

POPULATION PROFILE

OF THE NORTH EASTERN PUBLIC HEALTH UNIT CATCHMENT AREA

GENERAL REPORT

Prepared by: Medical and
Epidemiology Branch, NEPHU



Acknowledgements

NEPHU acknowledges the Traditional Custodians of the land on which we work, live and play.

We pay our deepest respects to their Elders, past and present. We recognise and honour the enduring connection that Aboriginal and Torres Strait Islander peoples have to this land, water and Community.

NEPHU would like to acknowledge the contribution of the following teams in preparing this report:

- Medical and Epidemiology branch, NEPHU
- Population Health branch, NEPHU
- Branch Leadership Group, NEPHU

We would also like to thank the many stakeholders who contributed their time, knowledge and insights during the development of this report.



We celebrate, value and include people of all backgrounds, genders, sexualities, cultures, bodies and abilities.

Foreword



In 1854, Dr John Snow identified a particular water pump on Broad Street as the cause of an ongoing outbreak of cholera and successfully contained the outbreak by removing the handle of the pump. John Snow demonstrated that to control the outbreak, it was essential to understand who the people impacted by the outbreak were, where they lived, worked, went to school, socialised, and the environmental conditions under which all those activities occurred. That investigation, and subsequent actions, were a key milestone in the development of modern public health into the discipline we now practice.

In the intervening 170 years, we have come to understand more deeply that there is a vast array of determinants which influence the attainment of good health and wellbeing, or the development of disease and poor health. It is crucial that our efforts to prevent disease and promote good physical and mental health and wellbeing are informed by these determinants.

The North Eastern Public Health Unit (NEPHU) was created in 2021 as one of nine local public health units, in response to the COVID-19 pandemic. The pandemic demonstrated, in stark reality, the inequities faced by many in our community, and the importance of understanding local context and implementing place-based solutions. Since that time, the Victorian Department of Health has entrusted the local public health units with an increasingly broad array of public health activity, including tasking the units to develop and implement Population Health Catchment Plans, and the public health investigation and response for over 80 notifiable conditions.

This report is based on a collation of existing data sets and is primarily intended to provide a baseline understanding of the key determinants of health and wellbeing that impact the communities which live in the NEPHU catchment area. It also provides links to relevant data sources to facilitate ease of access for more detailed interrogation. It will inform prevention, promotion and health protection work that is undertaken by the NEPHU team, often in partnership with a wide range of organisations. While the primary purpose of the profile is to inform the NEPHU work, it was developed with the needs of our partner organisations in mind and I sincerely hope that the information presented will provide useful insights into the communities and populations that are served by all of our partners across the catchment.

This profile demonstrates many things which were already well known but are important to demonstrate clearly. In particular, the report confirms that the people who live in the NEPHU catchment are highly diverse in every sense of the word. This diversity crosses demographics, geography, risk factors, health behaviours and determinants. The profile has also highlighted areas where there is minimal available information, such as about people with disability or those seeking asylum. To that end, this profile should be considered as a point in time snapshot, which will be added to and changed as additional data becomes available.

I would like to personally thank and commend the many people, across the NEPHU team and outside of NEPHU who have contributed to this profile. There has been an immense amount of collaboration, consideration and hours and hours of coding and editing to get the profile to this stage and it is very much appreciated.

Finally, I am hopeful that this report will provide the information and insights needed for the teams at NEPHU, and our partners, to roll out targeted, evidence based public health interventions in the communities and populations where it is most needed and will have the greatest impact over the coming years.

A handwritten signature in black ink, appearing to read 'Annaliese van Diemen'.

Dr. Annaliese van Diemen
Director

Reader guide

Important information for using this report

This report provides a single point of access to a wide range of population health data relevant to the population who reside in the North Eastern Public Health Unit (NEPHU) catchment area. This is a technical report and not necessarily intended to be read end-to-end, but rather may serve as a resource that can be referenced to explore specific topics of interest. Section summaries provide a high-level overview of all the indicators discussed within a particular section. These are designed to be stand-alone summaries that repeat the key facts and findings detailed in the report.

Most data in this report have been sourced from publicly available datasets that are described in **Section 2.6**. Data sources and external links are included, as well as data appendices and cross referencing throughout the document for convenience. This allows the reader to independently explore any further lines of inquiry that arise from the data presented. The rationale for inclusion of each indicator has been provided. Data is presented in a neutral manner, with data interpretation and references to the wider literature kept to a minimum to allow the reader to draw their own conclusions. Each figure and table in the report includes the data source and data notes that provide important contextual information. The data source and notes should be read in parallel with all indicators to ensure accurate interpretation.

Data presented in this report may differ from other publicly available data. Differences are due to different survey years, denominator population data and the use of crude or age-standardised rates (see section **2.5: Statistical Methods**). For example, either the ABS census population or alternatively estimated resident population may be used as the denominator for population rates.

Not all indicators are able to be broken down into relevant sub-categories (e.g. by Local Government Area (LGA) or sex) due to lack of data collection, limits on data availability, or lack of quality granular data (see section **2.3 Sourcing Data**). Where relevant, the absence of data has been indicated throughout the report and a high-level measure at State or National level has been provided instead.

Direct LGA-to-LGA comparisons are not a specific purpose of this report, and these comparisons are not valid for many indicators due to sampling differences between LGAs. Some reported proportions will be affected by small numbers and should be interpreted with caution – this has been indicated throughout the report.

Terminology

Throughout this report ‘the population of the North Eastern Public Health Unit catchment area’ is referred to as ‘the NEPHU population’. While it is acknowledged that NEPHU is not, in and of itself, a geographical area, this terminology is used to assist with readability and flow of the document.

Additionally, ‘the North Eastern Public Health Unit’ is referred to ‘NEPHU’ rather than ‘the NEPHU’ when describing activities undertaken by individuals or teams within the unit. The purpose of this is also to enhance readability and document flow.

Aboriginal and Torres Strait Islander status

This report includes data on the entire population of the NEPHU catchment, including Aboriginal and Torres Strait Islander peoples. Demographic details for Aboriginal and Torres Strait Islander peoples are provided in **Section 4.4**. In addition, a separate report focusing on the Aboriginal and Torres Strait Islander communities living within the NEPHU catchment is being developed in partnership with First Nations stakeholders. It is expected to be completed in 2025 and will be available upon request.

It is important to recognise that data collection systems often do not fully reflect the true representation of Aboriginal and Torres Strait Islander peoples. This is due to limitations in how information is recorded, including under-identification in the Census and other routine data collection processes. Efforts have been made to address these gaps through enhanced methods, but the full scope of representation may not yet be captured.

The strength, resilience, and diversity of Aboriginal and Torres Strait Islander communities is recognised, and NEPHU remains committed to working collaboratively to ensure the data and reporting reflect Aboriginal and Torres Strait Islander voices, experiences and priorities.

Sex breakdowns

Some indicators in this report are shown for males and females separately. It is acknowledged that not all individuals identify with these binary categories however data availability limits presentation in this report to the binary categories of males and females.

Support services

This report contains data pertaining to demographic profiles of populations, social and wider determinants of health, health-related behaviours and health consequences. While all efforts have been made to present the data in respectful, non-stigmatising ways, it is acknowledged that certain topics can be sensitive and distressing. Please see **Box 1** below for a list of services that can provide support.

If you are experiencing distress or require support, please seek help from the services linked below:

- **Alcohol and other drugs:** [DirectLine](#) 1800 888 236
- **Gambling:** [Gambler's Help](#), 1800 858 858
- **Smoking or Vaping:** [Quitline](#), 13 78 48
- **Depression, anxiety and other mental health concerns:** [BeyondBlue](#), 1300 22 4636
- **Crisis support and suicide prevention:** [Lifeline](#) 13 11 14
- **Support for people affected by crime:** [Victims of Crime](#), 1800 819 817
- **Domestic, family or sexual violence:** [1800RESPECT](#), 1800 737 732
- **Emergency accommodation:** [Victorian housing](#), 1800 825 955
- **Breastfeeding support:** [Australian Breastfeeding Association](#), 1800 686 268
- **General local support search tool, including for food insecurity -** asklizzy.org.au

Box 1: Support services

Contents

Acknowledgements	2
Foreword.....	3
Reader guide	4
Important information for using this report	4
Terminology	4
Aboriginal and Torres Strait Islander status	5
Sex breakdowns	5
Support services	5
Contents	6
Acronyms.....	10
List of figures	12
List of tables.....	15
List of boxes.....	17
1. Introduction	18
1.1. Background and Context	18
1.2. Scope	18
1.3. Map of the NEPHU Catchment.....	19
1.4. Preventive Health Lens.....	19
2. Methods.....	21
2.1. Consultation	21
2.2. Indicator Development.....	21
2.3. Sourcing Data.....	21
2.4. Geographical Areas	22
2.5. Statistical Methods	22
2.6. Data Sources.....	23
3. Population.....	29
Section Summary	29
3.1. Population Size and Distribution	30
3.2. Population Growth	32
4. Demographics.....	36
Section Summary	36
4.1. Age and Sex.....	37
4.2. Women of Reproductive Age	39
4.3. Gender and Sexual Diversity	40
4.4. Aboriginal and/or Torres Strait Islander Population	41

4.5.	Country of Birth.....	42
4.6.	Languages Spoken.....	45
4.7.	Refugee and Asylum Seeker Populations	49
4.8.	Disability	52
4.9.	General Health	53
5.	Early Childhood Determinants of Health	54
	Section Summary	54
5.1.	Timing of Antenatal Visit	55
5.2.	Smoking During Pregnancy	56
5.3.	Babies Born with a Low Birthweight.....	58
5.4.	Preterm Birth – Victorian Data	58
5.5.	Exclusive Breastfeeding Until 3 Months of Age	59
5.6.	Exposure to Alcohol in Utero.....	60
5.7.	Early Childhood Education.....	62
5.8.	Early Childhood Development	63
5.9.	Childhood Numeracy and Literacy	66
6.	Social Determinants of Health.....	68
	Section Summary	68
6.1.	Socioeconomic disadvantage (IRSD)	70
6.2.	Education	72
6.3.	Health literacy – National Data	75
6.4.	Employment Status	76
6.5.	Income Level	80
6.6.	Income Support Payments.....	85
6.7.	Food Security	88
7.	Housing	92
	Section Summary	92
7.1.	Home Ownership and Housing Tenure	93
7.2.	Housing Affordability and Housing Stress	95
7.3.	Crowded Dwellings and Household Occupancy.....	96
7.4.	Homelessness and Social Housing.....	99
8.	Environmental Determinants of Health.....	102
	Section Summary	102
8.1.	Walkability	104
8.2.	Access to Parks and Open Spaces.....	105
8.3.	Social Infrastructure Index	105
8.4.	Liveability.....	106

8.5.	Distance to a Supermarket or Food Outlet.....	109
8.6.	Access to Take Away Food and Alcohol.....	111
8.7.	Emissions	113
8.8.	Heat Health Risk Index.....	116
9.	Social Capital and Safety	117
	Section Summary	117
9.1.	Civic Trust, Feeling Valued and Multiculturalism	119
9.2.	Experiences of Discrimination and Racism	120
9.3.	Group Membership and Loneliness	121
9.4.	Bullying in Children.....	123
9.5.	Crime.....	124
9.6.	Family Violence	125
10.	Mental Health and Wellbeing	127
	Section Summary	127
10.1.	Life Satisfaction	128
10.2.	Psychological Distress – Adults and Children	129
10.3.	Seeking Professional Help for Mental Health.....	132
10.4.	Further Resources – Resilience, Self harm, Suicide	133
11.	Health-Seeking Behaviours	134
	Section Summary	134
11.1.	Immunisation Coverage.....	136
11.2.	Cancer Screening Rates.....	141
11.3.	Fruit and Vegetable Consumption.....	146
11.4.	Physical Activity Levels.....	149
11.5.	Active Transport.....	151
11.6.	Condom Use by Young People	153
11.7.	Women’s Contraceptive Use.....	154
12.	Health Risk Behaviours	156
	Section Summary	156
12.1.	Tobacco Smoking	158
12.2.	E-cigarettes (Vaping)	159
12.3.	Secondary Smoke Exposure to Children	160
12.4.	Alcohol Consumption.....	162
12.5.	Illicit and Other Substance Use – Victoria	165
12.6.	Take-Away Food and Sugar Sweetened Beverage Consumption	166
12.7.	Physical Inactivity and Sedentary Behaviour	168
12.8.	Gambling	171

13.	Biomedical Risk Factors	173
	Section Summary	173
13.1.	Overweight and Obesity	175
13.2.	High Blood Pressure.....	177
13.3.	Blood Glucose and Blood Cholesterol – National Data	178
14.	Health Service Utilisation.....	179
	Section Summary	179
14.1.	Access to GP Services	181
14.2.	Access to Children’s Health Services.....	185
14.3.	Aged Care Services.....	186
14.4.	Private Health Insurance Cover	189
14.5.	Emergency Department Presentations	190
14.6.	Hospital Admissions.....	193
15.	Health Consequences	196
	Section Summary	196
15.1.	Blood-Borne Viruses.....	198
15.2.	Sexually Transmissible Infections	200
15.3.	Vaccine Preventable Infections.....	203
15.4.	Outbreaks of Notifiable Conditions.....	203
15.5.	Antimicrobial Resistant Hospital Infections	206
15.6.	Cancer Rates.....	207
15.7.	Chronic Disease	208
15.8.	Women’s Health	210
15.8.1.	Endometriosis and Hysterectomies.....	210
15.8.2.	Medical Abortion and Adolescent Birth Rate.....	212
15.9.	Transport Related Injury	214
15.10.	Falls.....	215
15.11.	Hospital Admissions due to Alcohol and Other Drugs	216
16.	Mortality.....	218
	Section Summary	218
16.1.	Mortality Data	219
	References	225
	Appendix 1: Additional information on key data sources.....	235
	Appendix 2: Data tables	238

Acronyms

ABS	Australian Bureau of Statistics
ACPCC	Australian Centre for the Prevention of Cervical Cancer
AEDC	Australian Early Development Census
AIHW	Australian Institute of Health and Welfare
AIR	Australian Immunisation Register
ASGS	Australian Statistical Geography Standard
ASR	Age-standardised Rate
AUO	Australian Urban Observatory
COPD	Chronic obstructive pulmonary disease
CSA	Crime Statistics Agency
DSP	Disability Support Pension
DSS	Department of Social Services
ERP	Estimated Resident Population
FOBT	Faecal Occult Blood Test
FY	Financial year
HHRI	Heat Health Risk Index
IPPU	Industrial process and product use
IRSD	Index of relative socio-economic disadvantage
IUD	Intrauterine devices
KIMS	Kindergarten Information Management System
LGA	Local government area
METeOR	METadata Online Registry
NAPLAN	National Assessment Program – Literacy and Numeracy
NDIS	National Disability Insurance Scheme
NEPHU	North Eastern Public Health Unit
NHMRC	National Health and Medical Research Council
NIP	National Immunisation Program
PAD	Potentially avoidable deaths
PHESS	Public Health Event Surveillance System
PHIDU	Public Health Information Development Unit

PYLL	Potential Years of Life Lost
SA	Statistical area
SDAC	Survey of Disability, Ageing and Carers
SEPHU	South Eastern Public Health Unit
SSB	Sugar-sweetened beverage
VAHI	Victorian Agency for Health Information
VCAMS	Victorian Child and Adolescent Monitoring System
VCHWS	Victorian Child Health and Wellbeing Survey
VGCCC	Victorian Gambling and Casino Control Commission
VPHS	Victorian Population Health Survey
VSHAWS	Victorian Student Health and Wellbeing Survey

List of figures

Figure 1: Map of the NEPHU Catchment.....	19
Figure 2: Strategic framework supporting public health action at state, regional and local levels	20
Figure 3: Map of population density across NEPHU by LGA, 2021	31
Figure 4: Population size by LGA, 2021	31
Figure 5: Birth rate by LGA, 2013-2022.....	34
Figure 6: Map of residence postcodes of overseas migrants arriving in NEPHU from 2011-2021.....	34
Figure 7: Age and sex distribution of the NEPHU population compared to the Victorian population, 2021	37
Figure 8: Age and sex distribution of the NEPHU population compared to the Victorian Population by LGA, 2021	38
Figure 9: Proportion of self-reported LGBTQI+ population by LGA, 2023.....	40
Figure 10: Aboriginal and/or Torres Strait Islander population numbers by LGA, 2021	41
Figure 11: Proportion and size of the NEPHU population born overseas by LGA.....	42
Figure 12: Map of top countries of birth of the NEPHU population, 2021.....	43
Figure 13: Number and proportion of NEPHU residents speaking languages other than English at home, 2021	45
Figure 14: Proportion of the population speaking a language other than English at home and low English proficiency by LGA, 2021	46
Figure 15: Proportion of the population with a self-reported disability by LGA, 2023	52
Figure 16: Self-reported health status of the NEPHU population by LGA, 2023	53
Figure 17: Proportion of children (under 2 years) exposed to alcohol while in utero by Department of Education areas, 2023.....	60
Figure 18: Proportion of children aged four and five who were enrolled in kindergarten in 2022 by LGA.....	62
Figure 19: Proportion of children in the first year of full-time school who are 'on track' on all five early childhood development domains by LGA, 2021	64
Figure 20: Proportion of children in the first year of full-time school who are classified as 'developmentally vulnerable' in early childhood development domains by LGA, 2021.....	65
Figure 21: Proportion of students in Years 3, 5, 7 and 9 in NEPHU who meet or exceed the benchmarks for literacy, 2008 to 2019.....	67
Figure 22: Proportion of students in Years 3, 5, 7 and 9 in NEPHU who meet or exceed the benchmarks for numeracy, 2008 to 2019	67
Figure 23: Index of relative socioeconomic disadvantage (IRSD) scores by LGA, 2021.....	71
Figure 24: Proportion of the population by highest education level and LGA.....	73
Figure 25: Proportion of population with Year 8 or below education (including those who did not go to school) by Australian-born status, sex and LGA, 2021	74
Figure 26: Employment status distribution (proportion of population) by LGA, 2021.....	77
Figure 27: Employment status distribution (proportion of population) by LGA and sex, 2021	78
Figure 28: Employment status distribution (proportion of population) by LGA and Australian-born status, 2021	79
Figure 29: Median weekly household income by LGA, 2021	81
Figure 30: Distribution of household weekly income levels by LGA, 2021	82
Figure 31: Proportion of personal weekly income levels in NEPHU and Victoria by age group, 2021.....	83

