshot

Swan Hill is a large local government area (LGA) of over 6,000 km² with a population of 21,403, characterised by small townships, irrigated agriculture, and geographic remoteness. The community has an older age profile than Victoria and a significantly higher proportion of Aboriginal and Torres Strait Islander people (4.5% compared to 1% statewide), with a much younger median age within the Indigenous population.

The area is also culturally diverse, with Malaysia the most common country of birth outside of Australia and 17.4% of households speaking a language other than English at home.

Socio-economic disadvantage is a defining feature. Swan Hill was ranked 7th most disadvantaged LGA in Victoria (IRSD score 941), with lower educational attainment, lower household incomes and nearly half of households in the lowest 40% income bracket. Homelessness rates were more than double the Victorian rate, despite relatively low unemployment.

Health risk factors were prominent. Adult smoking (24.1%), obesity (32%), daily consumption of sugar-sweetened beverages and alcohol-related harm were all significantly higher than Victorian averages. Family violence rates and stalking, harassment and threatening behaviour were also notably elevated. Despite this, some protective factors existed, including strong breast screening participation, lower sunburn incidence and stable food insecurity levels.

Premature and avoidable mortality rates remained higher than expected, with chronic disease, and multiple long-term conditions contributing to poorer outcomes. Mental wellbeing indicators in Swan Hill appeared better compared to Victoria with the exception of high suicide rates and self-inflicted injuries.

In Swan Hill, 92% of the land mass is classified as bushfire-prone and with increasing average temperatures, the region is likely to be significantly impacted by climate change.

This snapshot highlights the indicators where the Swan Hill LGA is statistically different to expected levels* or in the absence of statistical analysis, ranks in the top ten of Victoria's 79 LGAs.

Areas of strength compared to Australian or Victorian measures

Areas of concern compared to Australian or Victorian measures

Social determinants of health	
Level of disadvatage	
Homelessness	
NDIS participants	
Tolerance to diversity	
Health risk factors	
Tobacco smoking	
Obesity	
Sugar sweetened beverage	
Stalking, harrassment etc	
Family violence	
Health conditions	
Mental Health	
Asthma	
Cancer	
Arthritis	
Dementia	
Avoidable deaths	
Circulatory disease	
Ischaemic heart disease	
Breast cancer	
Respiratory system disease	
Obstructive pulmonary disease	
Suicide and self-inflicted injuries	
External causes (falls, burns etc)	
Premature mortality	

*Comparison may be with Victorian or Australian data based on primary data source

Local government area summary: Swan Hill

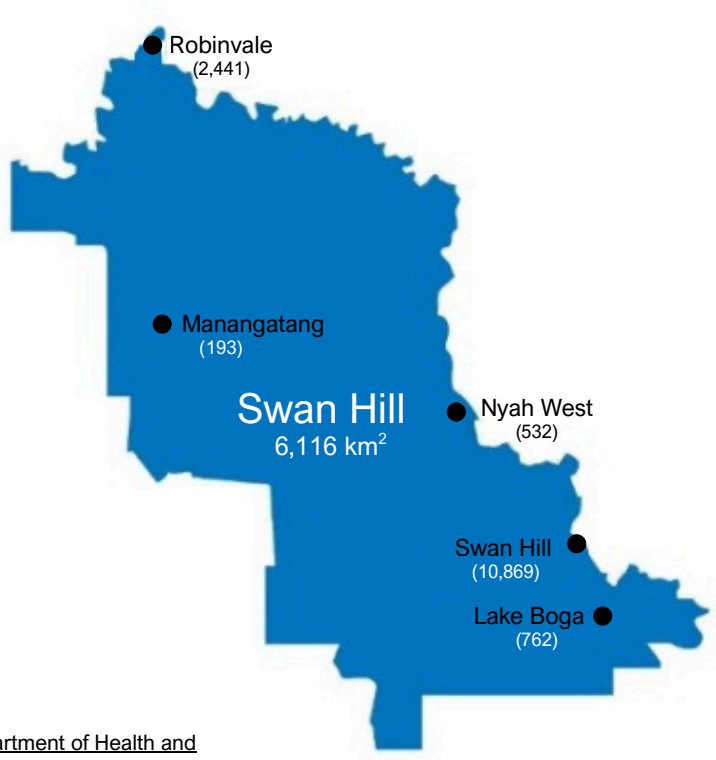
The local government area (LGA) of Swan Hill Rural City Council is located in the north west of the Loddon Mallee region, bordering New South Wales, separated by the Murray River. Outside of Swan Hill township are communities from Robinvale, Nyah District, Manangatang, Ultima, Piangil/Wood Wood, Boundary Bend, Lake Boga, Woorinen and Beverford. Swan Hill LGA covers an area of approximately 6,116 square kilometers, with a population of approximately 21,403 (2021)[1]. Swan Hill, the principal urban center, had approximately 10,869 people. The population is spread across small towns and farming communities, contributing to a predominantly rural character.

The Swan Hill shire is home to a significant Aboriginal population and is rich in Aboriginal history. The Wamba Wamba, Latji Latji, Tatti Tatti, Wadi Wadi, and Barapa Barapa peoples are the original custodians of the land known as the Swan Hill Rural City.[2]

Swan Hill Shire's economy is heavily driven by agriculture, including grain production, horticulture (fruits and vegetables) and viticulture. Irrigated farming is a key factor in the region's productivity, with the Murray River playing a vital role in water supply. Livestock farming, particularly sheep and cattle, also contributes to the local economy. Other economic drivers include tourism (especially related to the Murray River and historical attractions), retail and services.[2] Healthcare and social assistance was the second leading industry of employment at 12.4% followed by retail at 8.2%.[1]

According to geographical remoteness classifications, the region comprised of two Modified Monash Model categories (4 and 5) indicating it includes a medium rural town and other small rural towns across the shire.[3]

Swan Hill has 92% of bushfire prone land along with being subject to flooding from the Murray & Murrumbidgee river systems. Swan Hill council area is part of both the Mallee and North Central Catchment Management Authorities.

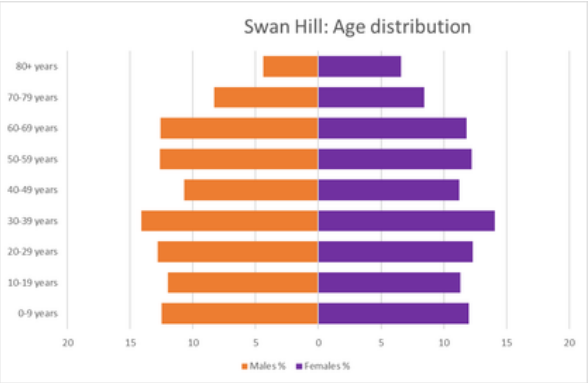


[1] 2021 Australian Bureau of Statistics (abs.gov.au)
[2] Swan Hill Rural City Council
[3] Modified Monash Model | Australian Government Department of Health and Aged Care;

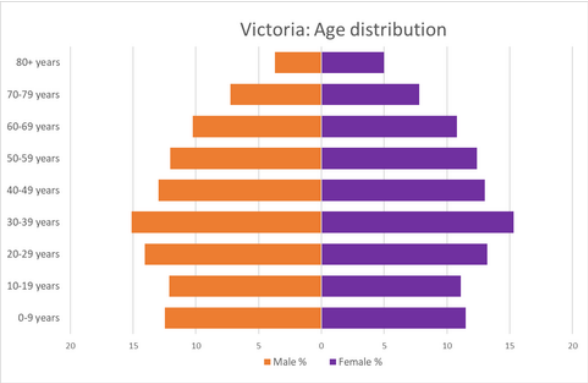
1. Population

Swan Hill's population profile, based on ABS data obtained from the 2021 census revealed an older demographic. The median age of 39 years was comparable with the state median of 38 years. The percentage of people aged 70 years and above was also higher in Swan Hill (13.9%) compared to Victoria (11.9%). The male-female ratio was slightly skewed towards males.

21,403 people reside in Swan Hill, in 2021
39yrs is the median age in Swan Hill (Victoria 38yrs), in 2021



Source: Australian Bureau of Statistics, 2021



Source: Australian Bureau of Statistics, 2021

	Swan Hill (n)		Swan Hill (%)		Victoria (%)	
Age groups	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
0-9 years	1,347	1,277	12.5	12.0	12.5	11.5
10-19 years	1,293	1,204	12.0	11.3	12.1	11.1
20-29 years	1,376	1,309	12.8	12.3	14.1	13.2
30-39 years	1,514	1,497	14.1	14.1	15.1	15.3
40-49 years	1,153	1,196	10.7	11.2	13.0	13.0
50-59 years	1,357	1,299	12.6	12.2	12.0	12.4
60-69 years	1,353	1,256	12.6	11.8	10.2	10.8
70-79 years	888	900	8.3	8.5	7.2	7.8
80+ years	478	704	4.4	6.6	3.7	5.0
Total	10,748	10,652	100	100	100	100

Source: Australian Bureau of Statistics, 2021

2. Priority groups

2.1 Indigenous status

Swan Hill had a significant Indigenous population which makes up 4.5% of the total population. This was considerably higher than the state (1%) and the second highest LGA in Victoria.

The median age of Swan Hill's Indigenous population was slightly younger at 22 years of age, compared to the state median of 24 years. The median age was also significantly younger than the median age of the total Swan Hill population.

Indigenous status	Swan Hill (n)	Swan Hill (%)	Victoria (n)	Victoria (%)
Aboriginal and/or Torres Strait Islander	967	4.5	65,646	1
Non-Indigenous	18,701	87.4	6,148,188	94.5
Indigenous status not stated	1,735	8.1	289,665	4.5
Median age of Indigenous Population (years)	22		24	

Source: Australian Bureau of Statistics, 2021

Murray Primary Health Network's First Nations Health and Healing report provides an overview of the current state of First Nations health drawing on data and consultation with First Nations Peoples.

2.2 Multicultural communities

A substantial majority of Swan Hill's residents, accounting for 80% of the total population, were Australian citizens with 74.3% being born in Australia. It is noteworthy that 12% of the population in Swan Hill consisted of people who were not Australian citizens. Language use patterns reveal that a vast majority (74.8%) of Swan Hill's residents spoke English only. However, 5.5% of people spoke other languages and did not speak English well or not at all. Overall, Swan Hill's population profile reflected a blend of cultural and linguistic diversity, contributing to the multicultural fabric of the region.

Malaysia is the top country of birth, outside of Australia

Country of birth, top responses	Swan Hill (n)	Swan Hill (%)	Victoria (%)
Australia	15,912	74.3	65.0
Malaysia	796	3.7	1.0
Vietnam	352	1.6	1.4
India	250	1.2	4.0
Italy	200	0.9	1.0
Philippines	185	0.9	1.1

Source: Australian Bureau of Statistics, 2021

Language used at home other than English, top responses	Swan Hill (n)	Swan Hill (%)	Victoria (%)
Malay	435	2.0	0.1
Mandarin	417	1.9	3.4
Vietnamese	408	1.9	1.8
Italian	319	1.5	1.4
Tongan	271	1.3	
English only used at home	15,030	74.9	67.2
Households where a non-English language is used	1,340	17.4	30.2
Uses other languages and speaks English not well/not at all	1,177	5.5	4.4

Source: Australian Bureau of Statistics, 2021

Of those who do not speak English well or not at all, the top native languages were (number):

- Mandarin (252)
- Vietnamese (183)
- Thai (66)
- Italian (46)

2.3 LGBTIQA+ population

Unfortunately, there is a lack of local data on LGBTIQA+ (lesbian, gay, bisexual, transgender, intersex, queer, asexual and other sexually or gender diverse people) 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% of Victorian adults identify as LGBTIQA+, however some rural areas have attracted significantly higher proportion of LGBTIQA+ people to their communities.

State and national data indicate poorer mental and physical health for LGBTIQA+ community members. There are also 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 disabilities

Data on disability show that the proportion of people with a profound or severe disability in Swan Hill (6.4%), whether they lived in long-term accommodation or in households were higher than the Victorian proportion (6.1%). Data indicated most people in Swan Hill with a profound or severe disability, aged 0-64 years, were living and being cared for in households (3.2%) rather than long term accommodation (0.2%).