Figure 32: Proportion of personal weekly income levels in NEPHU and Victoria by sex, 2021	84
Figure 33: Description of selected income support payments (as per Services Australia 2021)	86
Figure 34: Proportion of population who experienced food insecurity by LGA, 2020 and 2023	90
Figure 35: Proportion of population who worry about food insecurity in the last 12 months by LGA, 2023.....	91
Figure 36: Housing tenure type (proportion of dwellings) by LGA, 2021	94
Figure 37: Proportion of households with housing costs (mortgage or rent) >30% of annual household income by LGA, 2021	96
Figure 38: Proportion of overcrowded dwellings in NEPHU by LGA, 2021	98
Figure 39: Proportion of overcrowded dwellings in NEPHU by postcode area, 2021	98
Figure 40: Rate of homeless persons per 10,000 of the population by LGA, 2021	100
Figure 41: Map of walkability, access to open spaces, social infrastructure and liveability, by suburb, 2021	108
Figure 42: Average distance (metres) to alcohol, healthy food and fast-food outlets in NEPHU, 2021	112
Figure 43: Total emissions by LGA from 2022-2023	114
Figure 44: Total emissions by sector by LGA, 2022-2023.....	115
Figure 45: Distribution of heat health relative index by Statistical Area 2 (SA2).....	116
Figure 46: Social capital indicator summary for NEPHU, 2023.....	118
Figure 47: Proportion of NEPHU population and response to social capital indicator questions (trust, feeling valued, multi-culturalism, talk regularly), 2020.	119
Figure 48: Proportion of NEPHU population and response to social capital indicator questions regarding the last 12 months (racism, discrimination), 2023.....	120
Figure 49: Proportion of population aged 18 and over belonging to a community or action group by LGA, 2017	121
Figure 50: Proportion of the NEPHU population who experience loneliness by LGA.....	122
Figure 51: Proportion of children (Years 4-9) who were bullied by LGA, 2023	123
Figure 52: Rate of reported criminal incidents by LGA, 2023.....	124
Figure 53: Rate of family violence incidents per 100,000 population by LGA, 2022-2023..	125
Figure 54: Proportion of the population reporting a low level of life satisfaction (score 0-4) by LGA	128
Figure 55: Proportion of students in Years 5, 8 and 11 who showed a high level of psychological distress (depressive symptoms) by Department of Education areas	130
Figure 56: Proportion of population reporting high or very high psychological distress (K10 score ≥ 22 on the Kessler Psychological Distress Scale) by LGA, 2023.....	131
Figure 57: Proportion of population who sought professional help for mental health problem by LGA.....	132
Figure 58: Proportion of fully vaccinated children by age group and LGA.....	137
Figure 59: Proportion of adolescents who had DTP, HPV (at least 1 dose) and MenACWY vaccines by age 20 years by LGA, 2024	138
Figure 60: Map of vaccine coverage by postcode for childhood immunisations, by age milestones, 2024.....	139
Figure 61: Map of vaccine coverage by postcode for adolescent immunisations, by vaccine type, 2024	140
Figure 62: Program detail overview of National Population Based Screening for bowel cancer, breast cancer and cervical cancer	141
Figure 63: Cancer screening participation rate by age group in NEPHU catchment.....	145

Figure 64: Proportion of adult population who met fruit and vegetable recommended consumption by LGA, 2023	147
Figure 65: Proportion of children (aged 4-12 years) who consumed the minimum recommended serves of fruit and vegetables daily, by Department of Education area, 2023	148
Figure 66: Level of weekly physical activity (proportion of adult population) by LGA, 2023	150
Figure 67: Proportion of children (aged 5-13 years) who met the recommended level of physical activity every day	151
Figure 68: Proportion of population and their mode of transport to work by LGA, 2021	152
Figure 69: Proportion of young people (Years 8 and 11) who always used a condom during sex by Department of Education areas, 2018	153
Figure 70: Proportion of population who smoke tobacco daily by LGA, 2023	158
Figure 71: Proportion of population who vape daily by LGA	160
Figure 72: Proportion of children (under 13 years) who were exposed to tobacco smoke in the home in 2023, by Department of Education areas	161
Figure 73: Pathways of second and third-hand smoke exposure to children	161
Figure 74: Proportion of adults consuming alcohol within or in excess of the revised NHMRC guidelines by LGA, 2023	163
Figure 75: Age-standardised rate of people drinking more than two standard alcoholic drinks daily by LGA, 2017-2018	164
Figure 76: Total hours spent sitting on an average weekday among adults by LGA	169
Figure 77: Total minutes spent on physical activity per week among sedentary adults by LGA	170
Figure 78: Proportion of the adult population who are overweight or obese based on self-reported BMI by LGA	176
Figure 79: Age-standardised rate of hypertension by LGA, 2014	178
Figure 80: Number of GP clinics by postcode area	182
Figure 81: Number of GP clinics per 10,000 population by postcode area	182
Figure 82: Average distance to closest GP by suburb, 2021	183
Figure 83: Reasons cited by adults in NEPHU who did not see a GP when needed within the last 12 months, 2023	184
Figure 84: Proportion of population with private insurance hospital cover by LGA, 2023 ...	189
Figure 85 : Most frequent diagnostic categories (ICD-10) recorded for Emergency Department presentations across all 12 NEPHU LGAs, 2020-2021	192
Figure 86: Hepatitis B, hepatitis C and HIV incidence rates by LGA for 2023	199
Figure 87: Hepatitis B and hepatitis C incidence rate in NEPHU, 2013-2023	199
Figure 88: Syphilis notification rates in NEPHU by LGA, 2023	201
Figure 89: Chlamydia and gonorrhoea notification rate 2010-2023 in NEPHU	201
Figure 90: Rate of transport related injuries by LGA, 2021-2022	214
Figure 91: Rate of falls resulting in hospitalisation by LGA and sex, 2021-2022	215
Figure 92: Rate of falls resulting in hospitalisation by LGA and age group, 2021-2022	216
Figure 93: Main causes of death in NEPHU in 2022	220

List of tables

Table 1: List of data sources.....	23
Table 2: Population in 2021 from census and population projections across NEPHU LGAs, 2021-2030.....	32
Table 3: Average annual birth, total and proportion of migrants in NEPHU by LGA, 2021 ...	35
Table 4: Number and proportion of women of reproductive age by LGA, 2021	39
Table 5: Number and proportion of NEPHU population by overseas country of birth and proportion of Victorian residents born overseas that live in NEPHU by country of birth, 2021	43
Table 6: Most common countries of birth by LGA in NEPHU, 2021.....	44
Table 7: Five most common languages spoken at home by LGA, 2021	47
Table 8: Most common languages spoken at home where English proficiency is low by LGA, 2021.....	48
Table 9: Number and proportion of refugee migrants under the Offshore Humanitarian Program by LGA, 2011-2021.....	50
Table 10: Health indicators affecting infant development by LGA	57
Table 11: IRSD summary statistics by LGA	71
Table 12: Proportion of age-eligible population receiving forms of income support by LGA, 2021.....	87
Table 13: Estimated number of social housing dwellings by LGA	101
Table 14: Summary (LGA level) statistics for walkability, access to parks/open spaces, social infrastructure and liveability by LGA, 2021	107
Table 15: Average proportion of dwellings within distance of food source by LGA, 2021 ...	110
Table 16: Average distance to food and alcohol access by LGA, 2021	112
Table 17: Cancer screening participation rate of eligible population (by age and sex) by LGA	144
Table 18: MBS claims for contraceptive implant and IUD insertion by LGA, 2022	155
Table 19: Top 5 illicit drugs used in the previous 12 months in Victoria, people aged 14 and over, 2019 and 2022-2023	165
Table 20: Proportion of the population reporting take-away food and sugar sweetened beverage consumption by LGA	167
Table 21: Gambling summary statistics in 2022/2023 financial year by LGA	172
Table 22: Proportion of young people with a BMI in the overweight or obese range by Department of Education Area, 2014	176
Table 23 Average distance (m) to GP, by billing type and LGA, 2021	183
Table 24: Proportion of young people in Years 5, 8 and 11 who can access physical, mental and dental health services when needed, by Department of Education areas, 2018	185
Table 25: Number and proportion of residents using home support, home care and residential care by LGA, 2023	188
Table 26 Total public hospital Emergency Department presentations by sex and LGA in NEPHU, 2020-2021	191
Table 27: Total hospital admissions age standardised rate (ASR) in 2020/2021 by sex and LGA in NEPHU.....	194
Table 28: Most frequent diagnostic categories (ICD-10) recorded for female and male hospital admissions across all 12 NEPHU LGAs, 2020-2021	195
Table 29: Rates of sexually transmissible infections (per 100,000 population) for 2023 by LGA	202

Table 30: Number of vaccine preventable infections notified among NEPHU residents in 2023.....	203
Table 31: Number of reported outbreaks by month and type in NEPHU, 2023	204
Table 32: Number of reported outbreaks by site and type in NEPHU, 2023.....	205
Table 33: Antimicrobial resistance organisms identified in Victorian and NEPHU hospitals in 2023.....	206
Table 34: Highest cancer age-standardised rates 2014-2018 in Victoria by sex	207
Table 35: Proportion of the population (total adult and child population) living with chronic disease based on self-reported data by LGA, 2021	209
Table 36: Endometriosis and hysterectomy rates by LGA, 2022.....	211
Table 37: Medical abortion rate and adolescent birth rate by LGA, 2022	213
Table 38: Rate of hospital admissions (per 100,000 population) due to alcohol and other drug overdose by LGA, 2021-2022	217
Table 39: Mortality rates, PYLL and PAD in NEPHU by LGA, 2022	221
Table 40: Mortality rates (per 100,000) by cause among males in NEPHU, 2022	222
Table 41: Mortality rates (per 100,000) by cause among females in NEPHU, 2022	223

List of boxes

Box 1: Support services	5
Box 2: Understand the terminology: Migrants, Refugees and Asylum Seekers.....	51
Box 3: More resources on refugee and asylum seeker health	51
Box 4: Health impacts of smoking during pregnancy(20,21).....	56
Box 5: Benefits of exclusive breastfeeding (25,26).....	59
Box 6: Validity of self-reported data for alcohol use in pregnancy.....	61
Box 7: Further information on health literacy	76
Box 8: VCOSS - Mapping Poverty in Victoria	91
Box 9: Data limitations of overcrowding	97
Box 10: 20-minute neighbourhoods. Plan Melbourne 2017-2050	104
Box 11: More data resources for family violence	126
Box 12: Further mental health data resources.....	133
Box 13: National Lung Cancer Screening Program information.....	145
Box 14: Australian Dietary Guideline update due in 2026	146
Box 15: Australian physical activity and sedentary behaviour guidelines	149
Box 16: Active Transport targets	152
Box 17: NHMRC Alcohol Guidelines - updated 2020.....	164
Box 18: Additional resources for data about illicit drugs.....	166
Box 19: Further data sources for gambling.....	172
Box 20: Access to children's dental services and LGA data for oral health	186

1.Introduction

1.1. Background and Context

The North Eastern Public Health Unit (NEPHU) is a [Local Public Health Unit](#) (LPHU) in Victoria, Australia, that was established in 2020. NEPHU's core business is to protect and promote the health of its catchment of 1.81 million people, residing within 12 local government areas (LGAs) across North Eastern Melbourne (see **Section 1.3**). With the decentralisation of public health functions in Victoria in 2020 and the establishment of nine LPHUs across the state, the vision is that public health responses can be more tailored and relevant to local populations and contexts, and therefore ultimately more effective.

The [Victorian Public Health and Wellbeing Plan 2023-2027](#) outlines ten key public health priorities for the state. Internal priority setting is required to consider which priorities can be addressed with current capacity and capability constraints. To assist with this priority setting, a deep understanding of the catchment's geography, demography, determinants of health, modifiable risk factors, health service use, disease burden and health outcomes, is required to make evidence informed decisions about how to best serve the population and to monitor progress over time. Data relating to these domains is housed in number of different collections, with varying degrees of availability and granularity, thereby reducing its accessibility.

Building knowledge about the catchment is a long-term and continuous process, and NEPHU has previously undertaken significant work to develop these insights, including creating its first population profile in 2023 based on publicly available datasets, coupled with extensive stakeholder consultation to understand the needs and priorities of different organisations and the communities they serve. As NEPHU and the local context evolves, it is important to continually reflect on and update the working knowledge of the community.

1.2. Scope

This population profile has been developed to inform NEPHU's public health priorities and resource allocation for 2025 and beyond by synthesising region-specific data to enable contextualised interpretations about the catchment in an accessible format. As discussed in the **Reader guide**, this is a technical report and not necessarily intended to be read end-to-end. The report is designed to serve as a resource that can be referenced to explore specific topics of interest. Section Summaries are available at the beginning of each section for a synopsis of all indicators.

Data contained within this report are mostly limited to indicators with publicly available data sources. This report is not a full Health Needs Assessment but serves as a starting point to inform further discussion, consultation and planning. Timelines and delivery of this report have been determined by internal organisational requirements, primarily to inform the development of Part 2 of NEPHU's Population Health Catchment Plan in 2025.

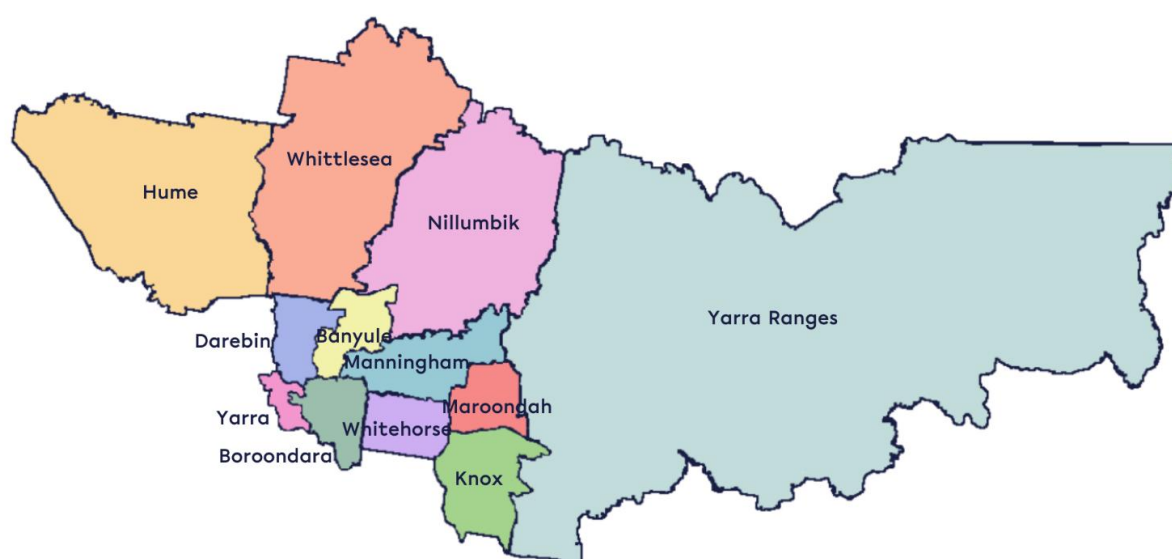
This report is also being made available for use by external stakeholders, to inform their respective work. This report contributes to a shared baseline understanding of the population health status of the NEPHU catchment, to inform prioritisation and coordination of activities across the catchment for collective impact.

1.3. Map of the NEPHU Catchment

The NEPHU catchment encompasses the following LGAs:

- Banyule City Council
- City of Boroondara
- City of Darebin
- Hume City Council (excluding Melbourne Airport)
- Knox City Council
- Manningham Council
- Maroondah City Council
- Nillumbik Shire Council
- Whitehorse City Council
- City of Whittlesea
- Yarra City Council
- Yarra Ranges Council

Figure 1: Map of the NEPHU Catchment



1.4. Preventive Health Lens

The data and indicators within this report have been selected with a preventive health focus. It is now well accepted that health outcomes are not solely determined by an individual's biological composition, or the bio-medical healthcare received. There are many other factors, or 'determinants', that can influence the health of individuals and populations, in positive or negative ways. These factors, known as 'determinants of health', include the social, environmental, cultural, biomedical, commercial and digital factors in our lives.

A determinant of health impacts on health and wellbeing by increasing or decreasing the risk of disease or injury occurring (1). The pathways or mechanisms through which determinants influence health outcomes are complex and inter-related. Determinants may alter biological states directly (such as causing inflammation), or may influence health-related behaviours (such as smoking or alcohol consumption) and can have varying impacts across life stages, accumulated thresholds or generations. Individuals may have limited control over many determinants of health. Some determinants may be shaped outside their area of influence (such as political or commercial practices) and others are generally not modifiable after a person is born (such as antenatal influences on birth outcomes) (1). It is for this reason that efforts to improve health determinants at the system level (or 'upstream') will flow on to have the greatest population wide benefits.

Therefore, from a health promotion and prevention lens, this report has an emphasis on these ‘upstream’ factors, as opposed to downstream factors related to health service usage and clinical treatments. As a public health unit, positioned in the ‘regional’ tier of the Victorian public health framework (2), NEPHU can contribute to system wide changes through collective action, and also support local place-based solutions. Population insights gained through this profile can inform programs and activities that may address these determinants and reduce inequities across the catchment.

Figure 2: Strategic framework supporting public health action at state, regional and local levels

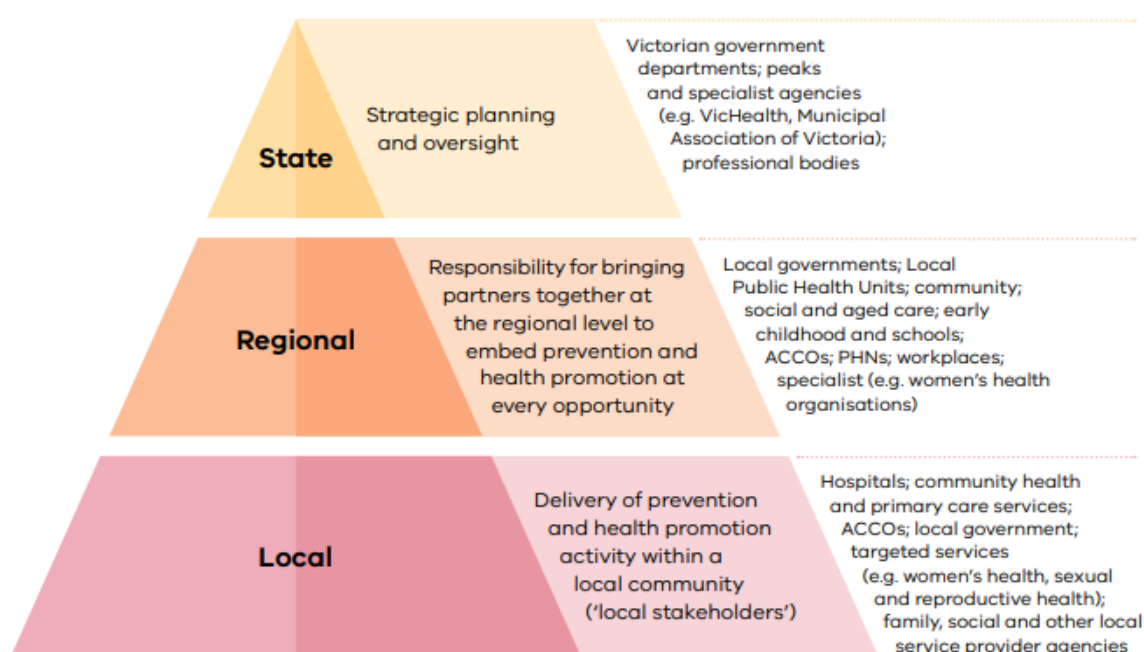


Image source: Victorian Public Health and Wellbeing Plan 2023-2027 (2)

2. Methods

2.1. Consultation

Consultation with internal NEPHU stakeholders informed the development of indicators and use of data for this report. These consultations occurred with key staff in each branch at NEPHU (Medical and Epidemiology, Population Health, Health Protection and Operations) and with the NEPHU Director. The purpose of the consultation was to understand the varying data needs across all NEPHU branches, their intended use, and the logistical (e.g. timing) requirements of the data analysis as it relates to their work or strategic plans. The data needs and requests identified during these consultations were mapped against the available and potentially available data sources, to identify gaps and priorities and determine appropriate data analysis techniques and outputs. Key questions asked during these consultations included:

- *What questions would you need answered to understand the needs of the population you work with – are there specific metrics that would be valuable?*
- *How do you currently define NEPHU's priority areas and priority populations? What data would be helpful in determining this for the future?*
- *Are there any areas of emerging interest you would want assessed?*
- *How will this population health data profile be used?*

2.2. Indicator Development

Following internal consultation, a set of indicators were developed covering the following content areas: population, demographics, determinants of health, health-seeking and health risk behaviours, access and use of health services and health consequences. In addition to the consultations, the development of indicators and key questions were guided by reviewing national and state strategies and reviewing the Victorian Public Health and Wellbeing Plan. A key focus was on potentially modifiable risk factors that are widely recognised in the literature as key determinants of health (see **Section 1.4**).

2.3. Sourcing Data

Key population health data sources already used by NEPHU, for example, Australian Bureau of Statistics (ABS) census data, were explored in depth to identify data relevant to the list of developed indicators. Other data sources identified by stakeholders during consultations were similarly explored. Finally, literature searches were conducted to identify publicly available data for the remaining indicators.

Data were prioritised according to geography, representativeness, data collection methods and year of data collection. Data available at an LGA or more granular level (e.g. postcode) were prioritised as this data could be mapped to the NEPHU catchment and population. Small surveys on a subset of the NEPHU population were not included due to limitations with representativeness and reliability; a small sample size leads to high variability which may lead to bias depending on the sampling method. Data collected in the last five years were prioritised, however if no data in this time frame were available, the most recent year of data was included.

Most data in this report are publicly available. Data that are not publicly available but have been made available to the Local Public Health Units (LPHUs) include data on bowel, breast and cervical cancer screening provided by the Australian Centre for the Prevention of Cervical

Cancer (ACPCC), the Victorian Population Health Survey (VPHS) 2023 survey data which will be made publicly available in early 2025 and data on notifiable conditions from the Victorian Public Health Event Surveillance System (PHESS) that LPHUs have access to for the purpose of routine health protection work. Additionally, NEPHU sought permission to access data on immunisation rates in the catchment from the Australian Immunisation Registry (AIR), and purchased data from the Australian Urban Observatory (AUO) to obtain information on the physical environment and accessibility of services in the catchment. Data presented in this report is shared with the permission of the relevant data custodians.

2.4. Geographical Areas

Data is presented at LGA level and compared to the NEPHU catchment average and Victorian state data where possible. Other geographical areas presented in this report include postcode areas, suburbs, ABS statistical areas (SA) and Department of Education Areas. Statistical Areas level 2 (SA2s) generally have a population between 3000 and 25,000 with an average of about 10,000 and represent a community that interacts together socially and economically (3). Department of Education areas that cover the LGAs in the NEPHU catchment include Northeastern Melbourne, Hume Merri-bek, Inner Eastern Melbourne and Outer Eastern Melbourne(4).

2.5. Statistical Methods

All data was imported into the R statistical program which was used for data cleaning, manipulation and to produce all figures and tables, unless otherwise specified. Population rates were either extracted directly from the data or calculated. In this report, the ABS Estimated Resident Population (ERP) for the year indicated was used in the calculation of rates. The ERP is based on the Census but has been adjusted for net undercount and Australian usual residents temporarily overseas on census night as well as population projections for the year taking into consideration births, deaths and migration. If the ERP was unavailable, the ABS Census 2021 population was used.

The proportion and rates for the NEPHU catchment as a single geographical area are generally not provided in the original data sources. Therefore, these have been calculated if both numerator and denominator values are available from the individual LGA-level data. Where applicable, the NEPHU proportion estimates may be calculated as an average of the 12 NEPHU LGA proportion estimates.

Descriptive analysis was conducted with no statistical significance testing for differences between groups. Confidence intervals were provided by data custodians for two datasets– the Cancer Screening data from ACPCC and the VPHS 2023 survey data. These confidence intervals are not presented in the report but are available from the respective data source.

Age-standardised rates (if available) are used throughout this report to allow comparisons between population groups that have different age structures. The risk of illness and death varies with age, sex, socio-economic and other environmental factors. Populations with different age structures, for example a high proportion of older persons, are likely to experience a higher number of deaths than populations with much lower proportions of older persons. The age structure of a population will therefore affect any estimated crude rates, making it difficult to determine whether morbidity and mortality are higher in one geographical area than the other due to age alone or due to other risk factors. Age-standardised rates are the hypothetical rates that would have been observed if the population across the geographical areas being compared had the same age distribution.

2.6. Data Sources

Data sources used in this report are listed below (**Table 1**) with additional details on key data sources in **Appendix 1**: Additional information on key data sources.

Table 1: List of data sources

Data source	Description
ABS (Australian Bureau of Statistics)	The Australian Bureau of Statistics (ABS) is Australia's national statistical agency that provides official statistics on a range of economic, social, population and environmental matters including the Australian Census. The Census is a survey that counts every person and household in Australia every five years. The last Australian census was conducted on 10th August 2021. More information about the Census and how to access the data can be found in Appendix 1. ABS Births data contain statistics about births and fertility rates for Australia, states and territories and sub-state regions such as LGA and SA2. Data is released annually and can be obtained here. ABS Heat Health is a dataset that contains several indices related to risks to human health from heatwaves. More information about this dataset and how to access it can be found in Appendix 1.
ACPCC (Australian Centre for the Prevention of Cervical Cancer)	The Australian Centre for Prevention of Cervical Cancer produces regular data monitoring reports to support implementation of the national cancer screening programs in Victoria. Data for the National Bowel Cancer Screening Program, the National Cervical Cancer Screening Program and BreastScreen Australia Program, was provided to NEPHU by the ACPCC. This data is not publicly available.
AEDC (Australian Early Development Census)	The Australian Early Development Census (AEDC) is a census of early childhood development that is conducted every three years. The census collects data on five domains that have been shown to predict later mental health, wellbeing and educational achievement. These domains are (i) physical health and wellbeing, (ii) social competence, (iii) emotional maturity, (iv) language and cognitive skills, and (v) communication skills and general knowledge. The survey is completed by the teacher for each child during their first year of full-time school. Data is collected on more than 95% of children in Australia. The most recent data available is from the 2021 survey where over 305,000 children were assessed. Publicly available data is provided at various geographical levels including LGA and SA2. These tables report on the number of children scoring in the categories (i) developmentally vulnerable, (ii) developmentally at risk, (iii) developmentally on track in each of the five domains. In addition, it provides summary indicators on (i) developmentally vulnerable on one or more domains and (ii) developmentally vulnerably on two or more domains. The data can be accessed here.

AIHW (Australian Institute for Health and Welfare)	The Australian Institute for Health and Welfare (AIHW) is an independent Australian Government agency that collects and manages data on health and welfare from state, territory and federal government agencies.
AIR (Australian Immunisation Register)	Data for this report were sourced from the Australian Immunisation Register (AIR), which records vaccinations administered to individuals in Australia. This data is not publicly available and is available from AIR via a data request. There is a known administrative lag in the AIR data. AIR data may fluctuate over time based on the timing of providers uploading vaccine administration information into AIR. AIR data in this report is as of 30 June 2024.
AODstats by Turning Point	AODstats provides information on the harms related to alcohol, illicit and pharmaceutical drug use in Victoria and data are sourced from numerous primary administrative data sources ranging from government departments to drug and alcohol treatment agencies. For the indicator used in this report (hospital admissions due to alcohol and other drugs), data was compiled from the Victorian Admitted Episodes Dataset (VAED). Data from AODstats can be accessed here and the website also provides detailed explanation on the methods and limitations for each of the indicators presented.
Australia's Mothers and Babies report	The AIHW collates data from the National Perinatal Data Collection, the National Maternal Mortality Data Collection, the National Perinatal Mortality Data Collection and State and Territory perinatal data collections to produce the Australia's Mothers and Babies report. The report contains data at state level on pregnancy, childbirth and key outcomes for babies at birth.
AUO (Australian Urban Observatory)	The Australian Urban Observatory (AUO), located within the Centre for Urban Research at RMIT University maps key liveability indicators associated with health and wellbeing including walkability, social infrastructure, transport, food, alcohol, public open space, employment and housing. The indicators have been measured for dwellings in urban areas based on the urban classification used by the ABS. Hence, for LGAs where there are both such urban and non-urban areas, the indicator measure is based only on those urban areas. All indicators at LGA level are available free from their website. However, more granular data is available through a paid partnership registration. Further details on the AUO-derived indicators and methods are available here.
Australian Cancer Atlas	The Australian Cancer Atlas is an online, interactive platform showing how measures relating to cancer diagnosis, survival, recognised risk factors, screening, and selected hospital treatment vary by SA2 areas across Australia. The Cancer Atlas data reports on absolute measures that are not original counts but are generated from statistical models of real data from various sources including Australia's state and territory population-based cancer registries, hospital data, screening registers, Medicare data and survey data.

CSA (Crime Statistics Agency)	The Victorian Crime Statistics Agency (CSA) presents statistics about the characteristics of crime which are derived from administrative information recorded by the Victoria Police in the Law Enforcement Assistance Program (LEAP) database. For a record to be made in LEAP, a person needs to make a victim report or Victoria Police needs to detect that a crime has occurred. As a result, statistics released by the CSA do not represent all crimes experienced within the community, but represent those that are reported to, or recorded, by Victoria Police. Data is available at state and LGA level and the most recent ERP data is used to calculate rates. Data is released quarterly, and data is also available by calendar year and financial year. The CSA provides data visualisations of the data as well as data downloads as Excel files which are made available here.
DSS (Department of Social Services)	The Australian Department of Social Services (DSS) publish data of benefits and payments made to income support recipients. The data aggregates the number of such recipients under the various benefit schemes at both SA2 and LGA level. The data is released quarterly and is made available as CSV data downloads on the data.gov.au website.
GEN Aged Care Data (AIHW)	GEN is a comprehensive platform for accessing data and information about aged care services, providers and their users in Australia. Data provided includes the aggregated number of people using aged care services (home support, home care, residential care and flexible care) by geographical area that includes LGA. The data is released annually. Both data visualisations and data downloads as CSV files are provided. The CSV files can be downloaded here.
HealthMap	HealthMap is a Healthdirect Australia initiative to make important Australian health data available to everyone. Data for GP coverage was sourced from HealthMap and counts the number of GP clinics and number per capita (per 10,000) by postcode area.
Injury Atlas of Victoria	The Injury Atlas of Victoria is developed by the Victorian Injury Surveillance Unit (VISU), Monash University Accident Research Centre. The Injury Atlas presents de-identified hospital-treated unintentional injury data supplied by the Victorian Agency for Health Information (VAHI). The categories of injuries included in the Atlas are injuries from unintentional causes, traffic-related injuries, falls and sports-related injuries. Data is presented as counts and rates at several geographical area levels including LGAs. Data is available as data visualisations on their website or as data downloads in Excel or PDF files.
KIMS (Department of Education Kindergarten Information Management System)	The kindergarten census data collection is completed in the Department of Education Kindergarten Information Management System (KIMS) in August each year. Services must provide attendance details for each child enrolled and information on fees paid during the National Kindergarten Census Week.