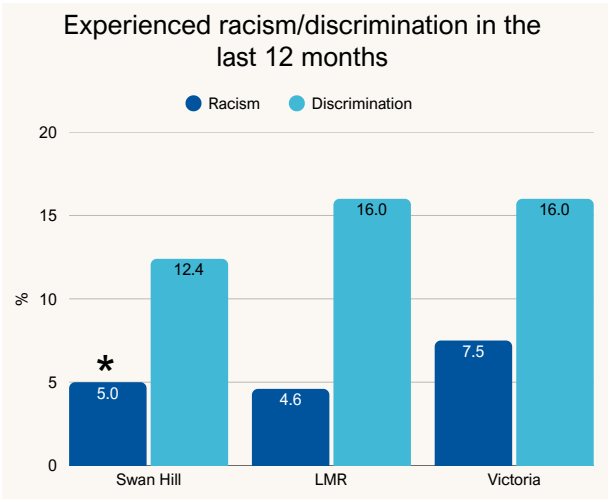
Disability indicators	Swan Hill (n)	Swan Hill	Victoria
People with a profound or severe disability, includes people in long-term accommodation (all ages), 2021	1,254	6.4%	6.1%
People with a profound or severe disability and living in households (all ages), 2021	1,062	5.4%	5.4%
People with a profound or severe disability, includes people in long-term accommodation (0 to 64 years), 2021	533	3.4%	3.3%
People with a profound or severe disability and living in households (0 to 64 years), 2021	501	3.2 %	3.2%
Estimated number of total persons, living in households, with moderate or mild core activity limitation (modelled estimates, 2018)	2,225	9.8 ASR^	na

Source: PHIDU Torrens University Australia
^Average annual ASR/100 population. Age Standardise Rate (ASR) is used to remove the effect of the differing age distributions that we can make conclusions about the relative decreases or increases in mortality over time.
● Statistically significantly higher than expected (based on Australian data)

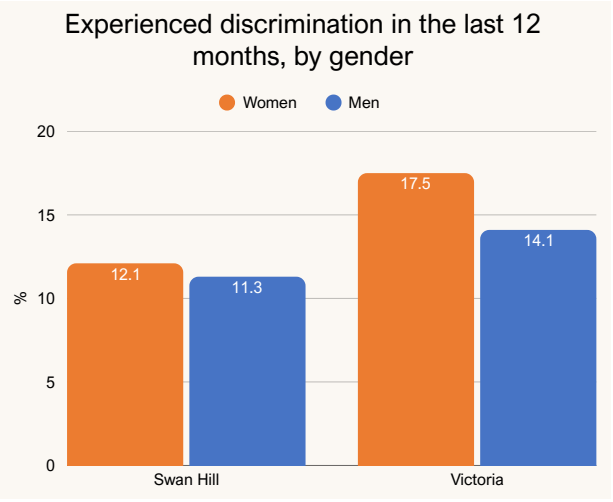
2.5 Racism and discrimination

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.



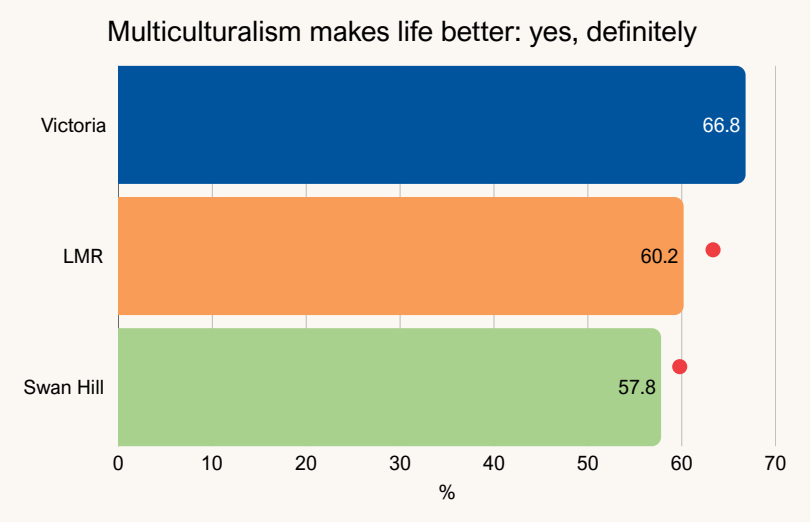
Source: Victorian Population Health Survey 2023, age adjusted
*high relative standard error so interpret with caution



Source: Victorian Population Health Survey 2023, age adjusted

Swan Hill had a lower proportion of racism and discrimination experienced in the last 12 months, compared to Victoria. A higher proportion of women (12.1%) reported discrimination in the last 12 months, compared to men (10.3%).

To measure tolerance of diversity, adults were asked if multiculturalism makes life better. In Swan Hill there was statistically significantly fewer people who felt that multiculturalism definitely makes life better (57.8%), when compared with Victoria (66.8%).



Source: Victorian Population Health Survey 2023, age adjusted.
Statistically significantly lower compared to Victoria

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.

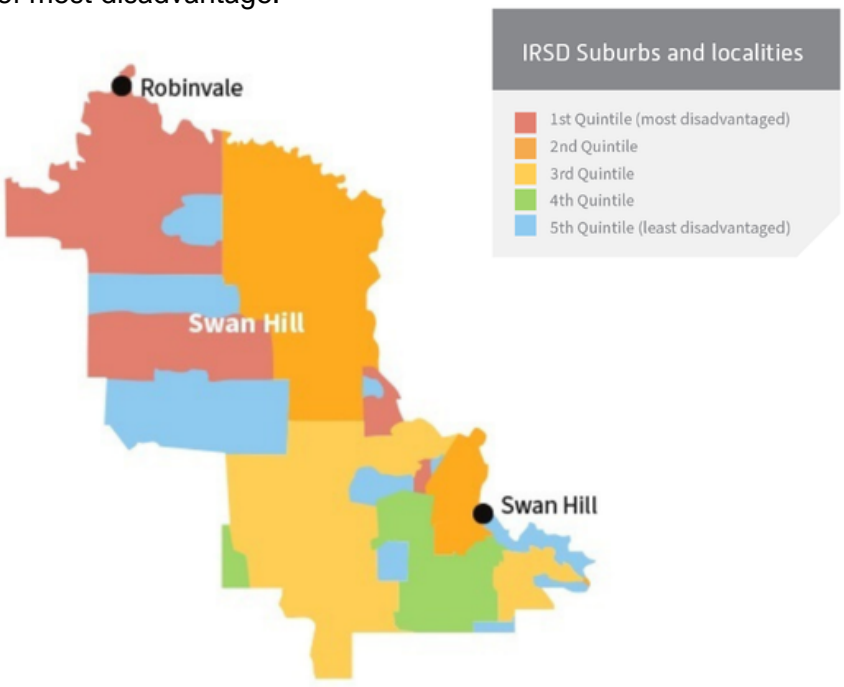
A low score indicates relatively greater disadvantage. For example, an area could have a low score if there are: many households with low income, or many people without qualifications, and many people in low skilled occupations.

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 and few people in low skilled occupations.

Within the Swan Hill LGA there were five Australian quintile areas of disadvantage (see map below). The areas of the most disadvantage cluster around the most populated areas of Robinvale, Manangatang, Nyah and Woorinen South. The average IRSD score for Swan Hill was 941 (2021), which ranked Swan Hill LGA 7th in Victoria of most disadvantage.

LGA, 2021	IRSD Score	Victorian LGA 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

Source: ABS: Census of population and Housing: Socio-Economic Indexes from areas (SEIFA), 2021
^Rank 1 = most disadvantage, rank 79 = least disadvantage
● Ranked in the top lowest LGAs in Victoria



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

3.2 Educational attainment

Type of educational institution attending

Swan Hill had a comparable percentage of the population attending preschool, primary and secondary education to Victoria. However, Swan Hill had a considerably lower percentage of people attending university or other higher education compared to Victoria, with Swan Hill at 12.6% and Victoria at 24.5%.

In Swan Hill, 11.2% completed a bachelor degree and above (Vic. 29.2%)

People attending an educational institution	Swan Hill (n)	Swan Hill (%)	Victoria (%)
Preschool total	429	7.0	7.1
Primary total	1,705	27.7	26.5
Secondary total	1,240	20.2	21
Tertiary: Vocational education (including TAFE and private training providers)	449	7.3	7.9
Tertiary - University or other higher education	324	5.3	16.6
Tertiary total	775	12.6	24.5

Source: Australian Bureau of Statistics, 2021

Level of highest education attainment

Data on the highest educational attainment in Swan Hill for people aged 15 years and over reveals a diverse educational landscape. Swan Hill showed lower percentages of individuals with higher education qualifications (bachelor's degree and above) and advanced diplomas or diplomas level, while having higher percentages in certificate IV and III qualifications and Year 11 or below, indicating a diverse educational profile. This could potentially reflect accessibility to different forms of higher education compared to metropolitan areas. The percentage of individuals in Swan Hill with a bachelor's degree or higher was notably lower than the statewide percentage, accounting for 11.2% in Swan Hill compared to 29.2% in Victoria. The combined percentage of individuals with Year 11 or below education in Swan Hill and Victoria was 32% and 21% respectively.

Level of highest educational attainment	Swan Hill (n)	Swan Hill (%)	Victoria (%)
Bachelor degree level and above	1,940	11.2	29.2
Advanced diploma and diploma level	1,268	7.3	9.8
Certificate level IV	640	3.7	3.4
Certificate level III	2,430	14.0	10.9
Year 12	2,714	15.6	14.9
Year 11	1,435	8.2	5.7
Year 10	1,924	11.1	7.3
Certificate level 11	10	0.1	0.1
Certificate level 1	-	-	-
Year 9 or below	2,193	12.6	7.9
Inadequately described	321	1.8	2.1
No educational attainment	306	1.8	1.1
Not stated	2,215	12.7	7.6

Source: Australian Bureau of Statistics, 2021, people aged 15yrs and over

3.3 Household income

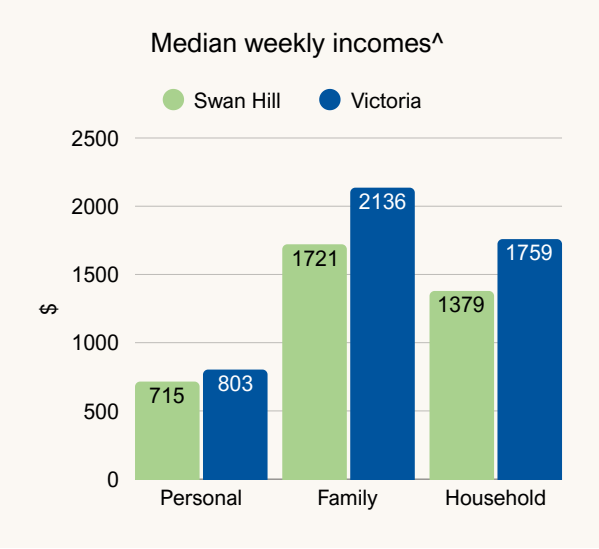
Data on household income for Swan Hill, compared to the state of Victoria, gives insights into the income distribution within the community. The median weekly incomes for people aged over 15 years, families and households were all below the state medians. The percentage of occupied private dwellings in Swan Hill with a weekly income of less than $650 was 20.6% and above $3000 was 13.3% compared to a state proportions of 16.4% and 24.2% respectively. This indicates Swan Hill had a greater number of households with low income when compared to Victoria.

From 2006 to 2021, the median weekly household income for Swan Hill was continuously lower than the Victorian median and the pay gap appears to be widening.

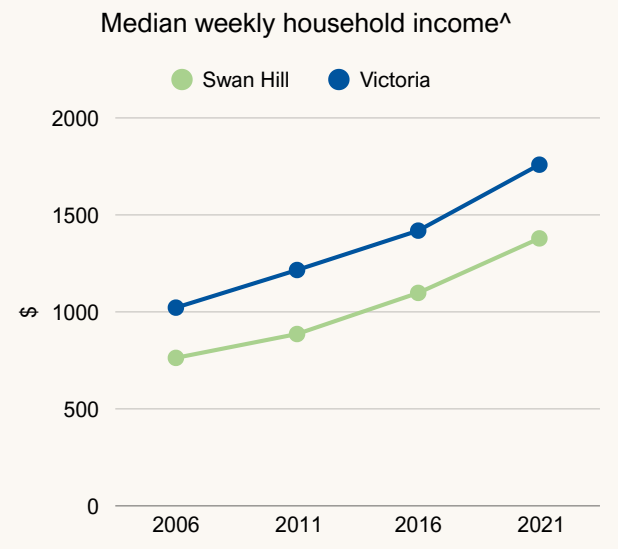
In Swan Hill, 49.4% of households had low income (in the bottom 40% of income distribution), This compares to 39.5% of households in Victoria.[1]

Occupied private dwellings (excl. visitor only and other non-classified households)	Swan Hill (%)	Victoria (%)
Less than $650 total household weekly income	20.6	16.4
More than $3,000 total household weekly income	13.3	24.2

Source: Australian Bureau of Statistics, 2021
Percentages exclude dwellings with 'Partial income stated' and 'All incomes not stated.'



Source: Australian Bureau of Statistics, 2021
^ Incomes are collected in ranges and exclude people, families and households where at least one member aged 15 years and over did not state their income.