NAPLAN (National Assessment Program – Literacy and Numeracy)	The National Assessment Program – Literacy and Numeracy (NAPLAN) is an annual assessment nation-wide for students in Years 3, 5, 7 and 9. Students in all schools complete tests on reading, writing, language and numeracy.
National Drug Strategy Household Survey (NDSHS)	LGA level data on reported illicit and other substance use was not available. State and territory summaries on illicit and other substance use for people aged 14 years and over was collected via National Drug Strategy Household Survey (NDSHS) 2022-2023 , and summarised by AIHW. The NDSHS uses a stratified multistage random sampling design to produce reliable estimates for each State and Territory in Australia.
NDIS (National Disability Insurance Scheme)	The National Disability Insurance Agency (NDIA) provides publicly available data on the NDIS payments under three main categories. (i) Participant data which includes total number of participants, average committed supports and average payments, (ii) Market data which provides information on NDIS provider concentration, total payments, total committed supports and utilisation, (iii) Provider data which includes information on active NDIS providers and participants per provider. The NDIS data is provided as data visualisation as well as data downloads as CSV files which can be accessed here . Data is available at the state, LGA and SA2 geographical area levels. However, for the CSV data files, only the number of participants in the NDIS is provided at LGA and SA2 level, with the remaining data provided at state level.
PHIDU (Public Health Information Development Unit)	PHIDU is funded by the Australian Government and provides free online access to a range of data at national, regional and small area levels for Australia on a broad range of health and other determinants across the lifespan. Population projections, migrants and refugee numbers, antenatal care and alcohol intake are some of the data sourced from PHIDU that is presented in this report. More information and how to access data from PHIDU can be found in Appendix 1 .
Snapshot Climate	Snapshot Climate is a free resource that provides data on the total emissions in tonnes of carbon dioxide equivalent (t CO ₂ e) and proportion by emissions sector for each LGA. Data is updated annually. The Snapshot community climate tool was developed by Beyond Zero Emissions and Ironbark Sustainability.
SDAC (Survey of Disability, Ageing and Carers)	The Survey of Disability, Ageing and Carers (SDAC) is conducted by the ABS throughout Australia and collects information from people with a disability, older people aged 65 and over and carers of people with disability of a long-term health condition. The 2022 SDAC survey was conducted from June 2022 to February 2023 with data collected from approximately 13,700 households around Australia and 1,100 establishments that provide cared accommodation. Data is only available at national level.
Victorian Attitudes to School Survey	The Victorian Department of Education's Attitudes to School Survey is administered annually to all students in Years 4 to 12 at Victorian Government schools. Data is collected on how students feel in relation to their school, their learning, peer relationships, resilience, bullying and health and wellbeing. The most recent

	survey was in 2024 with over 370,000 Victorian students participating.
VCAMS (Victorian Child and Adolescent Monitoring System)	The Victorian Child and Adolescent Monitoring System (VCAMS) monitors and reports against the VCAMS Outcomes Framework bringing together data from across the Victorian Government, the ABS and research bodies, to track the progress of children and young people. VCAMS brings together the following surveys described elsewhere in this table: ▪ Victorian Child Health and Wellbeing Survey (VCHWS) ▪ Victorian Student Health and Wellbeing survey (VSHWS) ▪ Victorian Department of Education's Attitudes to School Survey ▪ National Assessment Program – Literacy and Numeracy (NAPLAN) ▪ Kindergarten Information Management System (KIMS)
VCHWS (Victorian Child Health and Wellbeing survey)	The Victorian Child Health and Wellbeing Survey (VCHWS) is a triennial statewide telephone survey of parents undertaken by the Department of Education and Early Childhood Development. Parents of approximately 5000 children aged 0-12 years are interviewed via telephone. Data are weighted against population benchmarks to provide state estimates. The most recent survey occurred in 2021.
VCOSS (Victorian Council of Social Service)	The Victorian Council of Social Service (VCOSS) is the peak body for Victoria's social and community sector, and the state's premier social advocacy body. In 2023 they undertook an analysis of Victorian 2021 census data to explore the extent and characteristics of poverty in Victoria.
Victorian Department of Health infectious diseases reports	The Victorian Department of Health collects data on infectious diseases and other notifiable conditions in Victoria. Data are published online as interactive reports. Additional data from the notifiable disease surveillance system on outbreaks of infectious disease has been provided in this report but is not available online.
VGCCC (Victorian Gambling and Casino Control Commission)	The VGCCC is the independent regulator of Victoria's gambling industry that has oversight of all gambling and gaming activities within Victoria. Data provided freely online relates to gambling licences and compliance in Victoria including expenditure data by LGA.
VPDC (Victorian Perinatal Data Collection)	The Victorian Perinatal Data Collection (VPDC) collects and analyses detailed information on obstetric conditions, procedures and outcomes relating to every birth in Victoria.
VPHS (Victorian Population Health Survey)	The Victorian Department of Health conducts the Victorian Population Health Survey annually with approximately 7500 Victorians. Every 3 years the survey is expanded to include approximately 34,000 people to allow reporting of LGA level estimates. The survey collects data about the health and wellbeing of Victorian adults aged 18 and over, and what affects their health and wellbeing. The most recent survey in 2023 included 34,000 participants. This data will be publicly available in 2025 but has been provided to LPHUs in an early release and is included in this

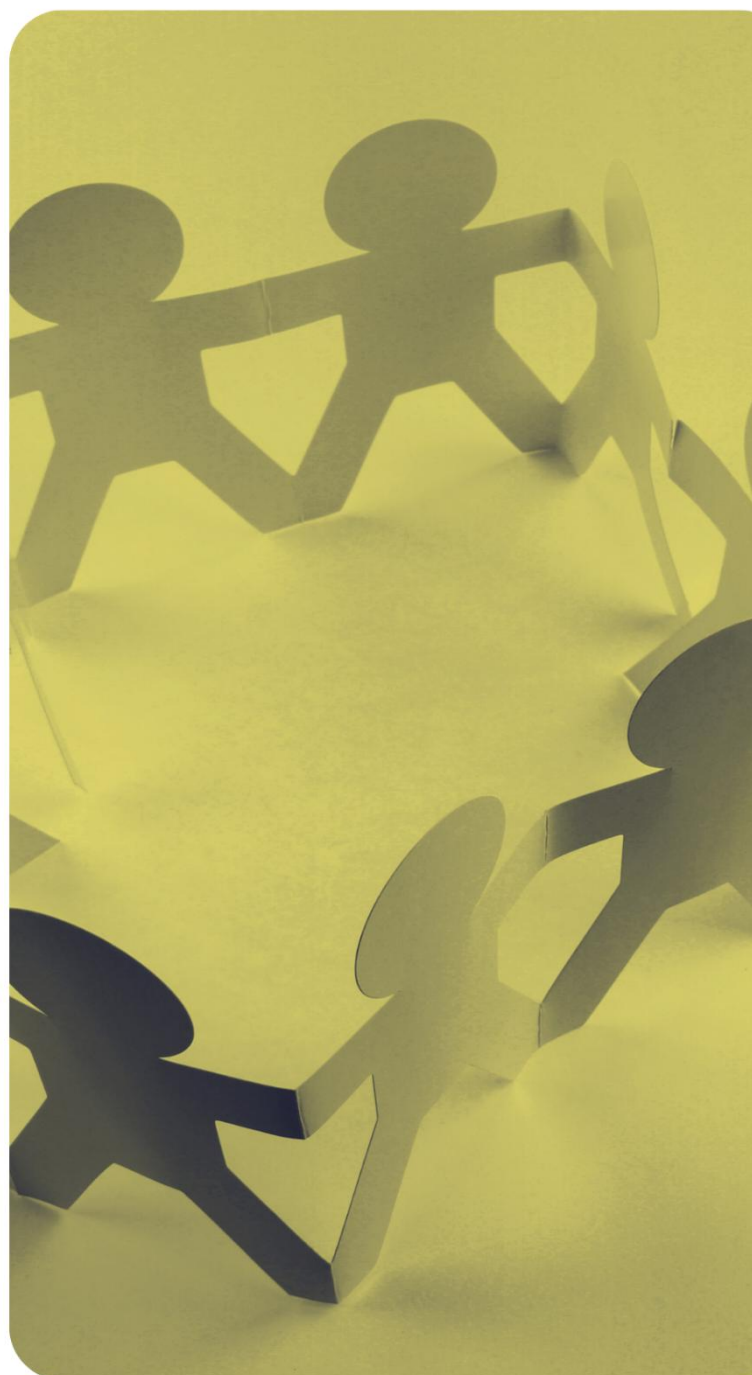
	report. More information and how to access previous VPHS data can be found in Appendix 1 .
VPHWOF (Victorian Public Health and Well-being Outcomes Framework) Dashboard	The VPHWOF Dashboard provides access to a range of population health data with the aim of tracking changes in health and wellbeing data over time. It collates data from various data agencies and government departments which is displayed on their dashboard. Currently there is no option to download the data as data tables.
VSHWS (Victorian Student Health and Wellbeing survey)	The Victorian Student Health and Wellbeing survey (VSHWS) is conducted every two years with students in Years 5, 8 and 11 from a sample of Victorian schools covering topics relating to nutrition, health, physical activity safety, life satisfaction and family relationships. The most recent survey was conducted in 2023.
Victorian Women's Health Atlas	The Victorian Women's Health Atlas has been developed by Women's Health Victoria, in collaboration with other state-wide and regional women's health services, as a tool to assist in the identification of gender impacts on key health areas. The Atlas provides a coordinated State approach to support women's health services and other health planners, to enable comparison between LGAs, regions and the state.

3. Population

Section Summary

What is the size and distribution of the NEPHU population?

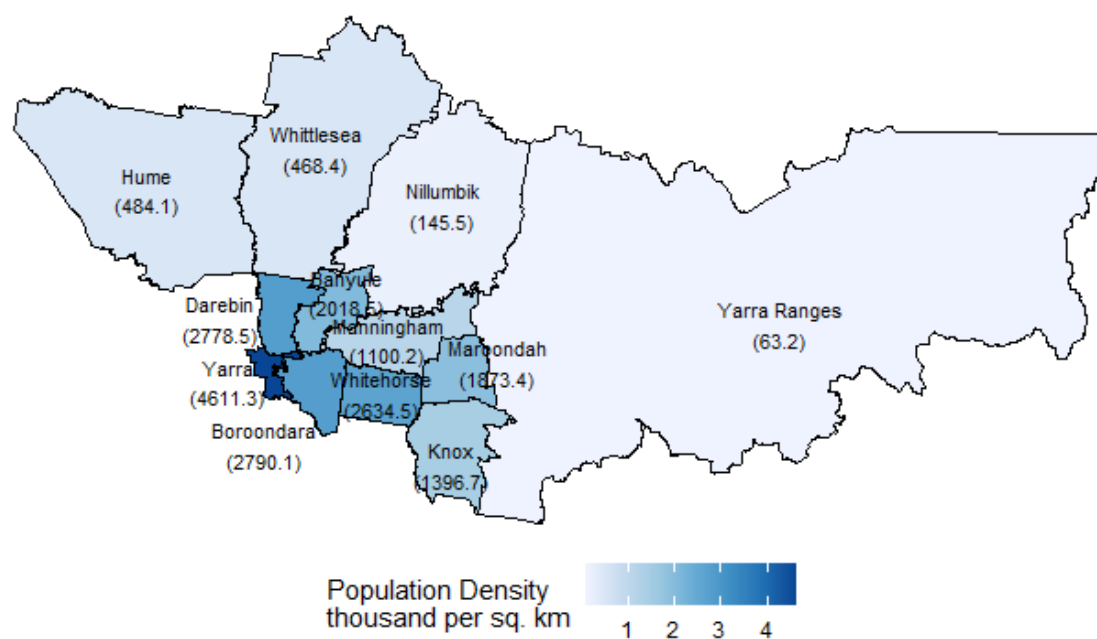
NEPHU is the most populous LPHU in Victoria with a population of nearly 1.8 million in 2021, and expected growth to 2.2 million by 2030. The population is geographically dispersed across 12 LGAs covering an area of 4,443km². The population is variably distributed across the 12 LGAs, with Hume and Whittlesea having the largest population numbers, however they have the lowest population densities in the catchment owing to their large geographical boundaries. Conversely, inner metro LGAs, such as Yarra, Boroondara, Darebin, Whitehorse and Banyule have high population densities, despite relatively lower absolute numbers. The birth rate overall in NEPHU is decreasing, however since 2020, the LGAs of Whittlesea, Hume and Maroondah have shown a slight increase in birth rate. The migration rate in NEPHU is the same as the rest of Victoria at 10 per 1000 population. A large proportion (13%) of NEPHU's migrant population that entered Australia between 2011 and 2021 reside in the postcode of 3064 in the Hume LGA.



Population

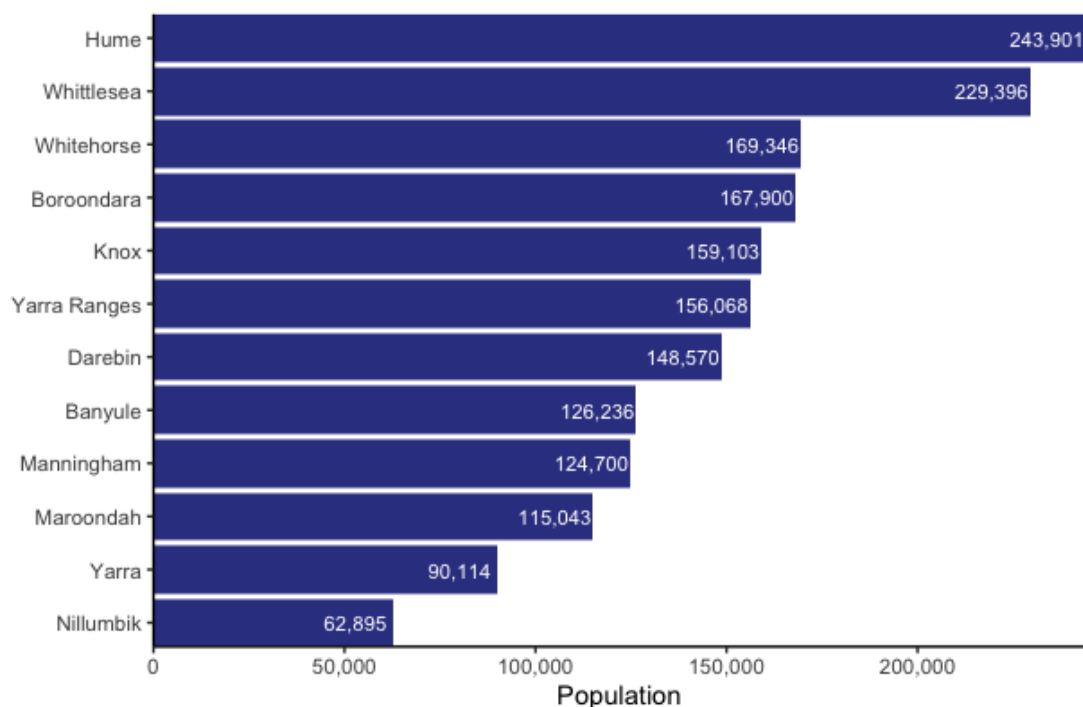
3.1. Population Size and Distribution

- *The NEPHU catchment has a population of 1,793,272 as recorded on census night 2021. This represents 28% of the Victorian population.*
- *The Hume LGA has the highest population in NEPHU (243,901) representing 14% of the NEPHU population (**Figure 4**).*
- *The lowest population by LGA is Nillumbik (62,895), representing 4% of the NEPHU population (**Figure 4**).*
- *The highest population density among LGAs in NEPHU is in the Yarra LGA with 4611.3 population per km² compared to the Yarra Ranges with the lowest population density (63.6 population per km²). High and low population density are risk factors for a range of non-communicable diseases with multiple underlying aetiologies (5).*
- *The LGAs of Yarra, Boroondara, Darebin, Whitehorse and Banyule have population densities greater than 2000 population per km².*
- *The two LGAs of Hume and Whittlesea with the highest population have the lowest population densities (484.1 and 468.4) population per km² respectively (**Figure 3**).*

Figure 3: Map of population density across NEPHU by LGA, 2021

Data source: [ABS census 2021](#)

Data notes: LGA surface area was obtained from the [ABS Australian Statistical Geography Standard \(ASGS\) Edition](#)

Figure 4: Population size by LGA, 2021

Data source: [ABS census 2021](#)

Data notes: Population size as determined on Census night, 10th August 2021

3.2. Population Growth

- The population in NEPHU is expected to grow by 16% from 2021 to 2025 with a population of 2,103,482 by 2025, and by 26% by 2030 with a population of 2,276,963 (**Table 2**).
- The LGAs with the biggest growth (>20%) by 2025 are Yarra (30.4%), Whittlesea (29.5%) and Darebin (23%) compared to 7.1% in Nillumbik, the LGA with the smallest projected population growth by 2025.
- In the longer term, the top four LGAs with the biggest growth by 2030 are Whittlesea (50.9%), Yarra (44.7%), Darebin (32.8%), and Hume (31.3%).

Table 2: Population in 2021 from census and population projections across NEPHU LGAs, 2021-2030

	2021	2025		2030	
LGA	Population	Population	% change from 2021	Population	% change from 2021
Banyule	126,236	140,237	10.1	146,027	14.6
Boroondara	167,900	197,688	16.4	206,593	21.6
Darebin	148,570	184,959	23.0	199,681	32.8
Hume	243,901	283,790	15.0	323,540	31.1
Knox	159,103	173,976	8.4	180,254	12.3
Manningham	124,700	135,498	7.7	140,872	12.0
Maroondah	115,043	130,582	12.5	138,672	19.5
Nillumbik	62,895	67,946	7.1	69,535	9.6
Whitehorse	169,346	198,739	16.1	211,299	23.4
Whittlesea	229,396	300,195	29.5	349,886	50.9
Yarra	90,114	119,337	30.4	132,445	44.7
Yarra Ranges	156,068	170,535	8.3	178,157	13.2
NEPHU	1,793,272	2,103,482	16.1	2,276,962	25.6
VIC	6,548,040	7,447,358	13.7	8,054,587	23.0

Data source: [2021 – Census](#), [2025-2030 - PHIDU](#)

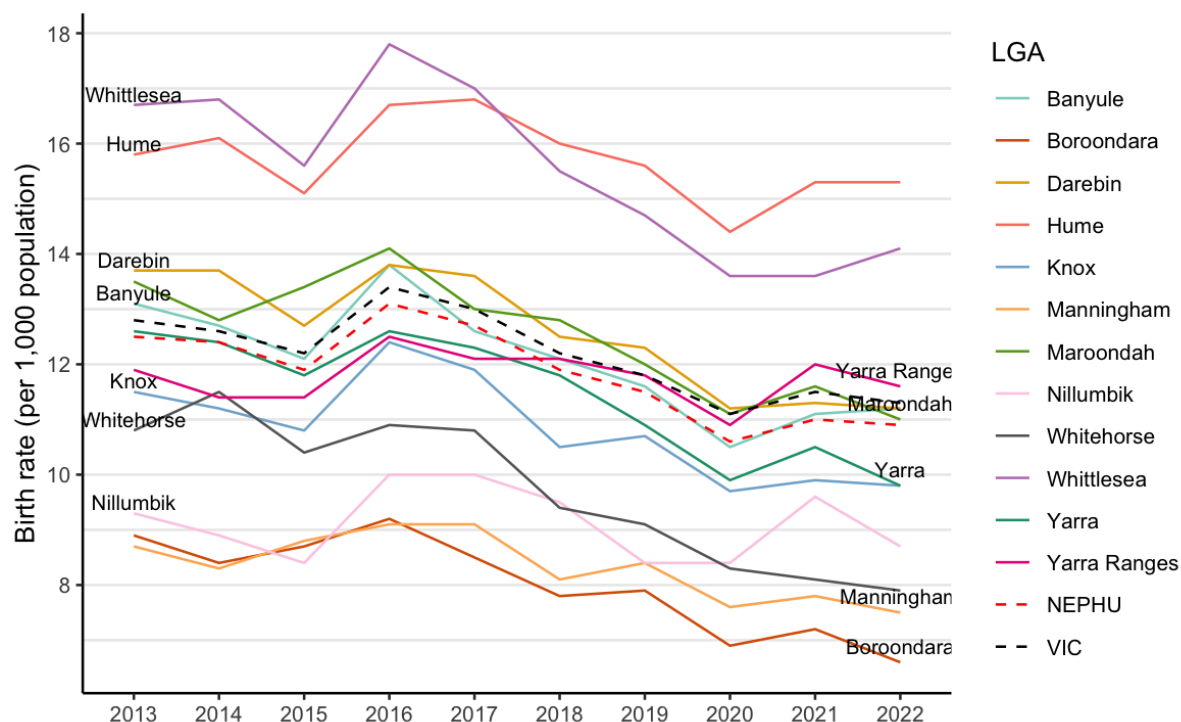
Data notes: Data for 2025-2030 is based on customised projections prepared for the Australian Government Department of Health by the ABS at the SA2 level, and originally published by the Australian Institute of Health and Welfare. [LGA data](#) were compiled by PHIDU from the SA2 data.



What are the drivers of population growth?

Population projections consider births, death, local migration, interstate migration, and overseas migration. Birth rates and overseas migration are important drivers of population change in NEPHU. Data on local migration (within Victoria) and interstate migration is not available at the NEPHU level.

- Based on estimates in 2020, NEPHU has an overseas migration rate of 10 and a birth rate of 10.6 per 1,000 population.
- The birth rate across LGAs in NEPHU has been decreasing since 2013. However, the LGAs of Whittlesea, Hume and Maroondah show a slight increase in birth rate from 2020-2022 (**Figure 6**).
- In every year from 2013 to 2022, Hume and Whittlesea LGAs had the highest birth rates when compared to other LGAs in the NEPHU catchment (**Figure 5**).
- In 2022, the highest birth rates were in the LGAs of Hume (15.3 per 1000 population) and Whittlesea (14.1 per 1,000 population) compared to the NEPHU average of 10.9 per 1,000 population (**Figure 6**). This equates to approximately 3,190 babies born per year in the Whittlesea LGA and 3,354 babies born per year in Hume compared to 1,430 babies born per year in Boroondara which has the lowest birth rate among the NEPHU LGAs.
- Of Victorian overseas migrants that arrived and settled in Victoria between 2011-2021, 28% live in NEPHU (**Table 3**).
- In 2020, Hume had the highest overseas migration rate (15.1 per 1,000 population) followed by Whitehorse (15.0 per 1000 population) compared to the NEPHU average of 10.0 per 1,000 population).
- The overseas migration rate is higher than birth rate in the LGAs of Boroondara, Hume, Manningham, and Whitehorse.
- Alongside Whittlesea and Hume LGAs, the expected population growth in Yarra and Darebin by 2030 is also high. Both have higher than the NEPHU average birth rate but lower overseas migration rates (**Table 3**).
- Among overseas migrants that lived in NEPHU on Census night 2021 and arrived in Australia between 2011 and 2021, 20% lived in Hume and 15% in the Whittlesea LGA. Among this same group of NEPHU residents, 13% resided in the postcode area of 3064, representing the suburbs of Craigieburn, Kalkallo, Donnybrook, Mickleham and Roxburgh Park (**Figure 6**)

Figure 5: Birth rate by LGA, 2013-2022

Data source: [ABS Births](#)

Data notes: Birth rate is calculated as the total number of births per population as estimated by the estimated resident population (ERP) for that year.

Figure 6: Map of residence postcodes of overseas migrants arriving in NEPHU from 2011-2021

Data source: [ABS Census 2021](#)

Data notes: Data table for this figure in **Appendix 2: Table A3**.

Table 3: Average annual birth, total and proportion of migrants in NEPHU by LGA, 2021

LGA	Estimated annual rate per 1,000 population		Total migrants	% total migrants in NEPHU	% total migrants in VIC
	Birth rate	Migration rate			
Banyule	12.0	6.2	8,254	4.4	1.2
Boroondara	8.0	9.7	17,504	9.4	2.6
Darebin	12.5	9.0	14,303	7.7	2.1
Hume	13.8	15.1	37,253	20.0	5.6
Knox	10.7	7.8	12,842	6.9	1.9
Manningham	8.1	12.0	15,625	8.4	2.3
Maroondah	12.1	7.6	9,091	4.9	1.4
Nillumbik	9.2	2.7	1,778	1.0	0.3
Whitehorse	9.6	15.0	26,885	14.4	4.0
Whittlesea	13.8	12.3	28,714	15.4	4.3
Yarra	11.0	9.6	9,547	5.1	1.4
Yarra Ranges	11.5	3.0	4,788	2.6	0.7
NEPHU	11.3	10.0	186,584	100.0	27.9
VIC	11.5	10.0	669,856		

Data source: [ABS Census 2021](#), [ABS Births](#)

Data notes: Migrant data comprises the total permanent migrants entering Australia on a Humanitarian Program, Family visa, Skill stream visa or other visa between 2011 and 10 August 2021 obtained from the [ABS Census 2021 TableBuilder](#). Birth rate is calculated as the total number of births per population as estimated by the ERP for that year

4. Demographics

Section Summary

Who are the residents of NEPHU?

The overall sex and age structure of the NEPHU population is similar to the Victorian population. However, the age structure within NEPHU varies by LGA (**Section 4.1**): Yarra has a younger population with the highest proportion of residents in the 25–44-year age group. Darebin, Hume and Whittlesea LGAs also have slightly younger populations. These LGAs also have a higher proportion of women of reproductive age (15–49 years) compared to the NEPHU average (**Section 4.2**). Yarra and Darebin LGAs have a higher proportion of LGBTIQ+ individuals (24% and 17% respectively) than the Victorian and NEPHU average of 11% (**Section 4.3**). Within the NEPHU catchment area, 12,065 individuals identify as Aboriginal and/or Torres Strait Islander, representing 0.7% of the population. This is slightly lower than the Victorian average of 1%. It is important to note that this figure may not fully reflect the true number of Aboriginal and Torres Strait Islander peoples due to challenges in data collection and under-identification (**Section 4.4**).

NEPHU has a culturally diverse population, with just over one-third of people born overseas, from 49 different countries. The most frequent countries of birth among those born overseas varies by LGA (**Section 4.5**). China is the most common country of birth for overseas-born NEPHU residents with many Chinese-born residents living in Knox, Manningham, and Whitehorse. India is the most common

country of birth among overseas-born residents in Whittlesea and Hume.

One third of NEPHU residents speak a language other than English at home and of those, 5.4% report low English proficiency (**Section 4.6**). Mandarin, Arabic, Greek, Cantonese and Italian are the most common languages other than English spoken at home by the NEPHU population.

Adding to the diversity of the population in NEPHU, 32,564 refugees arrived and settled in NEPHU between 2011 – 2021. Over half of these people settled in the LGA of Hume and 14% in Whittlesea (**Section 4.7**).

The self-reported health status of the NEPHU population was similar to the Victorian population; 41.5% of the NEPHU population reported excellent or very good health (**Section 4.9**). Self-reported long-term health condition or impairment was experienced by 19% of NEPHU residents (**Section 4.8**). Further details on biomedical risk factors and chronic diseases can be found in **Section 13** and **Section 15.7** respectively.



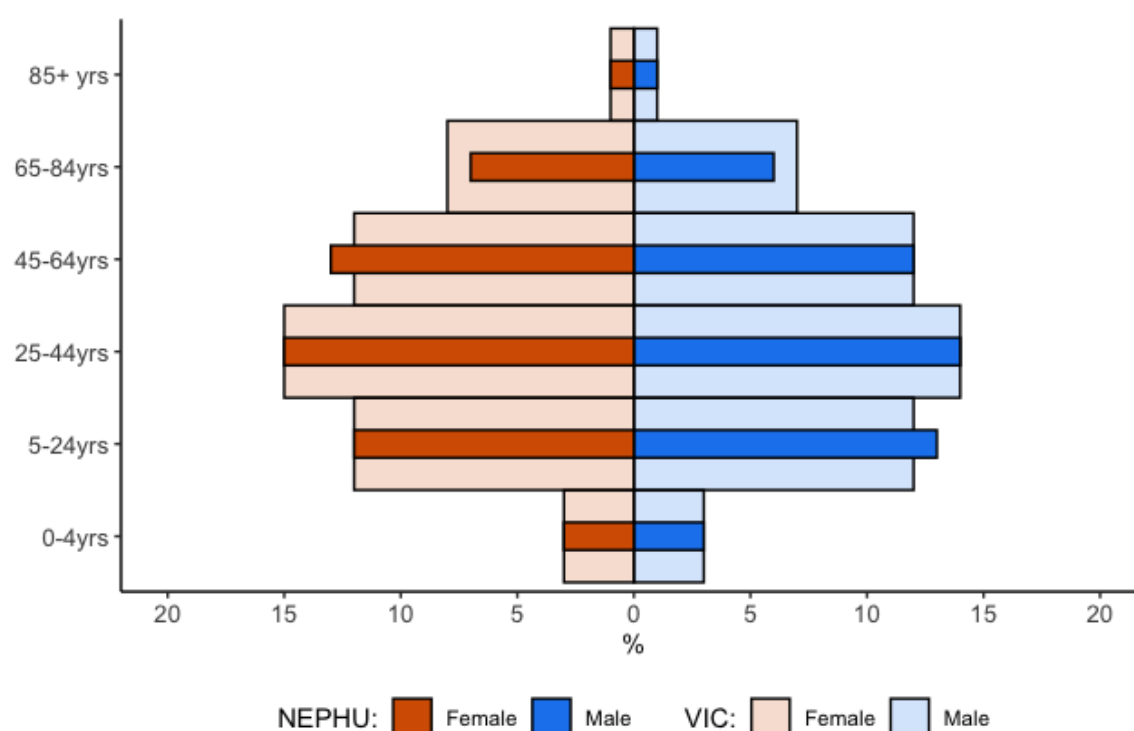
Demographics

4.1. Age and Sex

What is the age and sex structure of the NEPHU population?

- The distribution of females and males in NEPHU is equal (51% females and 49% males) and their sex structure is similar to the Victorian population (**Figure 7**)
- The age structure varies by LGA; Yarra has a younger population with the highest concentration of residents in the 25–44-year age group (**Figure 8**).
- Hume and Whittlesea LGAs also have younger populations with a higher proportion of residents in the younger age groups.
- Manningham LGA has the highest number of residents in the 65+ year category (22%).
- Manningham and Whitehorse LGAs have the highest number of residents in the 85+ category (3.6% and 3.2% respectively) (**Appendix 2: Table A4**).

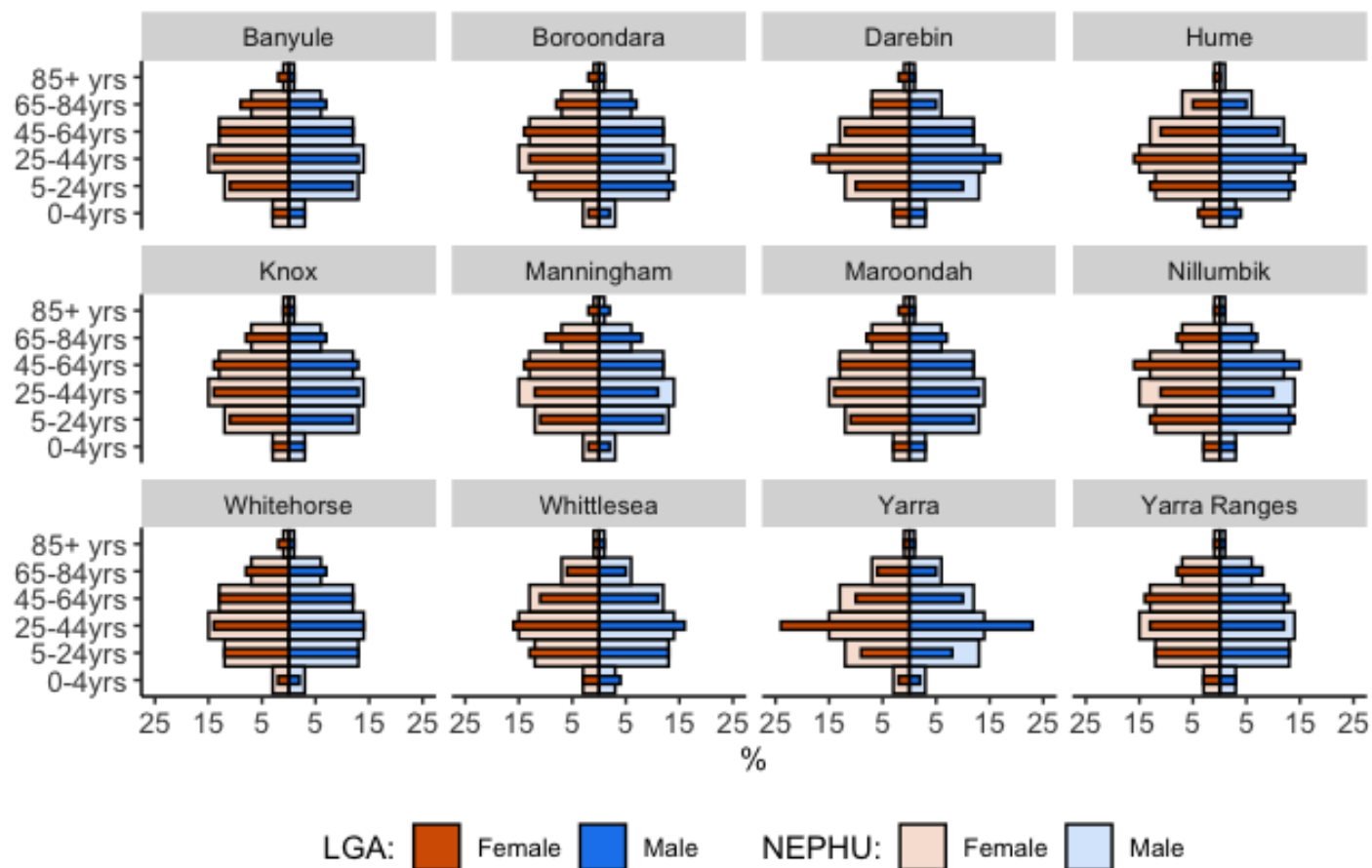
Figure 7: Age and sex distribution of the NEPHU population compared to the Victorian population, 2021



Data source: [ABS Census 2021](#)

Data notes: Distribution of NEPHU population (dark-coloured boxes) shown on top of the Victorian distribution (light-coloured boxes). Data table for this figure: **Appendix 2: Table A4**.

Figure 8: Age and sex distribution of the NEPHU population compared to the Victorian Population by LGA, 2021



Data source: [ABS Census 2021](#).

Data notes: Data table for this figure: [Appendix 2: Table A4](#).

4.2. Women of Reproductive Age

Are women of reproductive age evenly distributed across the NEPHU catchment?

Women of reproductive age are defined as women aged between 15-49 years. This is the age range used by the [ABS](#) and [WHO](#) to define women of reproductive age.

- The proportion of women of reproductive age in each LGA ranges from 21% to 32% of the total population, with the NEPHU average at 24% (**Table 4**).
- LGAs with a higher proportion of women of reproductive age compared to the NEPHU average are Yarra (32%), Darebin (27%), Hume (25%) and Whittlesea (25%).

Table 4: Number and proportion of women of reproductive age by LGA, 2021

LGA	Total population	Number of women of reproductive age	% of women of reproductive age in total population
Banyule	126,236	24,185	22.7
Boroondara	167,900	33,485	23.7
Darebin	148,570	34,900	27.0
Hume	243,901	54,034	25.1
Knox	159,103	30,691	22.8
Manningham	124,700	22,111	21.2
Maroondah	115,043	22,626	23.2
Nillumbik	62,895	10,818	21.2
Whitehorse	169,346	34,694	24.0
Whittlesea	229,396	50,019	25.0
Yarra	90,114	26,224	32.0
Yarra Ranges	156,068	28,879	22.0
NEPHU	1,793,272	372,666	24.2

Data source: [ABS Census 2021](#)

4.3. Gender and Sexual Diversity

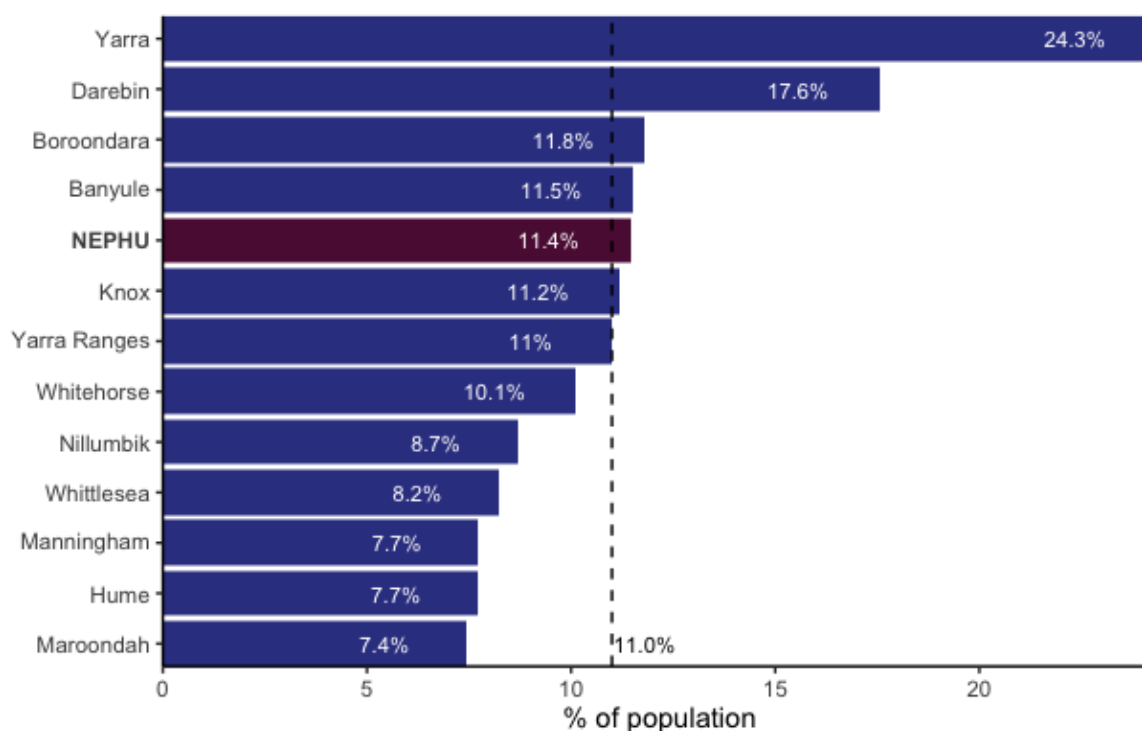
What is the size and distribution of the LGBTIQ+ community in the NEPHU catchment?