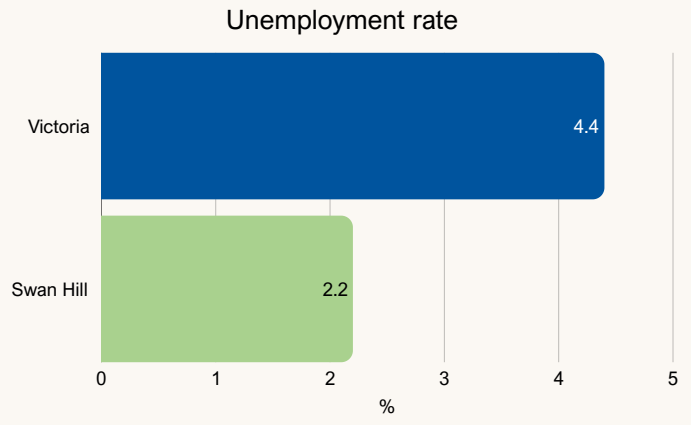


Source: Australian Bureau of Statistics, 2021
^ Incomes are collected in ranges and exclude people, families and households where at least one member aged 15 years and over did not state their income.

[1] Source: Social Health Atlas, 2021

3.4 Unemployment

The psychosocial stress caused by unemployment has a strong impact on physical and mental health and wellbeing. Employment 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.



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

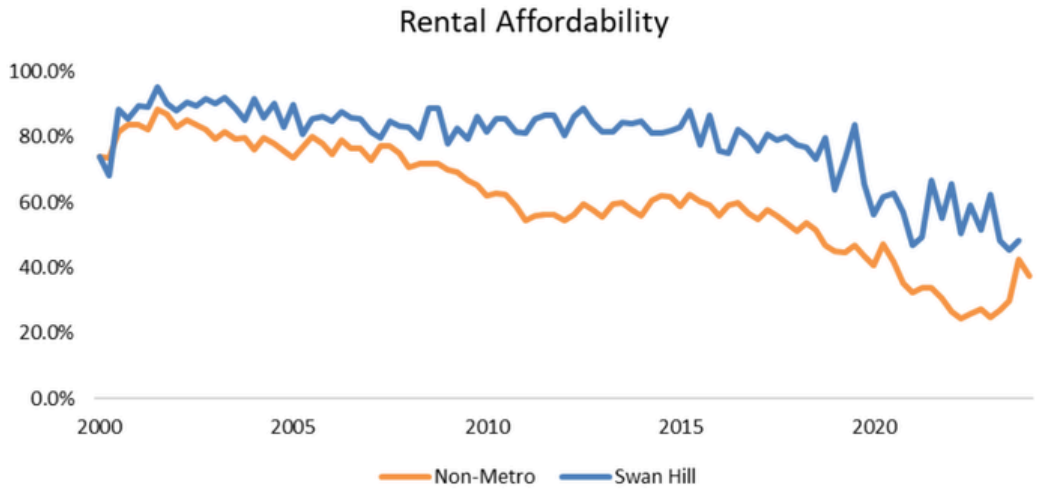
Swan Hill's unemployment rate was 2.2%, considerably less than Victoria (4.4%).

Source: Social Health Atlas of Australia: June 2025

3.5 Rental affordability

Median rent prices are continuing to increase and becoming less affordable. The graph below represents affordability of rental homes for lower income households. Swan Hill was experiencing the same level of decline in rental affordability from 2019 as seen across the Loddon Mallee region. However, Swan Hill (48.4%) was more affordable in 2023, compared to non-metro areas in Victoria (26.9%).

In Swan Hill, the proportion of low income households (households in bottom 40% of income distribution) under financial stress from mortgage or rent was lower (16.9%), compared with Victoria (27.8%). [1]



Source: Rental Report - Quarterly: Affordable Lettings by LGA - Dataset - Victorian Government Data Directory
The affordability benchmark used is that no more than 30% of gross income is spent on rent
Lower income households are defined as those receiving Centrelink incomes

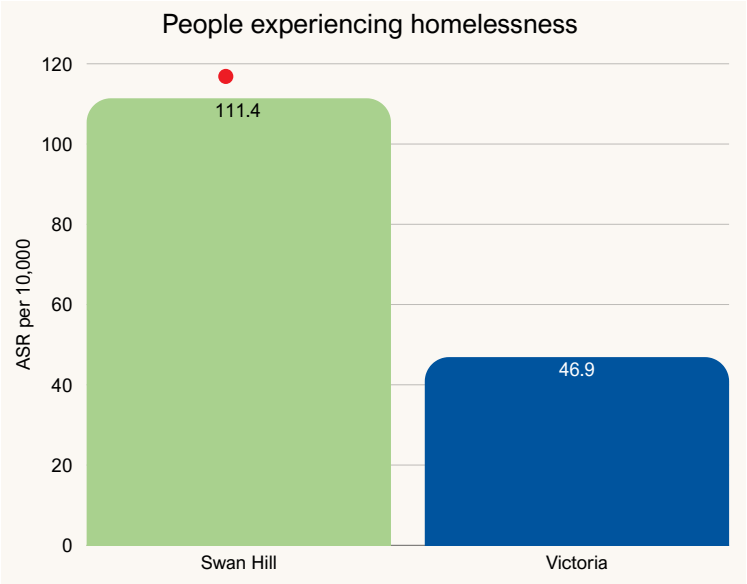
[1] Social Health Atlas of Australia: Victoria, 2021

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. These data include:

- 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

The age standardised rate of homelessness in Swan Hill was 111.4/10,000 population (n=234) while the rate in Victoria was 46.9/10,000 population.[1] The rate of homelessness was statistically significantly higher than expected (based on Australian data) in Swan Hill. Swan Hill rate of homelessness was also notably higher compared with the broader state of Victoria. While the overall rate was different between Swan Hill and Victoria, the specific challenges and characteristics of homelessness may vary between regions.



Source: Social Health Atlas, 2021

● Statistically significantly higher than expected (based on Australian data)

[1] Social Health Atlas of Australia: Victoria, 2021

3.7 Family composition

Couple families without children constitute the largest proportion in Swan Hill, accounting for 44% of all families, which was higher than the state proportion of 37.6%. Couple families with children make up 39.2% of all families in Swan Hill, which was lower than the state proportion of 45.5%. This indicates a smaller proportion of families in Swan Hill have children compared to the broader state.

One-parent families represent 14.9% of all families in Swan Hill, which was lower than Victoria (15.2%).

Other families, which may include non-traditional family structures, account for a small percentage (1.9%) in Swan Hill, higher than Victoria (1.7%).

All families	Swan Hill (n)	Swan Hill (%)	Victoria (%)
Couple family without children	2,346	44	37.6
Couple family with children	2,086	39.2	45.5
One parent family	796	14.9	15.2
Other family	103	1.9	1.7

Source: Australian Bureau of Statistics, 2021

Single (or lone parents)

The data indicate the majority of single (or lone) parents in Swan Hill were female, constituting a substantial 80.9% of the total single parent population. This correlates with the state's percentage (80.9%).

Proportion of the total single (or lone) parents	Swan Hill (%)	Victoria (%)
Male	19.2	19.1
Female	80.9	80.9

Source: Australian Bureau of Statistics, 2021

Employment status of couple families

Swan Hill's employment pattern and proportions were comparable with the State. In Swan Hill, the most common employment status for couple families were one employed full–time and one part-time (24.4%). The proportion of both adults not working in Swan Hill (19.7%) was comparable to the state average (19.8%).

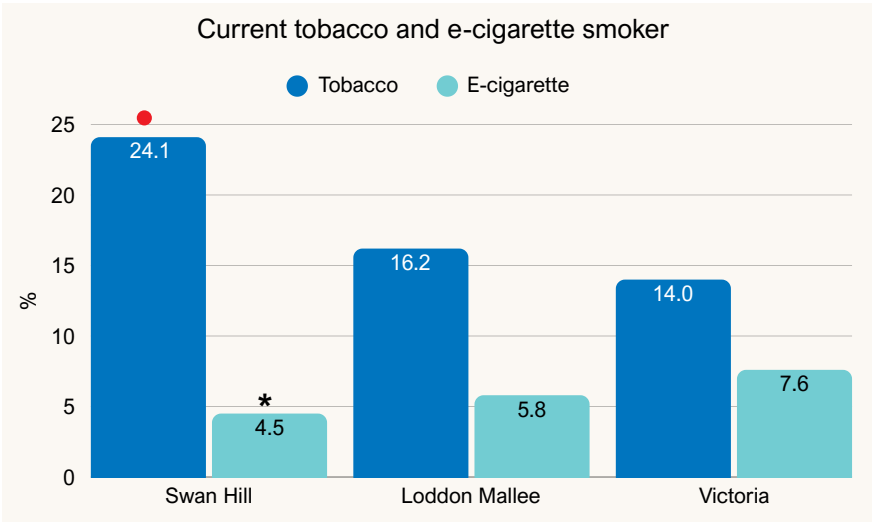
Source: Australian Bureau of Statistics, 2021

4. Health risk factors

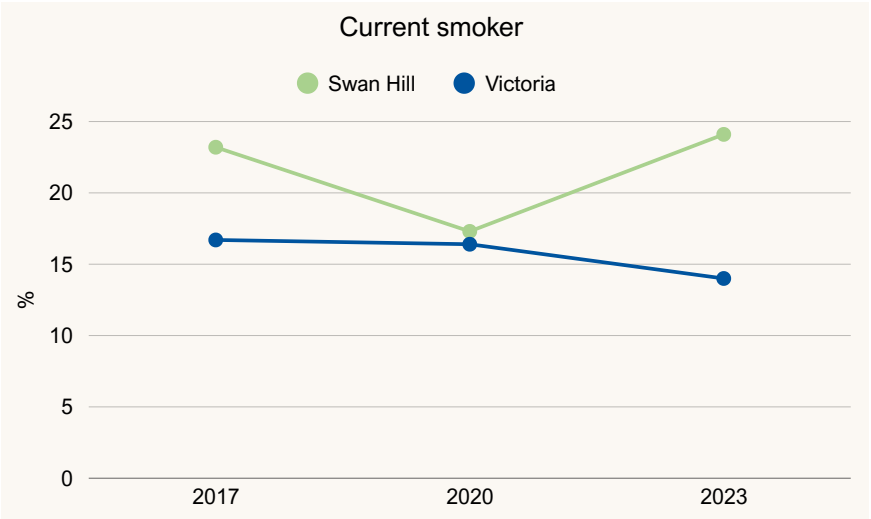
4.1 Smoking and vaping

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 they 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.[1]

The proportion of adults who were smoking tobacco in Swan Hill was statistically significantly higher, with 24.1% of adults currently smoking compared with 14% across Victoria. The proportion of people smoking in Swan Hill has increased from 2020 to 2023, inconsistent with the decline observed across Victoria.



Source: Victorian Population Health Survey 2023, age adjusted.
●Statistically significantly higher compared to Victoria
*Relative standard of error low, so interpret with caution



Source: Victorian Population Health Survey, 2023, age adjusted.
Victorian Population Health Survey, 2020, age adjusted
Victorian Population Health Survey, 2017, age adjusted

[1] Quit , effects of vaping on the body

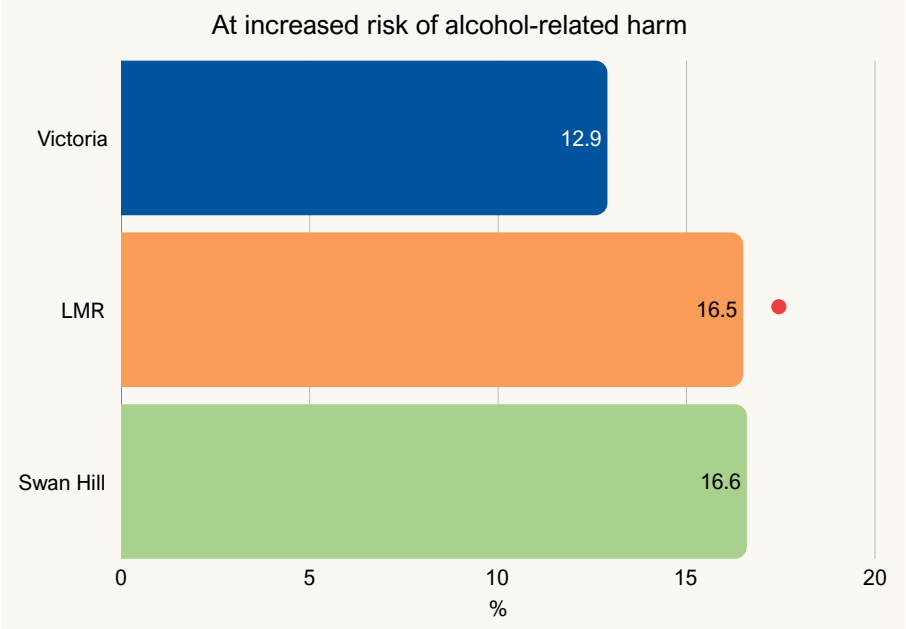
4.2 Alcohol and other drugs

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 in Loddon Mallee region drink alcohol at higher rates than Victoria, with 16.5% drinking at levels that increase their risk of alcohol-related harm. Increased risk of alcohol-related harm is defined as greater than 10 standard drinks a week and more than four standard drinks in one day. In Swan Hill, the risk of alcohol-related harm was higher (16.6%), compared with Victoria (12.9%).