Data on people who self-identify as lesbian, gay, bisexual, transgender, intersex, queer (and other identities) (LGBTIQ+) is sourced from the Victorian Population Health Survey (VPHS) 2023.

Data should be interpreted with caution as some LGAs have a high relative standard error based on model estimation and survey sampling sizes (see Appendix 1).

- In NEPHU, 11.4% of the population identify as belonging to the LGBTIQ+ community compared to the Victorian average of 11.0%.
- The LGAs with the highest proportion of LGBTIQ+ population are Yarra (24.3%) and Darebin (17.6%), which are significantly higher than the Victorian average of 11.0%
- Other LGAs with a proportion of the LGBTIQ+ population that is higher than both the NEPHU and Victorian average include Boroondara (11.8%) and Banyule (11.5%) (**Figure 9**).

Figure 9: Proportion of self-reported LGBTIQ+ population by LGA, 2023



Data source: [VPHS 2023](#)

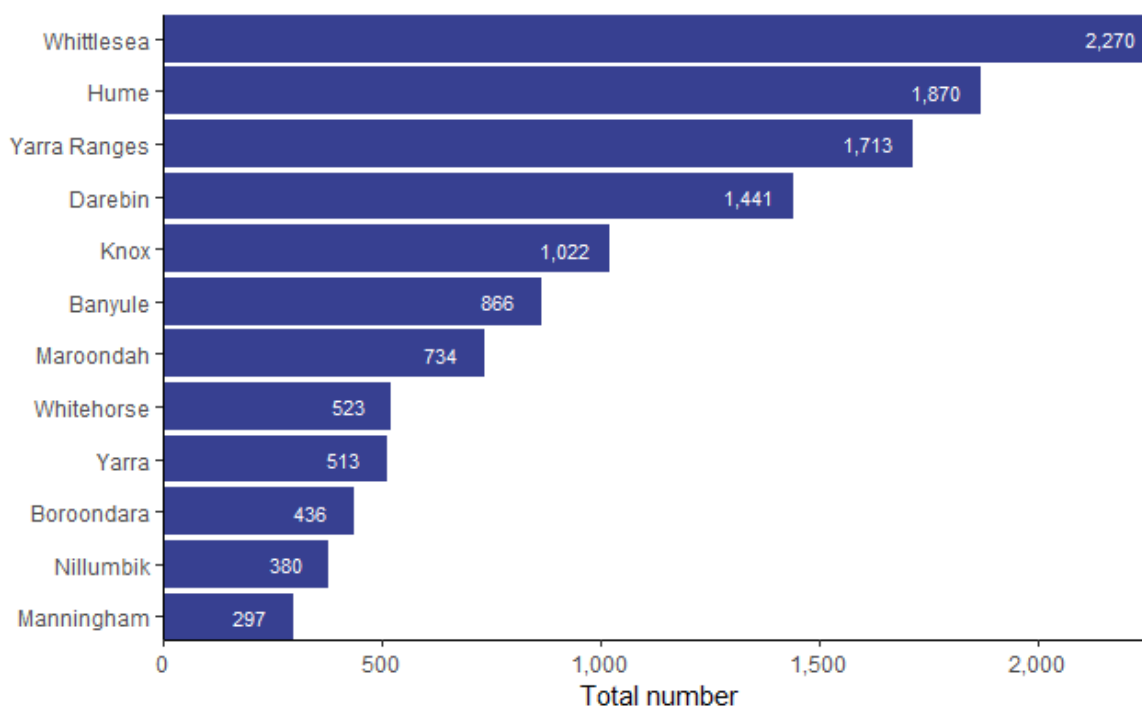
Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A5**

4.4. Aboriginal and/or Torres Strait Islander Population

The population figures presented here are based on the ABS Census 2021, which relies on self-identification. While these numbers provide a baseline, they are likely to underestimate the true size of the Aboriginal and/or Torres Strait Islander population.

- In NEPHU, 12,065 individuals identify as Aboriginal and/or Torres Strait Islander representing 0.7% of the NEPHU population. This is lower than the Victorian average of 1%.
- Of the NEPHU population that identify as Aboriginal and/or Torres Strait Islander, 19% reside in the Whittlesea LGA, 15% in Hume, 14% in Yarra Ranges and 12% in Darebin (**Figure 10**).
- Efforts to improve data accuracy and representation are ongoing, and NEPHU remains committed to working with Aboriginal and Torres Strait Islander communities to ensure the data reflects community voices and experiences.

Figure 10: Aboriginal and/or Torres Strait Islander population numbers by LGA, 2021



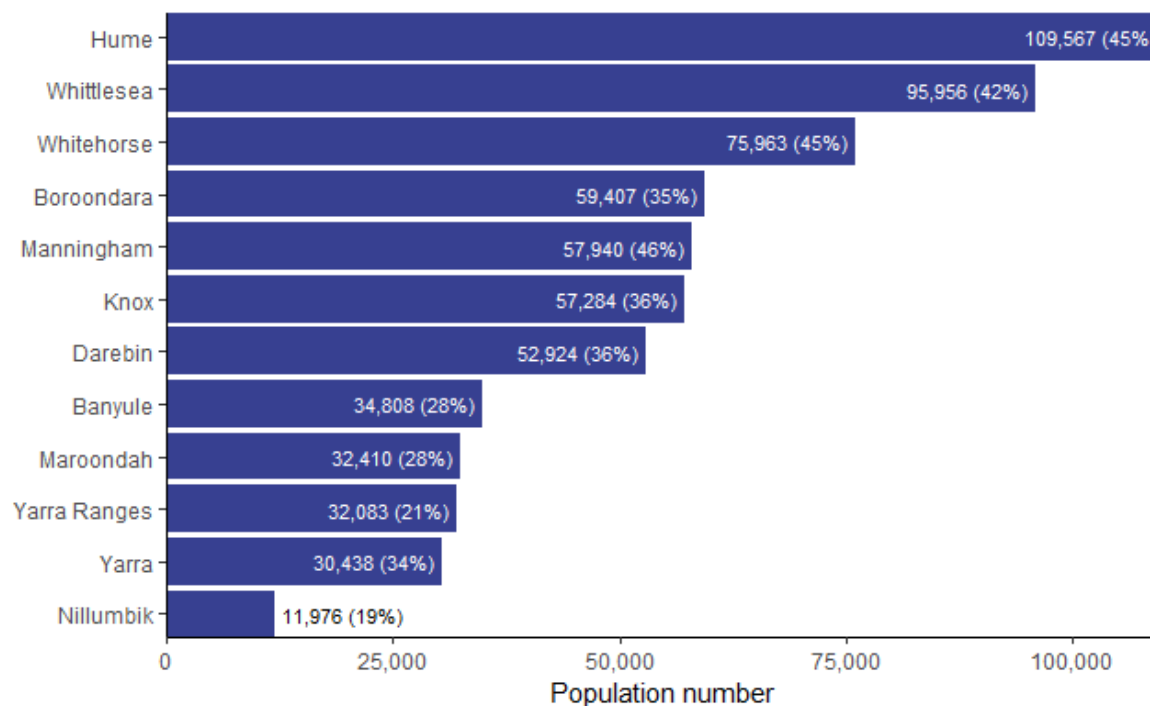
Data source: [ABS Census 2021](#)

Data notes: Total Aboriginal and/or Torres Strait Islander population in NEPHU is 12,065. This is likely to be an underestimate due to under identification. Values in bars represent population count. Data table for this figure in **Appendix 2: Table A6**.

4.5. Country of Birth

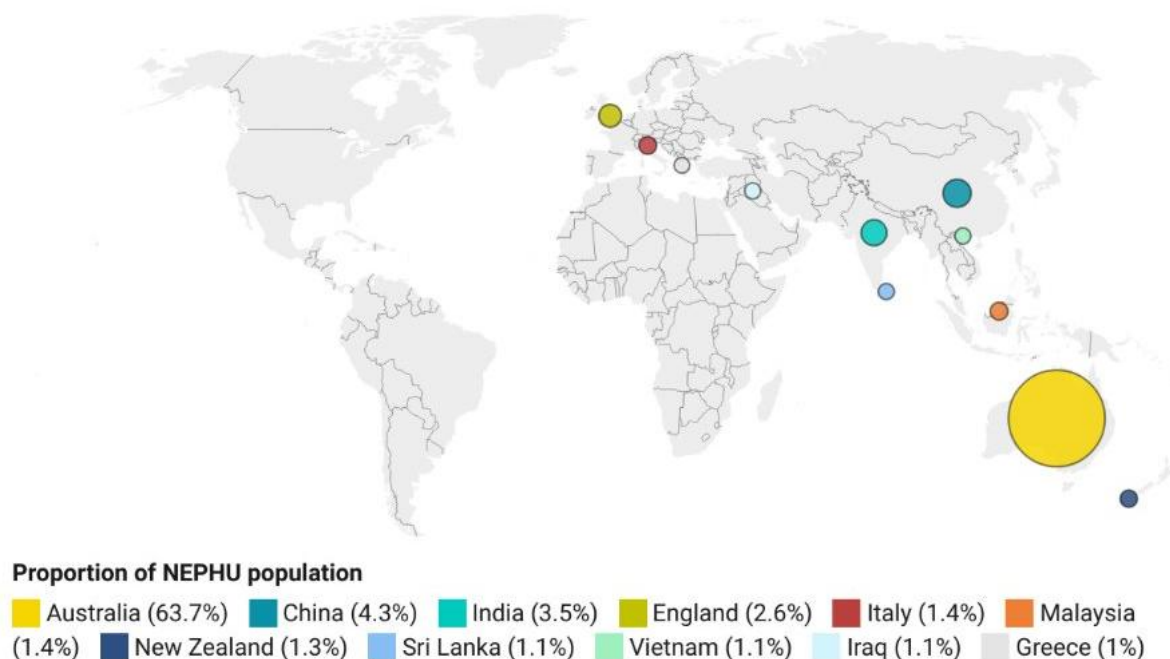
- The majority of the NEPHU population (64%, 1,142,516 people) were born in Australia, a similar proportion to the Victorian population (65% born in Australia).
- The total overseas born population in NEPHU is 650,756 with 49 different countries of birth reported.
- LGAs with a proportion born overseas that is higher than the NEPHU average are Manningham (46%), Whitehorse (45%), Hume (45%) and Whittlesea (42%) (**Figure 11**).
- The most common countries of birth for the NEPHU population born overseas are China, India, England, Italy, Malaysia, New Zealand, Sri Lanka, Iraq, Vietnam, and Greece (**Figure 12**).
- The five most common overseas countries of birth vary by LGA (**Table 6**)
- NEPHU has a notably high proportion of Victorian residents from some overseas countries; 74% of Victorian residents who were born in Iraq and 45% of Victorian residents who were born in China live in NEPHU (**Table 5**).

Figure 11: Proportion and size of the NEPHU population born overseas by LGA



Data source: [ABS Census 2021](#)

Data notes: Values in bars represent overseas-born population count and LGA proportion in parenthesis. Total overseas born population in NEPHU is 650,756

Figure 12: Map of top countries of birth of the NEPHU population, 2021

Data source: ABS Census 2021, figure created with [Datawrapper](#)

Data notes: Data table for this figure in **Appendix 2: Table A8**

Table 5: Number and proportion of NEPHU population by overseas country of birth and proportion of Victorian residents born overseas that live in NEPHU by country of birth, 2021

Country of birth	Total number in NEPHU	% of NEPHU population	% of Victorian residents born in overseas country that live in NEPHU
China	77,352	4.3	45.1
India	62,657	3.5	24.3
England	46,089	2.6	26.4
Italy	25,413	1.4	39.2
Malaysia	25,109	1.4	40.1
New Zealand	23,953	1.3	24.1
Sri Lanka	19,632	1.1	28.8
Iraq	19,381	1.1	74.3
Vietnam	18,908	1.1	20.2
Greece	18,486	1.0	39.6

Data source: [ABS Census 2021](#)

Table 6: Most common countries of birth by LGA in NEPHU, 2021

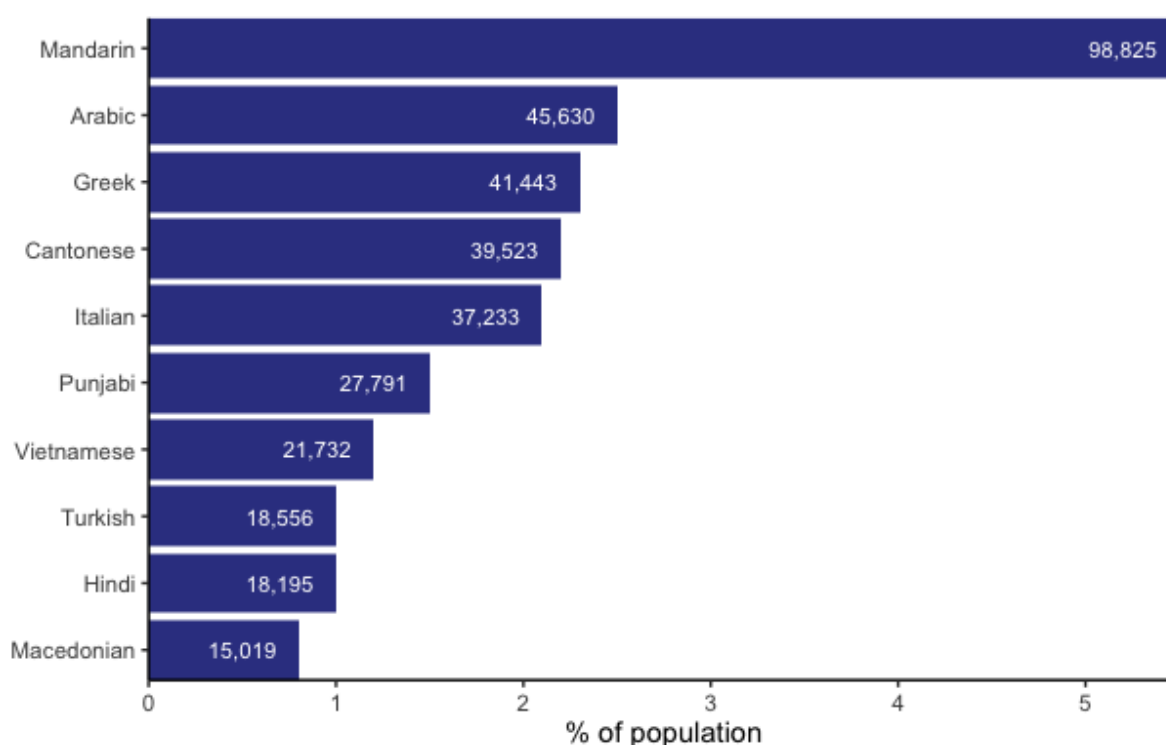
LGA`	Country 1	Country 2	Country 3	Country 4	Country 5
Banyule	China 3,780 (3%)	England 3,396 (2.7%)	India 2,450 (1.9%)	Italy 2,014 (1.6%)	New Zealand 1,482 (1.2%)
Boroondara	China 13,393 (8%)	England 4,789 (2.9%)	India 4,047 (2.4%)	Malaysia 3,749 (2.2%)	New Zealand 2,413 (1.4%)
Darebin	Italy 5,220 (3.5%)	Greece 4,240 (2.9%)	China 3,868 (2.6%)	India 3,726 (2.5%)	England 3,296 (2.2%)
Hume	India 16,441 (6.7%)	Iraq 15,476 (6.3%)	Turkey 7,337 (3%)	Lebanon 4,263 (1.7%)	Pakistan 3,886 (1.6%)
Knox	China 8,464 (5.3%)	India 5,169 (3.2%)	England 5,007 (3.1%)	Malaysia 3,955 (2.5%)	Sri Lanka 3,788 (2.4%)
Manningham	China 13,918 (11.2%)	Malaysia 4,719 (3.8%)	Hong Kong 3,770 (3%)	Iran 3,023 (2.4%)	Greece 2,957 (2.4%)
Maroondah	China 4,285 (3.7%)	England 4,141 (3.6%)	India 2,531 (2.2%)	Myanmar 1,874 (1.6%)	Malaysia 1,339 (1.2%)
Nillumbik	England 2,583 (4.1%)	New Zealand 694 (1.1%)	Italy 579 (0.9%)	China 529 (0.8%)	India 380 (0.6%)
Whitehorse	China 21,962 (13%)	India 6,617 (3.9%)	Malaysia 5,554 (3.3%)	England 3,610 (2.1%)	Hong Kong 2,705 (1.6%)
Whittlesea	India 17,030 (7.4%)	North Macedonia 5,787 (2.5%)	Italy 5,742 (2.5%)	China 3,883 (1.7%)	Greece 3,832 (1.7%)
Yarra	England 3,709 (4.1%)	New Zealand 2,619 (2.9%)	Vietnam 2,398 (2.7%)	China 1,306 (1.4%)	USA 1,117 (1.2%)
Yarra Ranges	England 7,634 (4.9%)	New Zealand 1,842 (1.2%)	Netherlands 1,387 (0.9%)	Myanmar 1,249 (0.8%)	India 1,115 (0.7%)

Data source: [ABS Census 2021](#)

4.6. Languages Spoken

- The majority of the NEPHU population (64%, 1,143,368) only speak English at home.
- The most common languages other than English spoken at home by the NEPHU population are Mandarin, Arabic, Greek, Cantonese and Italian (**Figure 13**). This varied by LGA (**Table 7**).
- In NEPHU, 5% of the population report speaking English not well or not at all (low English proficiency).
- Hume, Manningham, Whittlesea and Darebin LGAs have a higher proportion of their population who speak a language other than English at home compared to the NEPHU average. These same LGAs have a higher proportion of their population who report low English proficiency compared to the NEPHU average (**Figure 14**).