The rates of alcohol related deaths and ambulance attendances were higher than the Victorian rate, but lower for alcohol related hospital admissions. Deaths, ambulance attendances and hospital admission rates for illicit drug use were all lower compared with Victoria.

Indicators per 100,000 population	Swan Hill	Victoria
Deaths for alcohol-related events, 2021	229.2	141.9
Deaths for illicit drug (any)-related events in, 2021	na	0.6
Ambulance attendances for Alcohol Intoxication (w/wo Other Substance), 2022/23	461.7	393.5
Ambulance attendances for Alcohol Only (Intoxication), 2023	381.6	319.7
Ambulance attendances for Illicit Drugs (Any), FY-2022/23	193.2	204.6
Hospital admissions for Alcohol, 2021	499.9	577.9
Hospital admissions for Illicit Drugs (Any), 2022/23	112.1	242.9

Source: Alcohol and other drug statistics in Victoria - AODstats

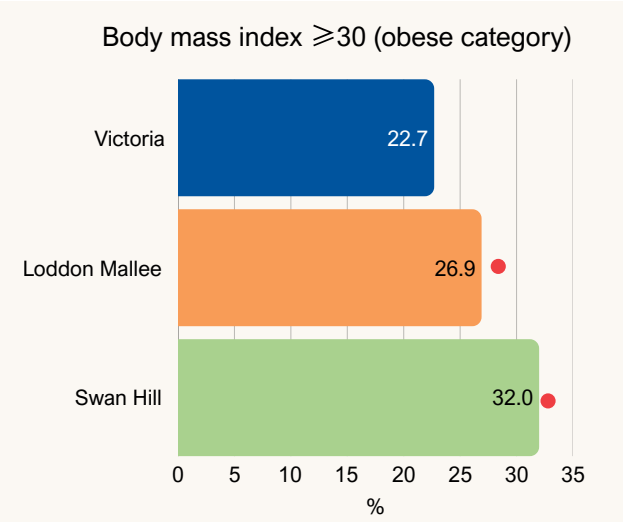


Source: Victorian Population Health Survey 2023, age adjusted.

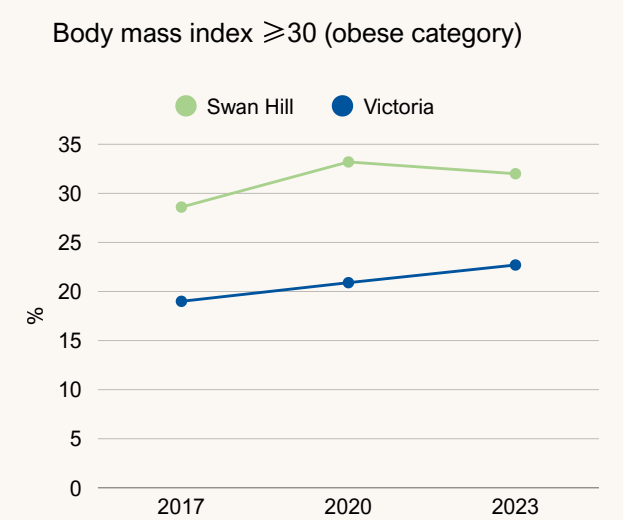
● Statistically significantly higher, compared to Victoria

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.[1] In Swan Hill, 32% of adults have a BMI ⩾ 30, statistically significantly higher than the Victorian proportion of 22.7%. Obesity has decreased in Swan Hill from 2020, whereas the Victorian percentage has risen.



Source: Victorian Population Health Survey, 2023, age adjusted
● Statistically significant higher compared to Victoria



Source: Victorian Population Health Survey, 2023, age adjusted
Victorian Population Health Survey, 2020, age adjusted
Victorian Population Health Survey, 2017, 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.[1] Swan Hill had lower compliance with the fruit guidelines but higher compliance to the vegetable guidelines, compared to Victoria. Swan Hill also had a significantly higher proportion of people consuming sugar-sweetened beverages daily (28.5%) compared to the Victorian proportion (19.3%).

Recommended daily intake of fruit 2 serves: a serve is one medium piece or two small pieces of fruit or one cup of diced fruit.

Recommended daily intake of vegetables is 5-6 serves for adults: a serve 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
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
● Statistically significantly higher compared to Victoria

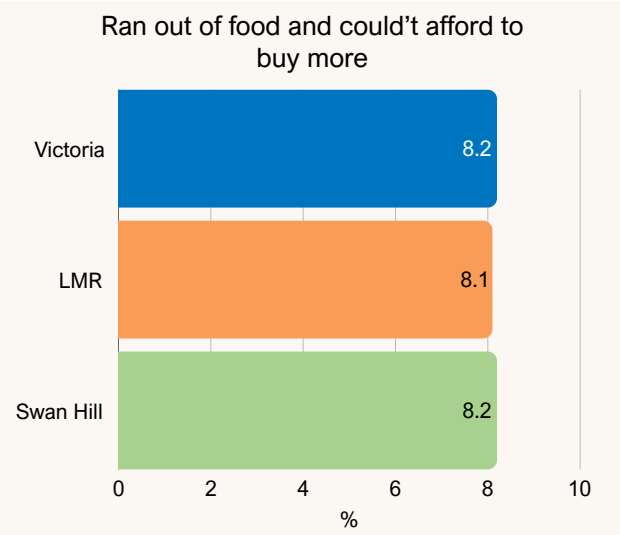
[1] Victorian Population Health and Wellbeing Plan 2023-27

4.5 Food insecurity

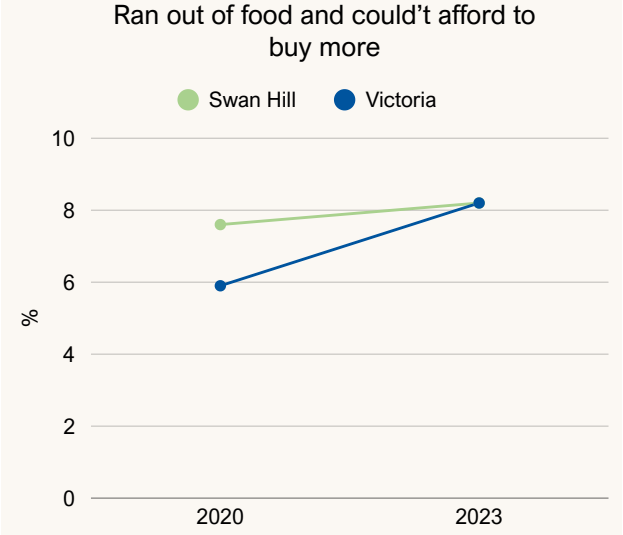
Food security is defined as access by all people at all times to enough food for an active, healthy life and includes at a minimum:

- the ready availability of nutritionally adequate and safe foods
- the assured ability to acquire food in socially acceptable ways. [1]

Swan Hill's food insecurity (8.2%) was comparable with Victoria (8.2%), however food insecurity has not risen from 2020 in Swan Hill at the same rate as Victoria.



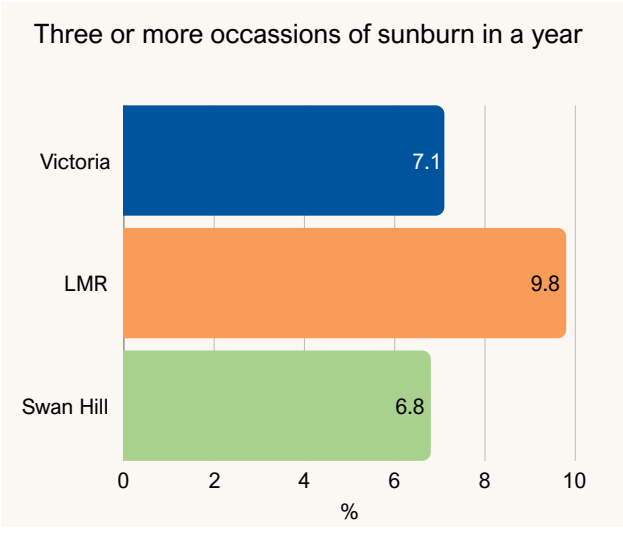
Source: Victorian Population Health Survey, 2023, age standardised



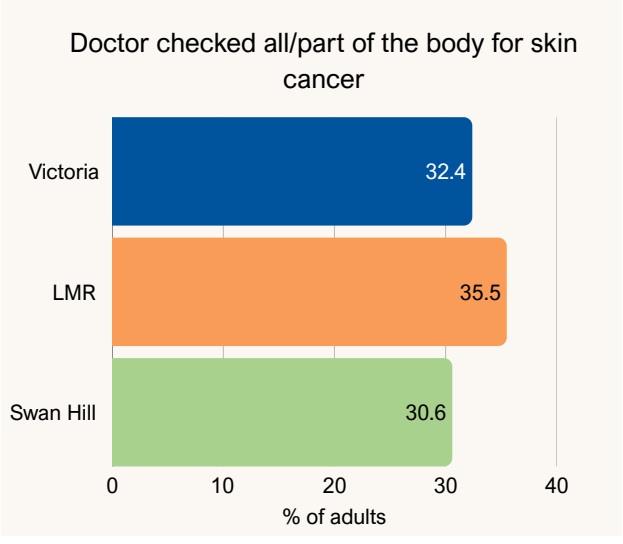
Source: Victorian Population Health Survey, 2023, age standardised
Victorian Population Health Survey, 2020, age standardised

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. [2] Swan Hill (6.8%) had a lower proportion of people reporting three or more occasions of sunburn in a year, compared with Victoria (7.1%). In 2023, the percentage of people in Swan Hill getting a skin check from their doctor (30.6%) was less compared to Victoria (32.4%)



Source: Victorian Population Health Survey, 2023, age adjusted

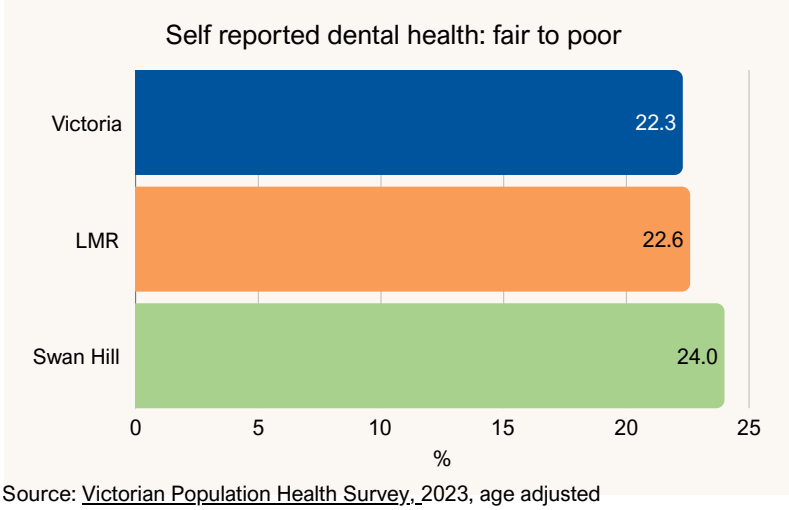


Source: Victorian Population Health Survey, 2023, age adjusted

[1] Australian Institute of Health and Welfare
[2] Cancer Council

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 proportion of adults in the Loddon Mallee region (22.6%) reporting fair to poor dental health was comparable to the whole of Victoria (22.3%). Swan Hill was slightly higher (24%) 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. In 2024, 234 children in Swan Hill underwent developmental assessment. The Swan Hill figures were comparable to the Victorian proportions. Overall, 21.3% of children in Swan Hill were vulnerable on one or more domains, compared with 22.3% across Victoria.