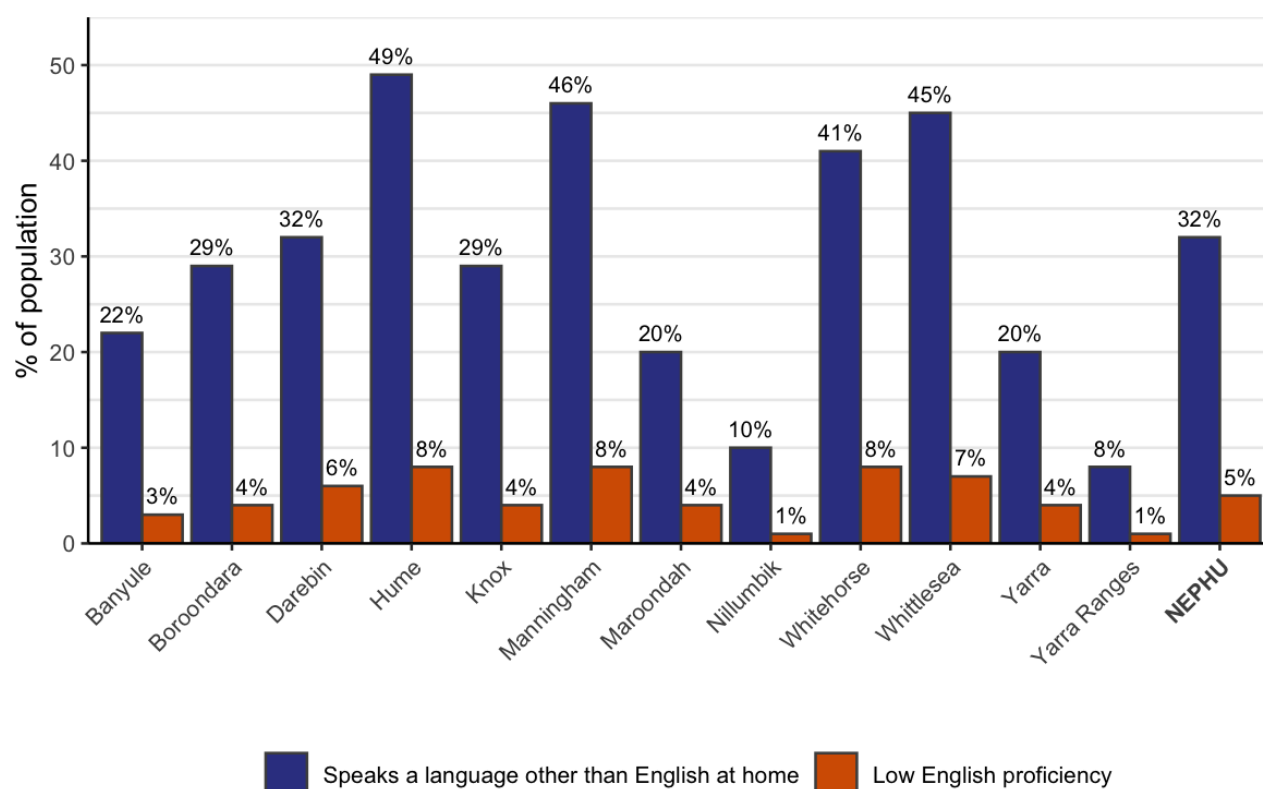
Figure 13: Number and proportion of NEPHU residents speaking languages other than English at home, 2021



Data source: ABS Census 2021

Data notes: Values in bars represent actual count, x-axis is proportion of the NEPHU population that speak the language. Only the 10 most common languages other than English spoken by NEPHU residents is shown.

Figure 14: Proportion of the population speaking a language other than English at home and low English proficiency by LGA, 2021



Data source: ABS Census 2021 Data table for this figure in **Appendix 2: Table A9**

Table 7: Five most common languages spoken at home by LGA, 2021

LGA	Language 1	Language 2	Language 3	Language 4	Language 5
Banyule	Mandarin 5,013 (4%)	Italian 2,994 (2.4%)	Greek 2,466 (2%)	Cantonese 1,482 (1.2%)	Arabic 1,209 (1%)
Boroondara	Mandarin 17,419 (10.4%)	Cantonese 5,107 (3%)	Greek 4,553 (2.7%)	Italian 2,312 (1.4%)	Vietnamese 2,092 (1.2%)
Darebin	Greek 8,515 (5.7%)	Italian 7,811 (5.3%)	Mandarin 4,597 (3.1%)	Arabic 3,635 (2.4%)	Vietnamese 3,072 (2.1%)
Hume	Arabic 22,664 (9.3%)	Turkish 14,813 (6.1%)	Punjabi 12,653 (5.2%)	Assyrian 8,451 (3.5%)	Chaldean 7,619 (3.1%)
Knox	Mandarin 11,535 (7.3%)	Cantonese 5,514 (3.5%)	Sinhalese 2,702 (1.7%)	Greek 1,707 (1.1%)	Hindi 1,473 (0.9%)
Manningham	Mandarin 17,336 (13.9%)	Cantonese 10,560 (8.5%)	Greek 6,869 (5.5%)	Italian 3,885 (3.1%)	Persian 3,308 (2.7%)
Maroondah	Mandarin 5,452 (4.7%)	Cantonese 1,906 (1.7%)	Chin Haka 1,066 (0.9%)	Persian 809 (0.7%)	Hindi 804 (0.7%)
Nillumbik	Italian 792 (1.3%)	Mandarin 733 (1.2%)	Greek 539 (0.9%)	Persian 317 (0.5%)	German 262 (0.4%)
Whitehorse	Mandarin 27,361 (16.2%)	Cantonese 9,282 (5.5%)	Greek 3,823 (2.3%)	Vietnamese 2,323 (1.4%)	Hindi 2,224 (1.3%)
Whittlesea	Arabic 11,912 (5.2%)	Macedonian 9,911 (4.3%)	Punjabi 9,903 (4.3%)	Italian 8,329 (3.6%)	Greek 7,205 (3.1%)
Yarra	Vietnamese 2,998 (3.3%)	Greek 1,979 (2.2%)	Mandarin 1,712 (1.9%)	Italian 1,249 (1.4%)	Cantonese 1,079 (1.2%)
Yarra Ranges	Mandarin 1,225 (0.8%)	Italian 1,152 (0.7%)	Chin Haka 1,076 (0.7%)	German 692 (0.4%)	Dutch 498 (0.3%)

Data source: [ABS Census 2021](#)

Table 8: Most common languages spoken at home where English proficiency is low by LGA, 2021

LGA	Top 1 Language	Top 2 Language	Top 3 Language	Top 4 Language	Top 5 Language
Banyule	Mandarin 1,266 (1%)	Italian 328 (0.3%)	Greek 286 (0.2%)	Cantonese 254 (0.2%)	Arabic 157 (0.1%)
Boroondara	Mandarin 3,963 (2.4%)	Cantonese 779 (0.5%)	Greek 516 (0.3%)	Vietnamese 275 (0.2%)	Italian 173 (0.1%)
Darebin	Greek 1,918 (1.3%)	Mandarin 1,740 (1.2%)	Italian 1,463 (1%)	Vietnamese 813 (0.5%)	Arabic 539 (0.4%)
Hume	Arabic 4,486 (1.8%)	Turkish 3,168 (1.3%)	Assyrian 2,573 (1.1%)	Chaldean 2,165 (0.9%)	Punjabi 1,241 (0.5%)
Knox	Mandarin 2,816 (1.8%)	Cantonese 1,175 (0.7%)	Vietnamese 320 (0.2%)	Korean 203 (0.1%)	Persian 193 (0.1%)
Manningham	Mandarin 4,328 (3.5%)	Cantonese 2,161 (1.7%)	Greek 934 (0.7%)	Persian 425 (0.3%)	Italian 409 (0.3%)
Maroondah	Mandarin 1,394 (1.2%)	Chin Haka 478 (0.4%)	Cantonese 396 (0.3%)	Zomi 258 (0.2%)	Burmese 191 (0.2%)
Nillumbik	Mandarin 127 (0.2%)	Italian 42 (0.1%)	Greek 34 (0.1%)	Arabic 33 (0.1%)	Cantonese 28 (0%)
Whitehorse	Mandarin 8,045 (4.8%)	Cantonese 2,220 (1.3%)	Greek 594 (0.4%)	Vietnamese 491 (0.3%)	Korean 301 (0.2%)
Whittlesea	Arabic 1,886 (0.8%)	Mandarin 1,699 (0.7%)	Macedonian 1,687 (0.7%)	Vietnamese 1,598 (0.7%)	Italian 1,258 (0.5%)
Yarra	Vietnamese 1,184 (1.3%)	Mandarin 470 (0.5%)	Greek 469 (0.5%)	Cantonese 339 (0.4%)	Italian 159 (0.2%)
Yarra Ranges	Chin Haka 433 (0.3%)	Mandarin 306 (0.2%)	Italian 133 (0.1%)	Burmese 59 (0%)	Cantonese 55 (0%)

Data source: [ABS Census 2021](#)

4.7. Refugee and Asylum Seeker Populations

What is the size and distribution of the refugee and asylum seeker population in NEPHU?

Victoria currently receives around one-third of all refugees and people seeking asylum entering Australia. This is more than any other state or territory. According to the Victorian Department of Health website (6), between 4,000 – 6,000 refugees settle in Victoria each year. In 2023, an estimated 11,000 – 20,000 people seeking asylum were living in the Victorian community on bridging visas, whilst awaiting determination of their refugee status (6). The unique experiences of refugees and people seeking asylum prior to their arrival in Australia can have a significant impact on their health outcomes. It is important to recognise that this is not a homogenous population and there may be varying levels of education, literacy, and health. Understanding the health status, health care needs, and health service use of humanitarian entrants can provide vital information to inform policies and services for these diverse populations (3). See **Box 2** for a description of terminology relevant to refugee and asylum seekers and **Box 3** for links to more information.

Data presented is sourced from Public Health Information Development Unit (PHIDU) and records the total number of refugees entering Australia under the Offshore Humanitarian Program. There is a lack of LGA level data for people seeking asylum. Maritime arrival data is available but does not capture the full population and hence is not shown in this report.

- *A total of 32,564 refugees under the Offshore Humanitarian Program arrived in NEPHU between 2011 – 2021, representing 1.8 % of the NEPHU population. (Table 9).*
- *Over half (57%) of refugees entering the NEPHU catchment during this time settled in the Hume LGA, comprising 7.5% of the Hume population. Whittlesea LGA received 14.6% of the refugees arriving in NEPHU and Maroondah received 8.4%.*
- *The remaining proportions of refugees settling in the NEPHU catchment varied in location, with the lowest proportion settling in Nillumbik (0.3%).*

Table 9: Number and proportion of refugee migrants under the Offshore Humanitarian Program by LGA, 2011-2021

LGA	Total number	% of LGA population	% of refugees in NEPHU
Banyule	508	0.4	1.6
Boroondara	287	0.2	0.9
Darebin	804	0.5	2.5
Hume	18,625	7.5	57.2
Knox	901	0.6	2.8
Manningham	810	0.6	2.5
Maroondah	2,735	2.4	8.4
Nillumbik	97	0.2	0.3
Whitehorse	686	0.4	2.1
Whittlesea	4,756	2.1	14.6
Yarra	898	1.0	2.8
Yarra Ranges	1,456	0.9	4.5
NEPHU	32,563	1.8	100.0
VIC	94,307	1.4	

Data Source: [PHIDU](#)

Data Notes: Data is recorded as the total number of refugees entering Australia under the Offshore Humanitarian Program (Visas counted include subclasses 200 (Refugee), 201 (In-Country Special Humanitarian Program), 202 (Global Special Humanitarian Program), 203 (Emergency Rescue) and 204 (Woman at Risk)) and arrived between 1 January 2011 and 10 August 2021.



Understand the terminology: Migrants, Refugees and Asylum Seekers

The term 'refugee' is recognised under international law and commonly refers to people who are forced to leave their country of origin for many reasons, such as conflict, violence and well-founded fear of persecution, and are resettled in Australia lawfully via the Australian Refugee and Humanitarian Program. Australia's Refugee and Humanitarian program has a set number of allocated places each year (e.g. 20,000 places for the 2024-2025 year) and has two streams of intake: 1) the Offshore Humanitarian Program for people outside of Australia who need to resettle in Australia for humanitarian need and 2) the Onshore Humanitarian Program for people who have already arrived lawfully in Australia (such as on tourist or student visa) and who seek protection after arrival. Refugees are considered distinct from 'migrants', who have freely chosen to move to Australia, often to improve their lives, and can choose to return home safely. There are a variety of visas granted to refugees (typically subclasses 200,201,202, 203,204 and 866) and these visas include access to Medicare and the right to work and study, often as well as pathways to Citizenship (4,5).

People who have arrived in Australia without a valid visa and subsequently seek protection are referred to as 'people seeking asylum' and are not afforded the same rights and protections as refugees entering via the Humanitarian Program. People seeking asylum may arrive by plane or by boat and must be held in a form of immigration detention (in detention facilities or within the community under orders) until they are granted a visa or removed from Australia. People seeking asylum are often placed on 'bridging visas' while their applications are being processed (which can sometimes take years) and these bridging VISAs often do not allow access to Medicare or social support and often do not allow rights to work or study. As such, people seeking asylum can be amongst the most vulnerable in the community (5,6).

Box 2: Understand the terminology: Migrants, Refugees and Asylum Seekers

For more resources on Refugee and Asylum Seeker Health

Victorian Refugee Health Network

- [Data Bulletins](#): presenting LGA level counts and Victorian level demographics
- Qualitative data: [Refugee Women's Health Community Consultation Report](#)

Refugee Council of Australia

- [Statistics on people seeking asylum in the community](#)

Australian Institute of Health and Welfare

- [AIHW first report of the health of refugees, 2023](#)
- [Use of hospitals and homelessness services by refugees and humanitarian entrants](#)

Department of Home Affairs

- [About the Australian Refugee and Humanitarian Program](#)
- [LGA level data on Unlawful Maritime Arrivals](#)

Box 3: More resources on refugee and asylum seeker health



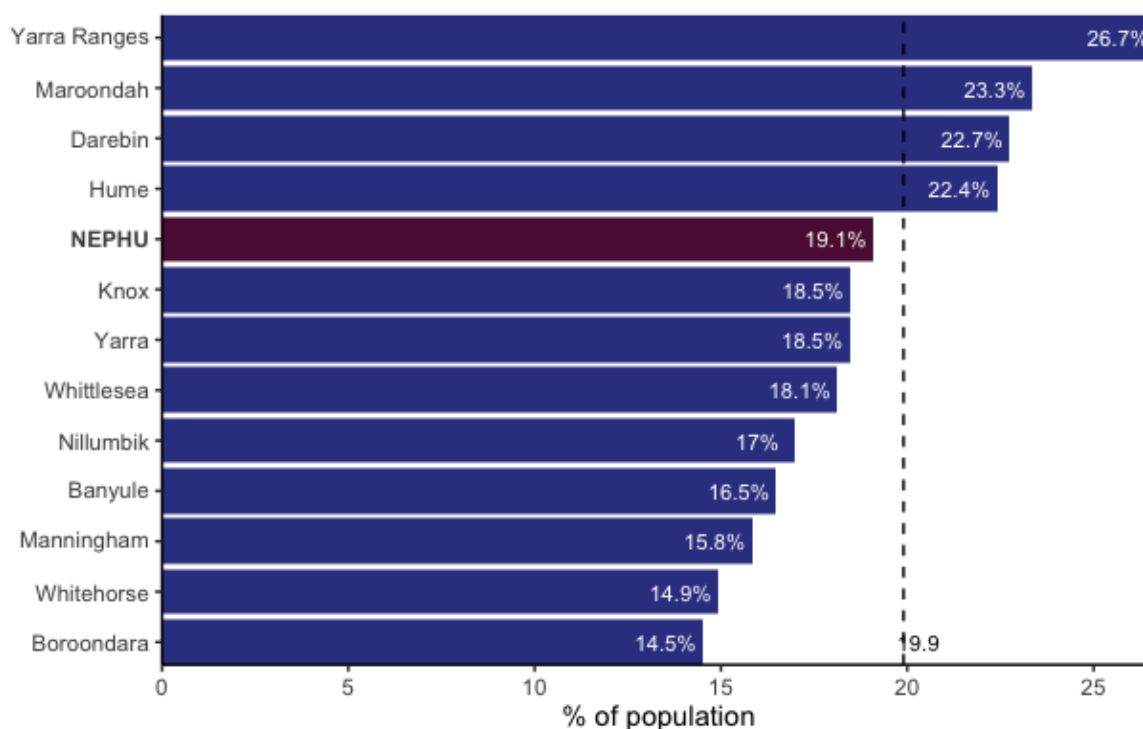
4.8. Disability

Understanding the prevalence of disability is important for the planning and provision of relevant services. The Census [Survey of Disability, Ageing and Carers](#) (SDAC), last conducted in 2022, is the recommended source for measure of disability prevalence in Australia (11). Unlike the Census, the SDAC is conducted by personal visits to households and uses 160 questions to determine whether a person lives with a disability. In the Survey of Disability, Ageing and Carers (SDAC), a person is considered to have disability if they have any limitation, restriction or impairment which restricts everyday activities and has lasted, or is likely to last, for six months or more. In 2022, 21.4% of Australians had a disability, an increase from 17.7% in 2018 with similar prevalence among males and females (12). Data from this survey is not publicly available at the LGA level.