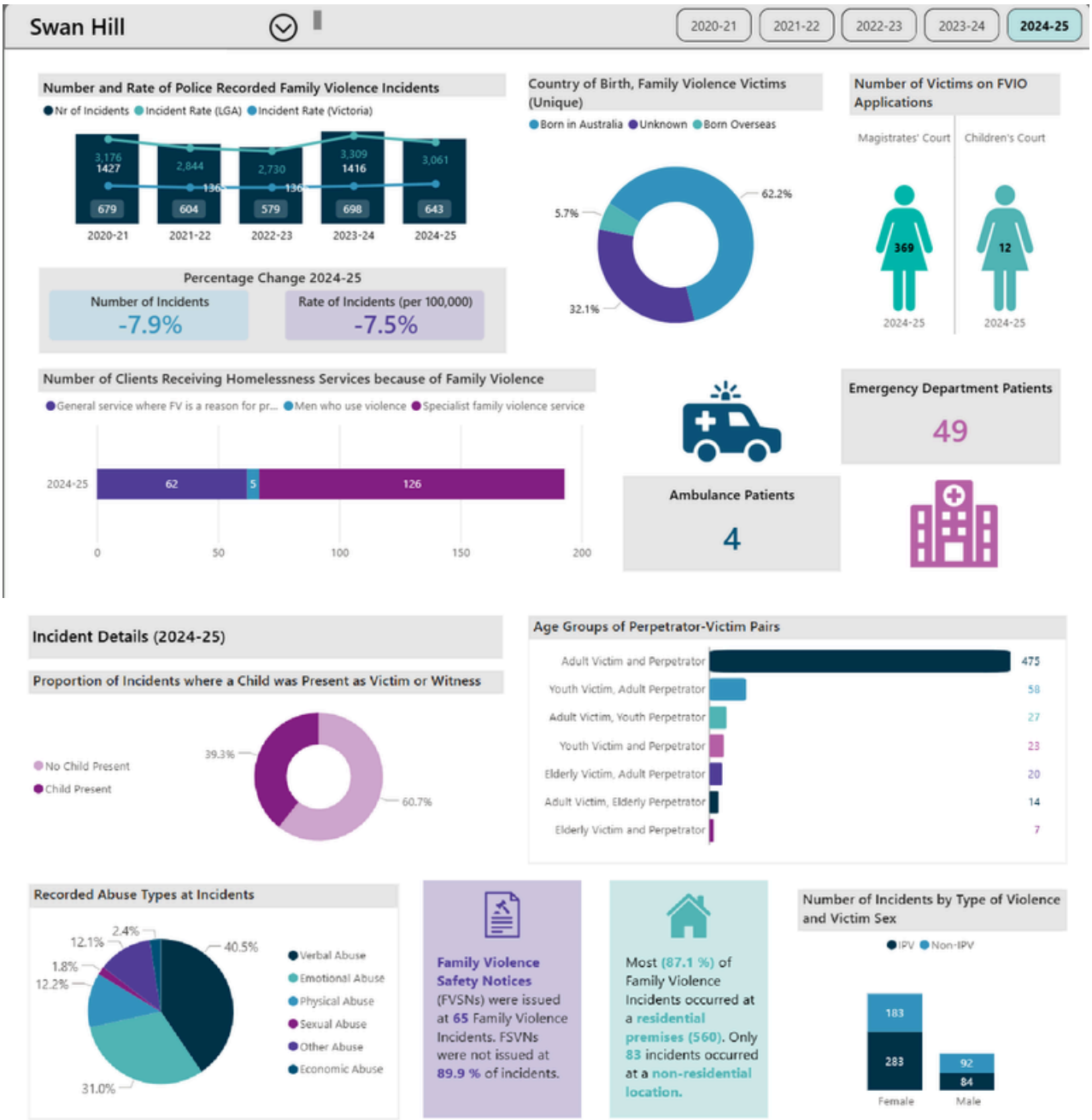
		Vulnerable (234 children assessed)		
Indicator	**Indicator description**	**Swan Hill (n)**	**Swan Hill (%)**	**Victoria (%)**
Physical	Child is healthy; independent; excellent gross and fine motor skills	21	10	8.5
Social	Gets along with others; shares; self-confident	20	9.5	10.6
Emotional	Able to concentrate; help others; patient, not angry or aggressive	18	8.5	9.9
Language	Interested in reading or writing; can count; recognises numbers and shapes	9	4.3	7.3
Communication	Can tell a story; communicate with adults and children; articulate themselves	18	8.5	8.2
Vulnerability 1	Developmentally vulnerable in one or more domains	45	21.3	22.3
Vulnerability 2	Developmentally vulnerable in two or more domains	22	10.4	11.8

Source: Australian Early Development Census, 2024

4.9 Family violence

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

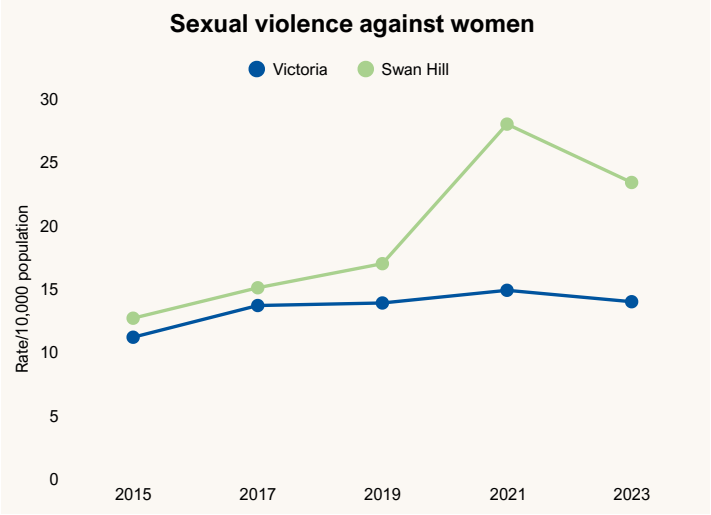
Swan Hill recorded a family violence incident rate of 3,061/100,000 population, higher than the Victorian rate (1,500/100,000) and **ranked 7th highest** LGA in Victoria. In nearly half of reported family violence incidents in Swan Hill (39.3%), a child was present either as a victim or a witness. Of the recorded abuse types in Swan Hill, verbal abuse was most common (40.5%), followed by emotional abuse (31%). There were 49 presentations to emergency departments related to family violence in Swan Hill.



Source: Latest crime data by area | Crime Statistics Agency Victoria, 2024-25

4.10 Sexual assault

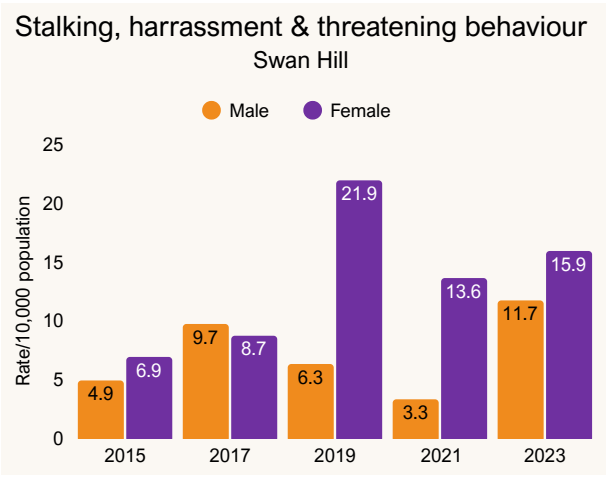
According to Victoria Police, sexual offences occur when someone does not or cannot consent to a sexual behaviour, act or acts. These sexual behaviours can include: rape, sexual or inappropriate touching, sexual assault, child sexual abuse, elder sexual abuse, sexual exposure of genitalia, image-based sexual offending, stealthing (non-consensual condom removal), stalking and grooming. Swan Hills's rates have been consistently higher than the Victorian rate with a spike in 2021 of 28/10,000 population.



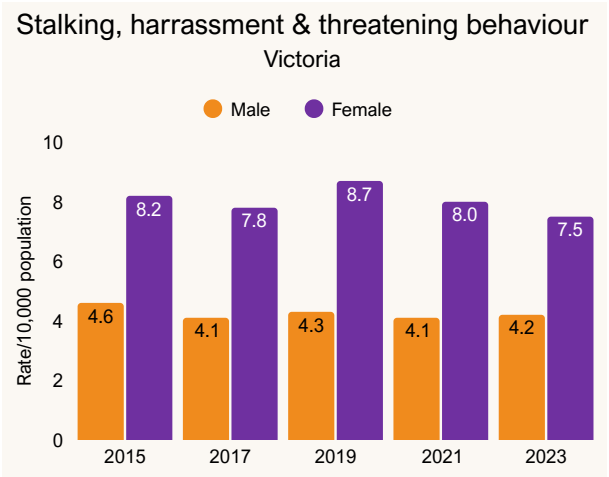
Source: Womens Health Atlas, victim reports received where the woman is the victim

The Victorian Crime Statistics Agency reports on stalking, harassment, and threatening behaviours as a group. This category includes repeated acts of unreasonable conduct intended to: cause physical or mental harm; arouse apprehension or fear; threaten or invade privacy; create nuisance or offend someone based on personal characteristics.

In Swan Hill, the rate of female victims of stalking, harassment and threatening behaviour was the **6th highest LGA** in Victoria. From 2009, female victim reports were considerably higher than males in Swan Hill. This aligns with Victoria, where female victim reports of stalking, harassment and threatening behaviour outnumber male victim reports by a ratio of almost 2 to 1.



Source: Womens Health Atlas, victim reports received by police

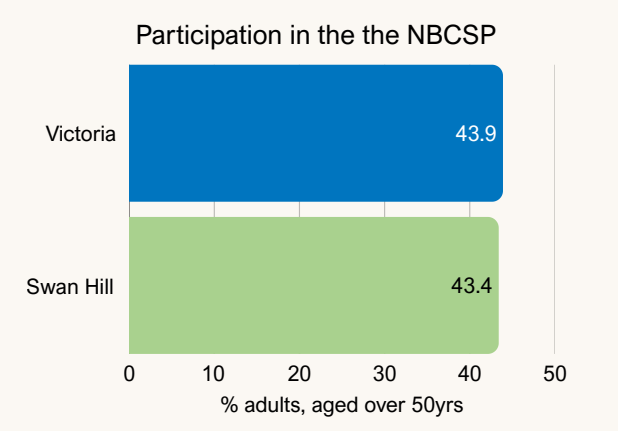


Source: Womens Health Atlas, victim reports received by police

5. Health screening

5.1 Bowel screening

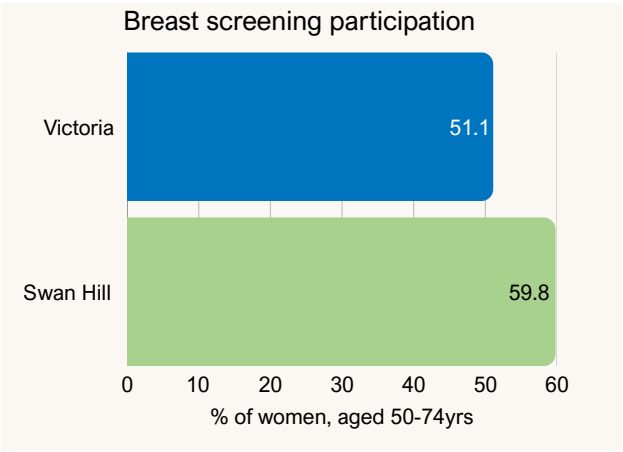
Bowel cancer, is the third most common type of newly diagnosed cancer in Australia. The National Bowel Cancer Screening Program (NBCSP) aims to reduce deaths from bowel cancer by detecting early signs of the disease. If found early, more than 90% of cases can be successfully treated. The percentage of people participating in NBCSP in Swan Hill (43.4%) was slightly below Victoria (43.9%).



Source: Social Health Atlas , 2020-21

5.2 Breast screening

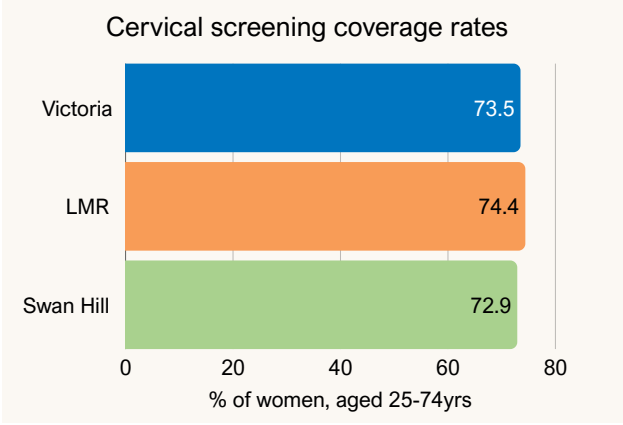
Research has shown that screening mammography is currently the most effective tool for the early detection of breast cancer in asymptomatic women in the target age group of women aged 50 to 74 years; and, that having a screening mammogram every two years, reduces the chance of dying from breast cancer by up to 40%. Swan Hill had a higher participation in breast screening (59.8%), compared to Victoria (51.1%)



Source: Social Health Atlas , 2021-22

5.3 Cervical screening

The National Cervical Screening Program reduces illness and death from cervical cancer. Women and people with a cervix aged 25 to 74 years are invited to have a cervical screening test every 5 years through their healthcare provider. Swan Hill had a lower coverage of cervical screening (72.9%) compared to LMR (74.4%) and Victoria (73.5%).



Source: National Cervical Screening Program, 2020 -2024

6. Health conditions

6.1 Life expectancy

The median age at death for both males and females in Swan Hill remained stable from 2016 to 2022, showing no percentage difference for males and a decrease of one year for females.. This suggests that, on average, individuals in Swan Hill were experiencing a similar life expectancy as their counterparts in the broader state.

Examining premature mortality (deaths occurring before the age of 75 years), Swan Hill demonstrated positive trends. For males, there was a substantial reduction from an average annual aged standardised rate (ASR) of 470.2/100,000 population to a rate of 369.6, indicating a percentage decrease of 21.4%. Similarly, for females, the average annual ASR decreased from 264.7 to 247.4/100,000 population, reflecting a percentage decrease of 6.5%. However, the premature mortality rates in Swan Hill (2018-2022) were statistically significantly higher than expected based on Australian data and higher than the Victorian rates.

Avoidable mortality (deaths that could have been prevented) also showed improvement in Swan Hill. For males, there was a decline from an average annual ASR of 272.7/100,000 population to 226.7, representing a percentage reduction of 16.8%. For females, the average annual ASR decreased from 138.8 to 124.8/100,000 population, indicating a percentage reduction of 10%. Although this demonstrates progress, the avoidable mortality rates in Swan Hill (2018-2022) were statistically significantly higher than expected based on Australian data and higher than the Victorian rates.

	2016 - 2020				2018-2022				% Difference between reports			
	Swan Hill		Victoria		Swan Hill		Victoria		Swan Hill		Victoria	
	M	F	M	F	M	F	M	F	M	F	M	F
Median age at death (yrs)	78	86	79	85	78	85	79	85	0	-1	0.0	0.0
Premature mortality, 0-74yrs of age^	470.2	264.7	269.5	171.2	369.6 ●	247.4 ●	281.8	176.8	-21.4	-6.5	4.6	3.3
Avoidable mortality, 0 to 74yrs of age^	272.7	138.8	138	80.5	226.7 ●	124.8 ●	142.1	80.8	-16.8	-10	3.0	0.4

Source: Social Health Atlas of Australia: Victoria, 2018-2022

^Average annual ASR/100,000. Age Standardise Rate (ASR) is used to remove the effect of the differing age distributions that we can make conclusions about the relative decreases or increases in mortality over time.

● Statistically significantly higher than expected (based on Australian data)

6.2 Avoidable deaths

Avoidable deaths are deaths from conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care. The highest rates of avoidable deaths (0-74 years) for 2018-2022 in Swan Hill were for circulatory system disease (56.2/ 100,000 population) and ischaemic heart disease (36.2/100,000 population). In Swan Hill, avoidable deaths for circulatory system, ischaemic heart disease, respiratory system disease, obstructive pulmonary disease, breast cancer, external causes and suicide were statistically significantly higher than expected (based on Australian data) and notably higher than the Victorian rate. The highest percentage increases of avoidable deaths for Swan Hill from 2017/2021 to 2018/2021 included colorectal cancer (79.2%) respiratory system disease (44.6%) and suicide and self inflicted injuries (43.2%).

Avoidable deaths by cause	2018-2022		2017-2021		%Difference between the reports	
	Swan Hill	Victoria	Swan Hill	Victoria	Swan Hill	Victoria
Circulatory system	56.2 ●	33.3	60.8	32.7	-7.6	1.8
Ischaemic heart disease	36.2 ●	21	42.7	20.6	-15.2	1.9
Cancer	32.5	27.5	28.6	27.8	13.6	-1.8
Transport accidents	6.2	4.1	12	4	-48.3	2.5
Respiratory system disease	24.3 ●	9.1	16.8	9	44.6	1.1
Obstructive pulmonary disease	22.4 ●	8.5	15.8	8.3	41.7	2.4
Cerebrovascular disease	7.6	7.7	8.6	7.6	-11.6	1.3
Breast cancer	28.2 ●	15.2	26	15.6	8.4	-2.5
Diabetes	7.6	5.5	7.6	5.2	0	5.8
Colorectal cancer	8.6	10	4.8	10.1	79.2	5.9
External causes (falls, burns, suicide, self-infected injuries etc)	24.7 ●	14	19.6	13.5	26.0	3.7
Suicide and self-inflicted injuries	20.9 ●	10.9	14.6	10.6	43.2	2.8

Source: Social Health Atlas, 0-74 years, ASR/100,000 population

● Statistically significantly higher than expected (based on Australian data)

6.3 Physical health conditions

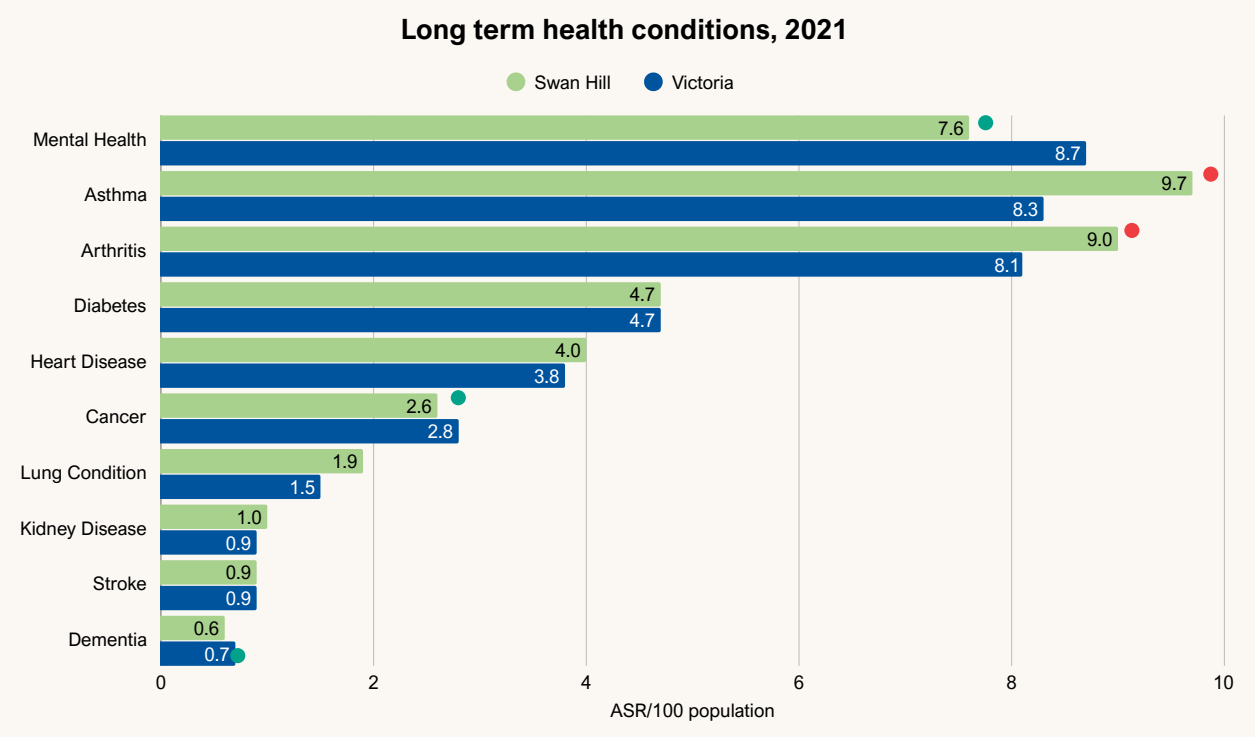
In the census, people were asked to indicate long-term conditions (six months or more) diagnosed by a doctor or nurse. Selected long-term health conditions include arthritis, asthma, cancer (including remission), dementia (including Alzheimer's), diabetes (excluding gestational diabetes), heart disease (including heart attack or angina), kidney disease, lung condition (including COPD or emphysema), mental health condition (including depression or anxiety) and stroke. Other long-term health conditions were not included in this count.

In Swan Hill, 3.5% reported having three or more long-term conditions, compared with 2.9% across Victoria. High levels of multiple long-term health conditions place significant strain on individuals, communities and health systems, reducing quality of life, increasing service demand and widening health inequities.

Long-term health conditions	Swan Hill (n)	Swan Hill (%)	Victoria (%)
No long term conditions	12,783	59.7	65
One condition	3,979	18.6	18.8
Three or more conditions	740	3.5	2.9

Source: Australian Bureau of Statistics, 2021, all people

In Swan Hill, self-reported mental health (7.6/100 population), cancer (2.6/100 population) and dementia (0.6/100 population) was statistically lower than expected (based on Australian data). However, asthma (9.7/100 population) and arthritis (9/100 population) were all statistically significantly higher than expected (based on Australian data) and higher than the Victorian rates.



Source: Social Health Atlas , 2021, all people
Statistically significantly higher than expected (based on Australian data)
Statistically significantly lower than expected (based on Australian data)

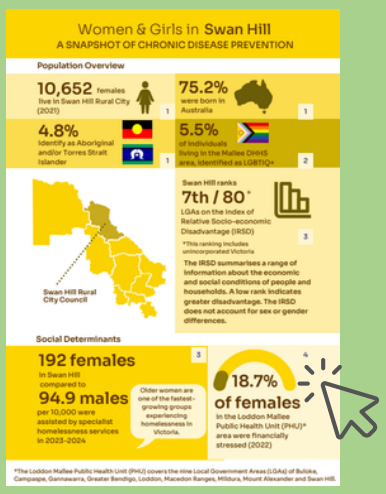
More recent data, using a different collection methodology and smaller cohort show the proportion of adults in Swan Hill reporting COPD, asthma, osteoarthritis, diabetes, heart disease and cancer were higher compared to LMR and Victoria.

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
Swan Hill (%)	4.9	24	15.8	7.4	9	11.7

Source: Victorian Population Health Survey, 2023, age adjusted
*COPD: Chronic Obstructive Pulmonary Disease

Women's Health Loddon Mallee has developed a series of chronic disease infographic data snapshots for each LGA in the Loddon Mallee region using local sex-disaggregated data, where available.

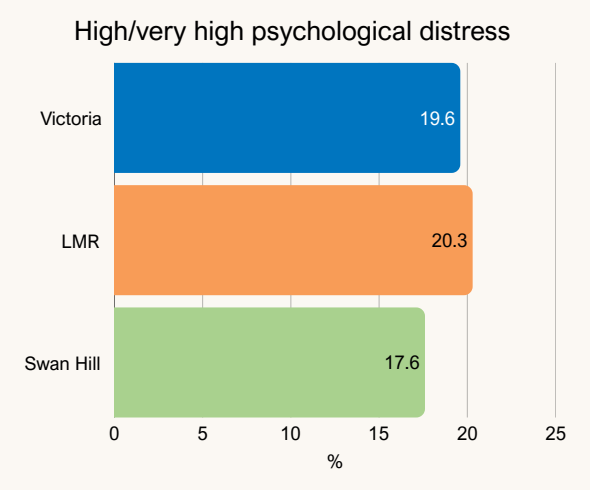
These infographics highlight conditions more common among women and girls in the Loddon Mallee, such as osteoporosis and dementia, and snapshots of the individual, economic, social and structural factors which interact to influence the development and management of chronic conditions.



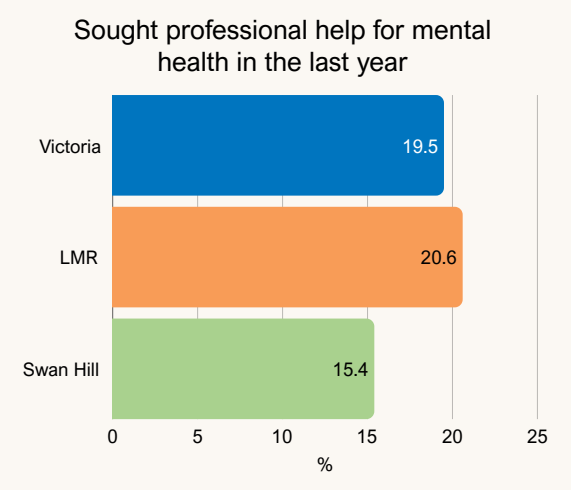
Source: Women's Health Loddon Mallee, 2025

6.4 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. Swan Hill had a lower proportion of people experiencing high/very high psychological distress (17.6%), compared with Victoria (19.6%). Swan Hill also had a lower proportion of people seeking professional help for mental health.

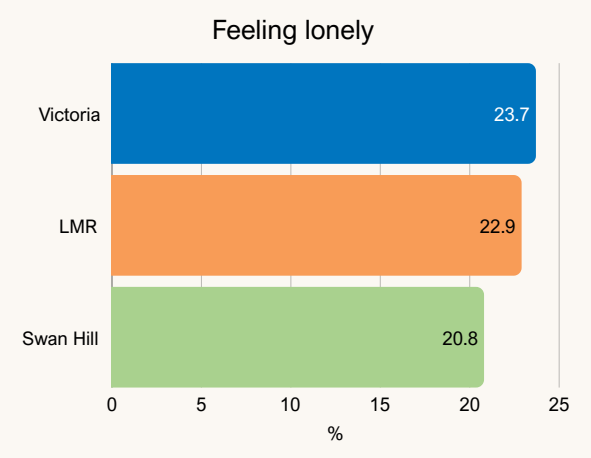


Source: Victorian Population Health Survey, 2023, age adjusted

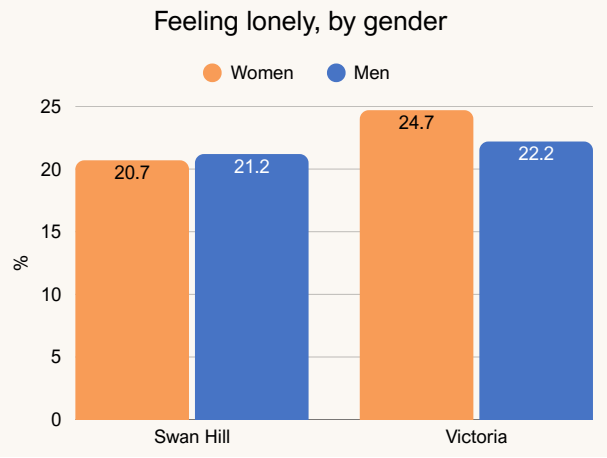


Source: Victorian Population Health Survey, 2023, age adjusted

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). In the Victorian Population Health Survey, loneliness was measured using the 3-item UCLA Loneliness Scale. Swan Hill had a lower proportion of people feeling lonely (20.8%), compared with Victoria (23.7%), with slightly more men reporting loneliness.



Source: Victorian Population Health Survey, 2023, age adjusted

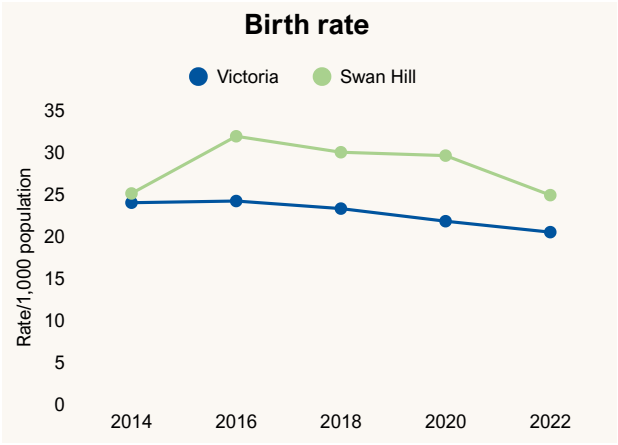


Source: Victorian Population Health Survey, 2023, age adjusted

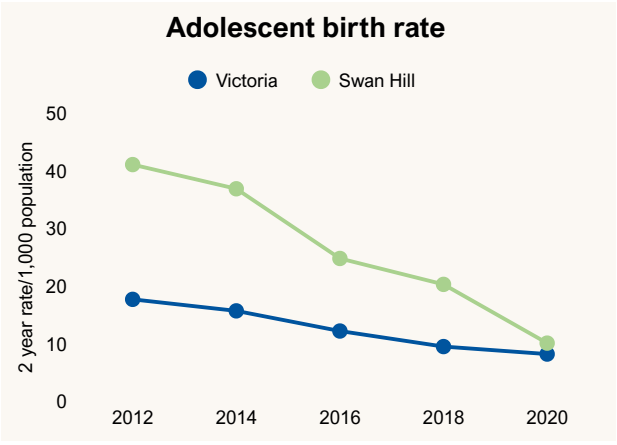
6.5 Sexual and reproductive health

Swan Hill shows consistently higher birth rates compared with the Victorian rate. In 2022, total fertility rates (average number of babies born to a women in her lifetime) were higher in Swan Hill (1.98) compared to Victoria (1.7).

The adolescent birth rate (younger than maternal 20 years of age) in Swan Hill has significantly decreased from 2012. The adolescent birth rate in 2020 was (10.1/1,000 population), higher than the Victorian average (8.2 /1,000 population).



Source: Womens Health Atlas



Source: Womens Health Atlas

In Swan Hill, chlamydia rates in females (333.2/100,000 population) were higher compared with Victoria (324.5/100,000 population)

Newly acquired	Chlamydia^		Gonorrhoea^		Hepatitis B^		Infectious Syphilis^	
	Female	Male	Female	Male	Female	Male	Female	Male
Victoria	324.5	412.3	60.5	281.1	^^	0.24	7.43	36.7
Swan Hill	333.2	223.8	^^	32.9	^^	^^	^^	^^

Source: Victorian sexual and reproductive health and viral hepatitis strategy 2022-30: Monitoring indicators dashboard, ^Rate/100,000 population, 2024
^^ less than five cases

Womens Health Loddon Mallee (WHLM) have developed a snapshot of sexual and reproductive health in Swan Hill - click on image to view the snapshot.

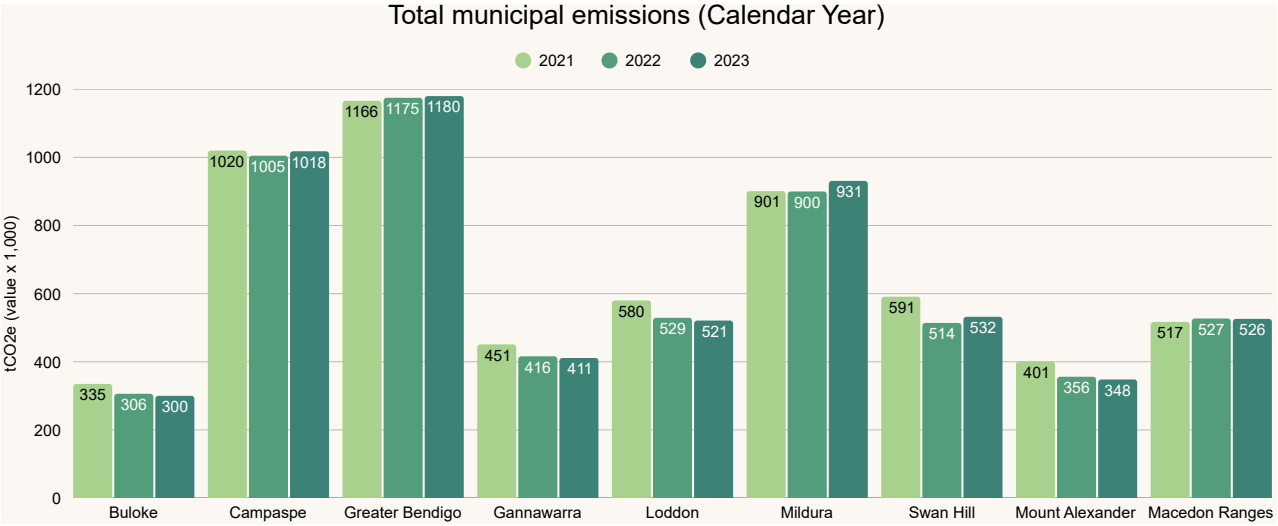
WHLM have also compiled a comprehensive list of sexual and reproductive health services in the Loddon Mallee region

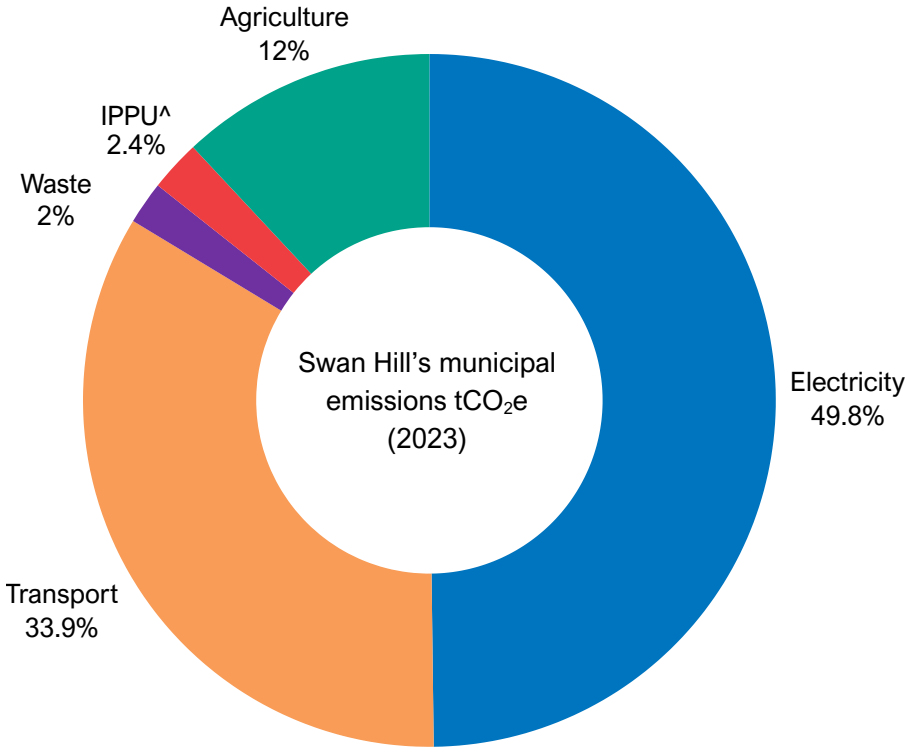
Source: Womens Health Loddon Mallee, 2025

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. Some of the considerations in comparing carbon emissions across local government areas are population, industry mix, geographical area, transport patterns and land use. Swan Hill carbon emissions for 2023 was 532,000 tCO_2e, increased slightly from 2022 (514,000 tCO^2e) . In 2023, the top causes of emissions in Swan Hill were electricity (49.8%) and transport (33.9%).





Source: Snapshot Climate - Australian Emissions Profiles
tCO_2e: Tonnes of Carbon Dioxide Equivalent
^Industrial Processes and product use

7.2 Average temperature

Temperatures in the Loddon Mallee region differ significantly from north to south. The northern part of the region sees hotter summers with the SWan Hill area experiencing an average maximum temperature of 31.2°C in summer. Winters are mild, with the maximum temperature of 15.6°C on average. Conversely, the more southern part of the region experiences cool and rainy winters and warm and arid summers. In the elevated southern regions, the average maximum summer temperature is below 25°C. Frosty weather is frequent in the whole region.

LGA (1961-1990)	Summer (Ave °C)		Winter (Ave °C)	
	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

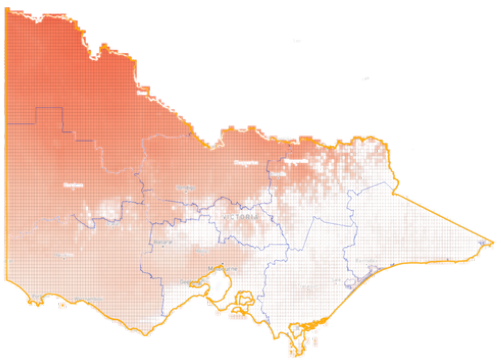
Source: Loddon Mallee Environmental Scan | Emergency Management Victoria (emv.vic.gov.au), 1961-1990

Projected number of days above 35 °C in 2030s and 2090s by Bureau of Meteorology Forecast Districts.

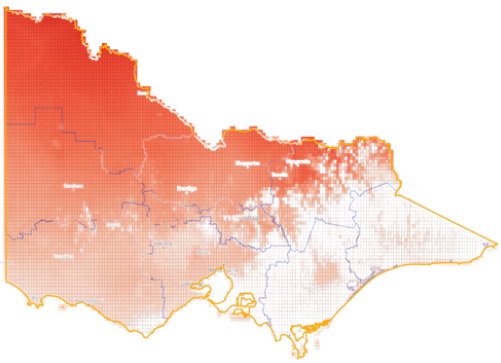
These data demonstrate that the Mallee and Murray areas are projected to experience increasing days above 35°C, which will impact health and wellbeing. Heat kills more Australians than any other natural disaster.

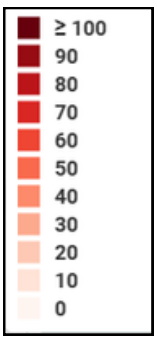
Heat can cause serious and potentially fatal health problems such as heat exhaustion and heatstroke, trigger sudden events like heart attack or stroke, or worsen existing medical conditions like kidney or lung disease. [1]

2030s (2015-2044)



2090s (2075-2104)





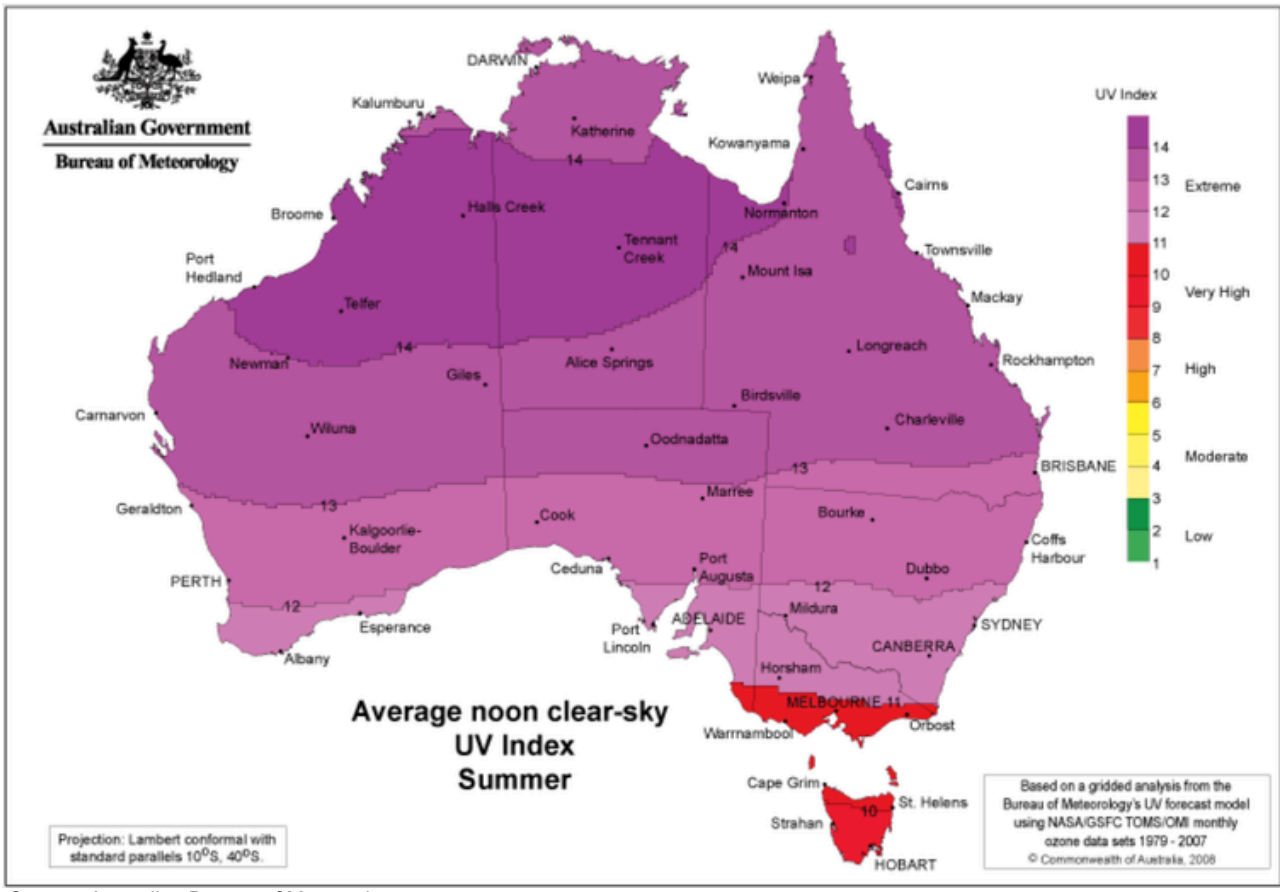
Source: Victorian Government, Energy, Environment and Climate Action

[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 Loddon Mallee region is classified as a bushfire prone area (97.8%). This means high bushfire hazards in the Loddon Mallee region, many of which intersect with settlements and areas that are experiencing growth in rural residential zones and tourism. Swan Hill has 92% of its area classified as bushfire prone.

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, and other local conditions.

Smoke from fires, including planned burns, can also pose a hazard to people's health. 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 require specific bushfire construction standards.

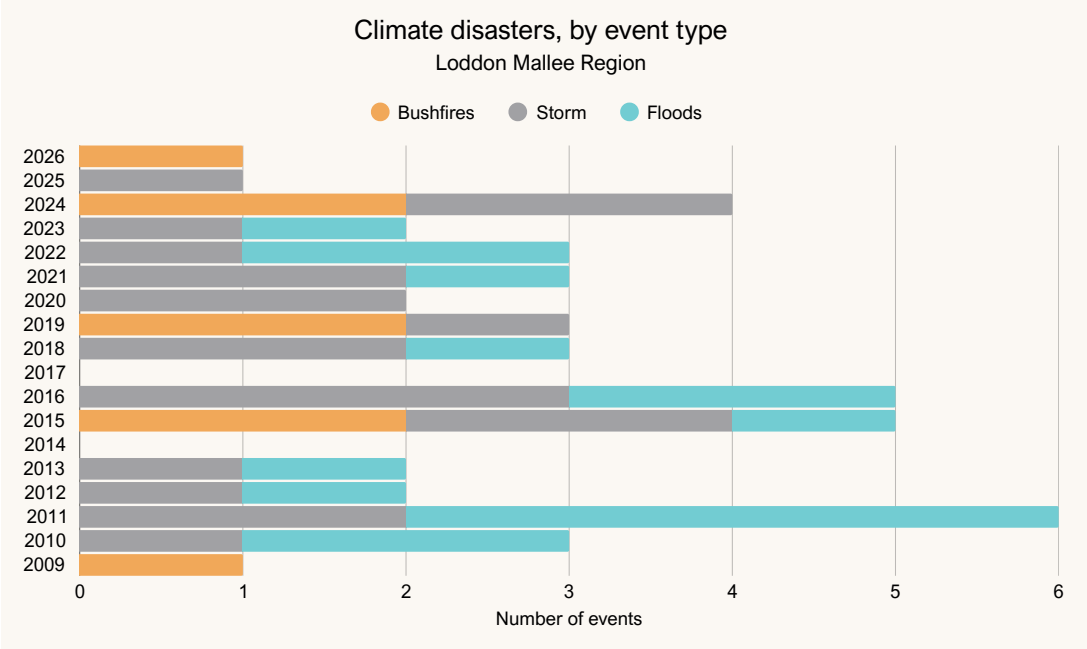
	Bushfire prone area (%)	Bushfire prone area (km^2)	Total area (km^2)
Campaspe	97.7	4,415	4,519
Buloke	97.6	7,807	8,000
Gannawarra	98.7	3,701	3,750
Greater Bendigo	97.6	2,930	3,000
Loddon	100	6,694	6,696
Macedon Ranges	98.6	1,723	1,748
Mildura	98.3	21,710	22,083
Mount Alexander	99.8	1,527	1,530
Swan Hill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

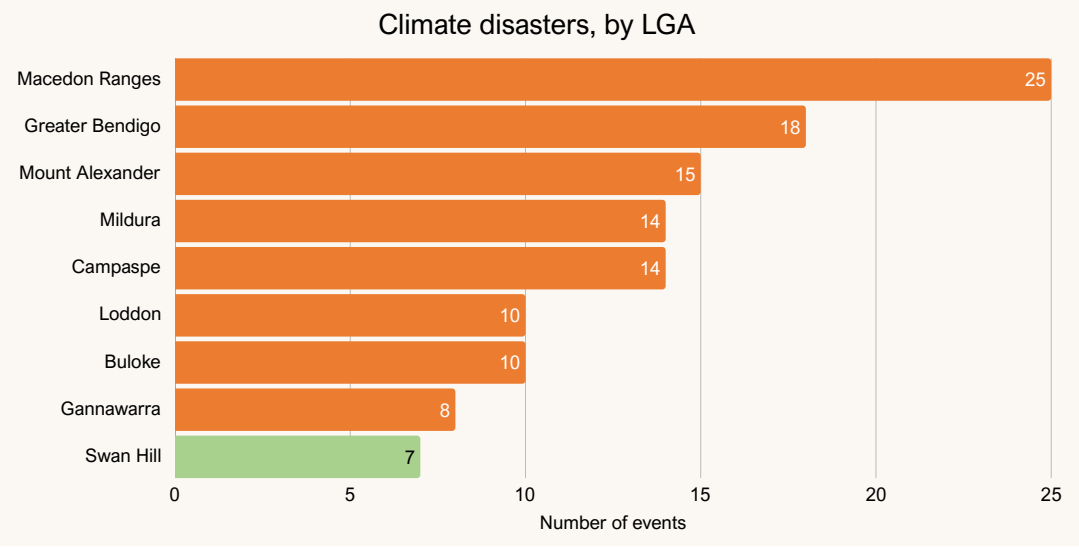
7.5 Climate emergencies

Climate change is increasingly affecting the frequency, intensity, and duration of extreme weather events in our region. Rising temperatures, shifting rainfall patterns, and more severe storm systems are contributing to a greater incidence of natural hazards such as bushfires, floods, and heatwaves. Acting as a risk multiplier, climate change not only amplifies the severity of these disasters, threatening lives, livelihoods, health and property, but also places significant pressure on disaster management systems.

The Disaster Recovery Funding Arrangements (DRFA) provide a framework for joint federal and state cost-sharing of disaster relief and recovery measures. These arrangements are triggered by state government when a natural disaster requires a coordinated multi-agency response and exceeds the small disaster financial threshold. Between 2019 and February 2026, 35 climate-related disaster events (storms, floods, bushfires) in the Loddon Mallee region have activated the DRFA, with multiple climate disaster events most years. There were seven climate disaster events that activated the DRFA in Swan Hill (2019-2026).



Source: Australian Governemnt Department of Home Affairs, Disaster assist, 2009 -2026



Source: Australian Government Department of Home Affairs, Disaster assist, 2009 -2026

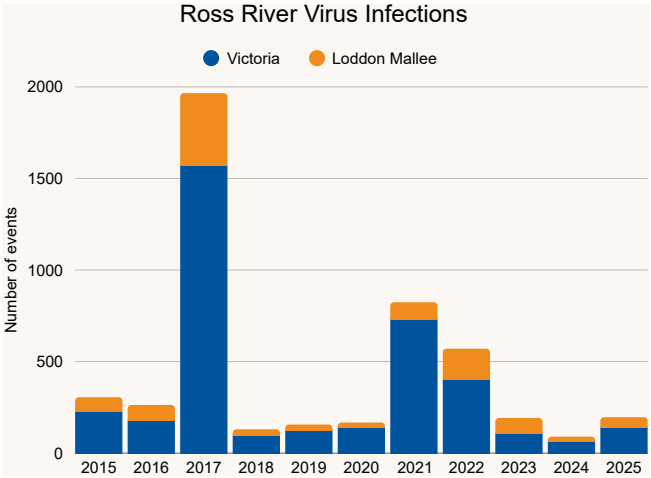
7.6 Mosquito borne disease

In 2025, there were five mosquito-borne viruses identified across Victoria with the potential for local transmission. These were 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. The mosquito trapping sites within the Loddon Mallee are in Campaspe, Gannawarra, Mildura and Swan Hill.

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 2025 29% 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

8. Data resources

LMPHU	https://www.bendigohealth.org.au/LMPHU/
ABS Quick Stats	https://abs.gov.au/census/find-census-data/quickstats/2021/POA3523
AECD	https://www.aedc.gov.au/data-explorer/
AIHW	https://www.aihw.gov.au/about-our-data/aihw-data-by-geography
Crimes Statistics Agency	https://www.crimestatistics.vic.gov.au/
PHN Exchange	https://www.phnexchange.com.au/
Social Health Atlas	https://phidu.torrens.edu.au/social-health-atlases
Victorian Population Health Survey	https://vahi.vic.gov.au/reports/victorian-population-health-survey-2023
Womens Health Atlas	https://victorianwomenshealthatlas.net.au/#!/

9. Notes on statistical significance

Public Health Information Development Unit/Social Atlas

Statistical significance was assessed using indirect age standardisation and standardised ratios (SRs). Expected numbers were calculated by applying age-specific Australian standard rates to the local population age structure. Observed numbers were compared with expected numbers and statistical significance was evaluated using a Z-score calculation, with 95% confidence intervals around the SR to indicate reliability. More information on this calculation is available at the Public Health Information Development Unit.

Victorian Population Health Survey

Statistical significance differences between estimates were deemed to exist where the 95% confidence intervals for percentages did not overlap. More information is available in the Methodolgy section of the Victorian Population Health Survey.

10. Abbreviations

Abbreviation table	
AEDC	Australian Early Development Census
AIHW	Australian Institute of Health and Welbeing
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
MMM	Modified Monash Model
NBCSP	National Bowel Cancer Screening Program
NDIS	National Disability Insurance Scheme
PHN	Primary Health Network
STI	Sexually Transmitted Infection

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