Data on the NEPHU population with a disability was obtained from the VPHS 2023 respondents aged 18 years and over. Disability was self-reported by answering the question “Do you experience any difficulty or restriction that affects your participation in work, education, social and community life, or doing daily activities, related to a long-term health condition or impairment?”.

- Among NEPHU residents, 19% reported a long-term health condition or impairment compared to 20% of the Victoria population (**Figure 15**).
- The proportion of the population with a self-reported disability ranged from 14% in Boroondara to 27% in the Yarra Ranges.

Figure 15: Proportion of the population with a self-reported disability by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A10**

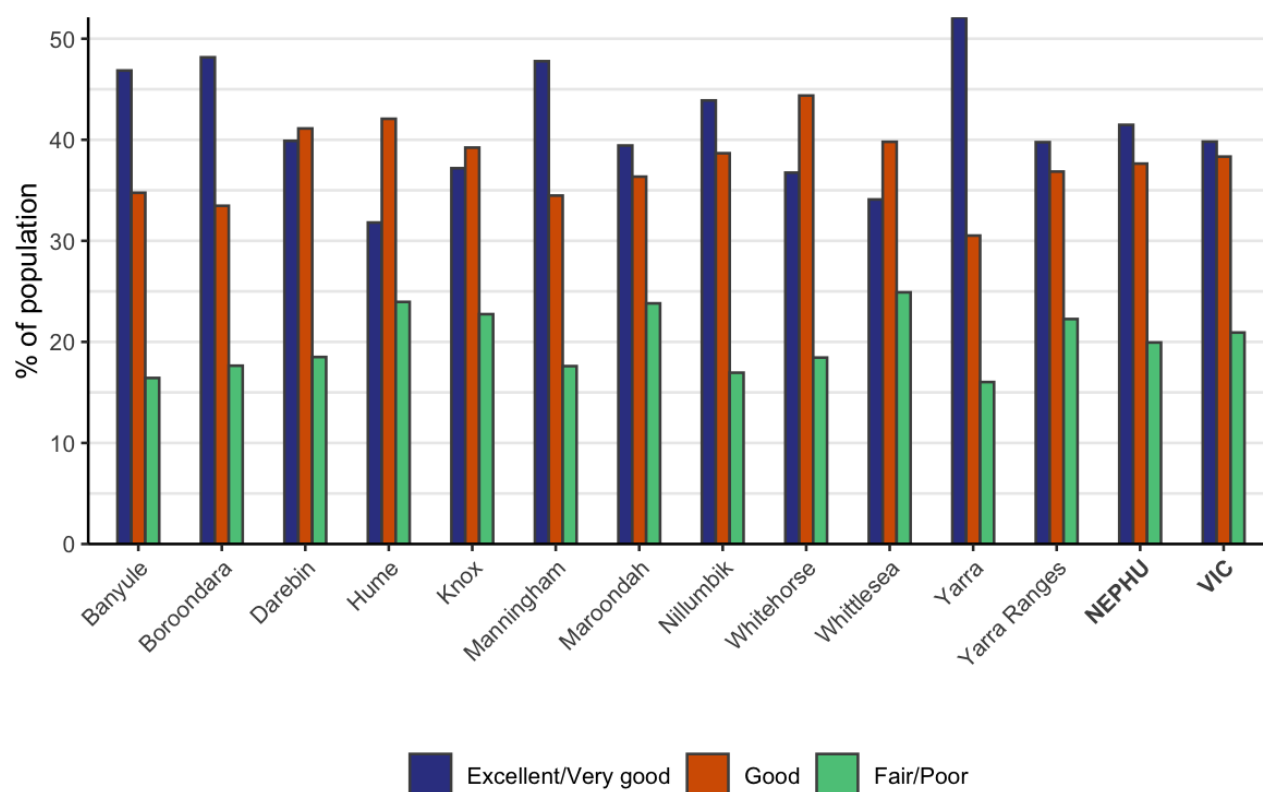
4.9. General Health

What is the general health of NEPHU's population?

Data on self-reported health was obtained from the VPHS 2023 survey where respondents were asked to rank their health status, indicating whether, in general, they would say their health was excellent, very good, fair, or poor.

- The self-reported health status of the NEPHU population is similar to the Victorian population. In NEPHU, 41.5% of the population reported excellent or very good health, 37.6% reported having good health and 19.9% reported having fair or poor health (**Figure 16**).
- LGAs with a higher proportion of the population reporting fair or poor health than the Victorian average include Whittlesea (24.9%), Hume (24.0%), Maroondah (23.8%), Knox (22.7%), and the Yarra Ranges (22.4%).

Figure 16: Self-reported health status of the NEPHU population by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: Data based on self-report of general health. Data table for this figure in **Appendix 2: Table A11**.

5. Early Childhood Determinants of Health

Section Summary

Are children within the NEPHU catchment getting the best start in life?

The foundations for a lifetime of good health start during the important conception and antenatal period right through to five years of age, often referred to as the ‘first 2,000 days’ of life. This is a critical period of brain development for children and is shaped by a complex interaction of genetics and environment. A child’s development is influenced by the people and relationships, communities, cultures, and society that surround them. The recently released [Australian Government Early Years Strategy \(2024 – 2034\)](#) recognises that every child deserves the opportunity for the best start to life, no matter where they are born or raised (13,14).

This section reports on perinatal and early childhood factors that are often considered determinants of future health. Between 2019 to 2021, 20-55% of women who gave birth in NEPHU had not attended an antenatal visit within the first 10 weeks of pregnancy, contrary to best practice recommendation from the [Australian Pregnancy Care Guidelines](#) (see **Section 5.3**). The proportion of women reporting smoking during pregnancy was generally low across NEPHU (average 5.4%), however there is no safe level of smoking during pregnancy. There was a five-factor difference between the lowest proportion smoking during pregnancy (1.6%) and the highest proportion (8.2%), suggesting ongoing opportunities for intervention across the catchment (see **Section 5.3**). Nearly 70% of children in inner eastern and outer eastern regions of Melbourne were exposed to alcohol in utero (see **Section 5.6**), which is much higher than the Victorian average of 39%, and

reflects the ongoing emphasis required to avoid alcohol when pregnant or planning a pregnancy(15).

The proportion of babies born with low birthweight was relatively low in NEPHU at 6.1% (see **Section 5.3**). Just over half (53.8%) the infants in NEPHU were exclusively breastfed until three months of age. Opportunities remain in Hume (44.7%) and Whittlesea (39.4%) LGAs to achieve the national target of 50% of infants exclusively breastfed in the first six months by 2025 (12). Premature birth is another important health determinant, however LGA level data is not available for this indicator (see **Section 5.4**).

The majority (90.9%) of children aged four to five years old were enrolled in kindergarten in NEPHU (see **Section 5.7**). Preschool programs have been shown to help reduce the educational gap between children from low and high socioeconomic status backgrounds (17). Over half of children in the NEPHU catchment were assessed as ‘on track’ on all five domains by the time they commenced school (see **Section 5.8**). The proportion of students in Year 3 to Year 9 meeting literacy and numeracy benchmarks was relatively high across year levels (ranging from 92.2%-96.5% for literacy and 96.2%-96.6% for numeracy in 2019) (see **Section 5.9**).



Early Childhood Determinants of Health

5.1. Timing of Antenatal Visit

Antenatal care is a planned series of visits between a pregnant woman and a midwife or doctor to assess and improve the wellbeing of the mother and baby throughout pregnancy (13). The [AIHW Australia's Mothers and Babies report](#) states that in 2021, 81.9% of women who gave birth in Victoria had their first antenatal care visit within their first trimester of pregnancy (i.e. before 14 weeks of gestation) (13). However, the [Australian Pregnancy Care Guidelines](#) (18) recommend that a woman has her first antenatal visit within the first 10 weeks of pregnancy to achieve better maternal health in pregnancy, fewer interventions in late pregnancy and positive child health outcomes.

Data for timing of antenatal care visit was compiled by PHIDU based on data over 3 years (2019-2021) from AIHW. The original source of this data is the Victorian Perinatal Data Collection and uses administrative data from a range of antenatal care clinical settings (see [here](#)).

- *Across the NEPHU catchment between 2019 and 2021, over one-third (37.1%) of women who gave birth had not attended an antenatal appointment before 10 weeks gestation (**Table 10**).*
- *There was variation across the catchment with approximately half the women who gave birth in Darebin (55.1%), Banyule (50.1%), Yarra (51.2%), and Nillumbik (48.8%) not attending an antenatal visit before 10 weeks gestation.*

5.2. Smoking During Pregnancy

Smoking during pregnancy is an important preventable risk factor for pregnancy complications and adverse health outcomes for the baby (see **Box 4**). Sudden infant death syndrome, childhood diabetes and childhood obesity have been linked with exposure to tobacco during foetal development, and there is increased risk of developing chronic disease as an adult (20,21).

- Rates of smoking during pregnancy were relatively low across the catchment, with the NEPHU average (5.4%) sitting below the Victorian average (7.5%).
- There was variation across the catchment however, with a five-factor difference between the lowest reported proportion (1.6% in the LGA of Boroondara) and the highest reported proportion (8.2% in the LGA of Hume) (**Table 10**).

Health impacts of smoking during pregnancy*



Negative impacts for the foetus/infant

- Miscarriage
- Stillbirth
- Ectopic pregnancy
- Placental abruption
- Pre-eclampsia
- Premature birth
- Low birthweight
- Sudden Infant Death Syndrome
- Birth defects (cleft lip or cleft palate)
- Difficulty settling or feeding
- Middle ear infections
- Long-term damage to lungs/brain/blood (e.g. asthma)

Impacts extending into adulthood

- Increased risk of Type 2 diabetes
- Increased risk of heart disease
- Increased risk of kidney disease
- Increased risk of overweight and obesity

*The long-term effects of exposing babies to vaping during pregnancy or after birth are not yet fully known. They may include serious health problems such as organ damage (comparable to those caused from nicotine in tobacco products).

Box 4: Health impacts of smoking during pregnancy(20,21)

Table 10: Health indicators affecting infant development by LGA

LGA / NEPHU / VIC	Year 2019-2021 % women who gave birth and did not attend antenatal visit before 10 weeks gestation	Year 2019-2021 % women who gave birth and smoked during pregnancy	Year 2019-2021 % low birthweight babies	Year 2019-2020 % infants who were exclusively breastfed to 3 months of age
Banyule	50.1	3.2	6.0	59.0
Boroondara	36.3	1.6	5.5	58.7
Darebin	55.1	4.1	6.0	64.7
Hume	36.7	8.2	6.8	44.7
Knox	20.3	7.5	6.2	57.6
Manningham	37.3	2.5	5.8	55.6
Maroondah	25.0	4.4	5.7	60.2
Nillumbik	48.8	3.5	4.3	65.0
Whitehorse!	28.8	2.6	6.0	57.4
Whittlesea	42.8	7.1	6.7	39.4
Yarra	51.2	3.7	5.9	63.8
Yarra Ranges	19.5	7.4	4.9	57.2
NEPHU	37.1	5.4	6.1	53.8
VIC	36.4	7.5	6.3	51.1

Data source: [PHIDU](#) (for antenatal visits, smoking, birthweight) and [VPHWOF](#) (for breastfeeding data)

Data notes: Data compiled by PHIDU based on data over 3 years (2019-2021) from AIHW. As the data are aggregated over three years, it may include women who gave birth more than once during the time period.

Indicators include:

- Women who gave birth and did not attend their first antenatal visit before 10 weeks gestation.
- Women who reported that they smoked during a pregnancy, whether resulting in a live or stillbirth, if the birthweight is at least 400g or the gestational age is 20 weeks or more.
- All live born babies weighing less than 2.5kg at birth (low birth weight)

Data on breastfeeding to 3 months of age is obtained from the VPHWOF 2020, sourced from the Maternal and Child Health Collection. Reporting exclusive breastfeeding to 6 months of age is not a stable indicator as solid foods are often introduced around this time. As such, exclusive breastfeeding to around 4 months of age is commonly reported in Australia.(19)

Light blue: estimate is favourable compared to both NEPHU and VIC estimates;

Medium blue: estimate is unfavourable compared to either NEPHU or VIC estimate;

Blue: estimate is unfavourable compared to both NEPHU and VIC estimate.

5.3. Babies Born with a Low Birthweight

Birthweight is an important indicator of an infant's immediate health as well as a determinant of their future health. Babies born with low birthweights (less than 2500 grams) are at increased risk of death or illness in infancy and poorer long-term health outcomes, including increased risk of chronic disease. A "healthy birthweight" is defined as a birthweight between 2,500 and 4,499 grams. Increasing the proportion of babies born with a healthy birthweight is a Sustainable Development Goal (16).

- *The proportion of babies born with low birthweight ranged from 4.3% to 6.8% across the NEPHU catchment, with most LGAs reporting fewer babies born with low birthweight compared to the Victorian average of 6.3% (**Table 10**).*

5.4. Preterm Birth – Victorian Data

Preterm birth is defined as birth before 37 completed weeks of pregnancy (and after 20 weeks). Preterm birth is associated with perinatal mortality, severe morbidity in the first weeks of life, increased risk of chronic lung disease and long-term neurological disability (including cerebral palsy). It is also associated with increased health care use including admission to neonatal intensive care, prolonged hospital stay after birth, and readmission to hospital in the first year of life (21).

Data regarding premature births were not available at LGA level and therefore not shown in this report. State level data from the [Victorian Perinatal Data Collection](#) is reported.

- *In 2022, Victoria had 6,248 births that were considered premature or preterm (<37 weeks), representing about 8.1% of all births in Victoria that year.*
- *This compares similarly to the Australian proportion of 8.3% preterm births.*

5.5. Exclusive Breastfeeding Until 3 Months of Age

Exclusive breastfeeding means the infant receives only breast milk and no other food or liquids. Breast milk contains all the requirements necessary for a baby's development for the first six months of life and the [National Health and Medical Research Council \(NHMRC\) Infant Feeding Guidelines](#) recommend that infants be exclusively breastfed until around six months of age when solid foods are being introduced. Continued breastfeeding to around 12 months is encouraged, supported and promoted. There are numerous recognised health and societal benefits of exclusive breastfeeding in early infancy, as detailed in **Box 5** (25,26), and the [Australian National Breastfeeding Strategy: 2019 and beyond](#) aligns with the WHO global nutrition target, aiming to raise the rate of exclusive breastfeeding in the first six months up to at least 50% by 2025.

Breastfeeding data was sourced from the Victorian Public Health and Wellbeing Outcomes Framework for 2019-2020 and originally collected by the Maternal and Child Health Collection.

- *The proportion of babies exclusively breastfed until at least three months of age was above the Victorian average (51.1%) in the majority of NEPHU's LGAs, with the highest proportions in Nillumbik (65%) and Darebin (64.7%) (Table 10)*
- *Less than half the infants in Hume (44.7%) and Whittlesea (39.4%) LGAs were exclusively breastfed until three months.*



Benefits of exclusive breastfeeding

Infant benefits

- Reduced risk of sudden infant death
- Reduced risk of necrotising enterocolitis (a condition with high risk of fatality)
- Protection against infectious diseases (e.g. gastrointestinal, respiratory, middle ear)
- Reduction in misalignment of baby teeth
- Improved cognitive development
- Protection against overweight and obesity
- Reduced risk of type 1 and type 2 diabetes

Maternal benefits

- Reduced bleeding and infection after birth
- Assistance with spacing between pregnancies and maintaining a healthy weight
- Reduced risk of breast cancer, ovarian cancer and endometrium cancer
- Reduced risk of Type 2 diabetes and cardiovascular disease

Other benefits

- Reduced expense for families and health services
- Reduced carbon footprint

Box 5: Benefits of exclusive breastfeeding (25,26)



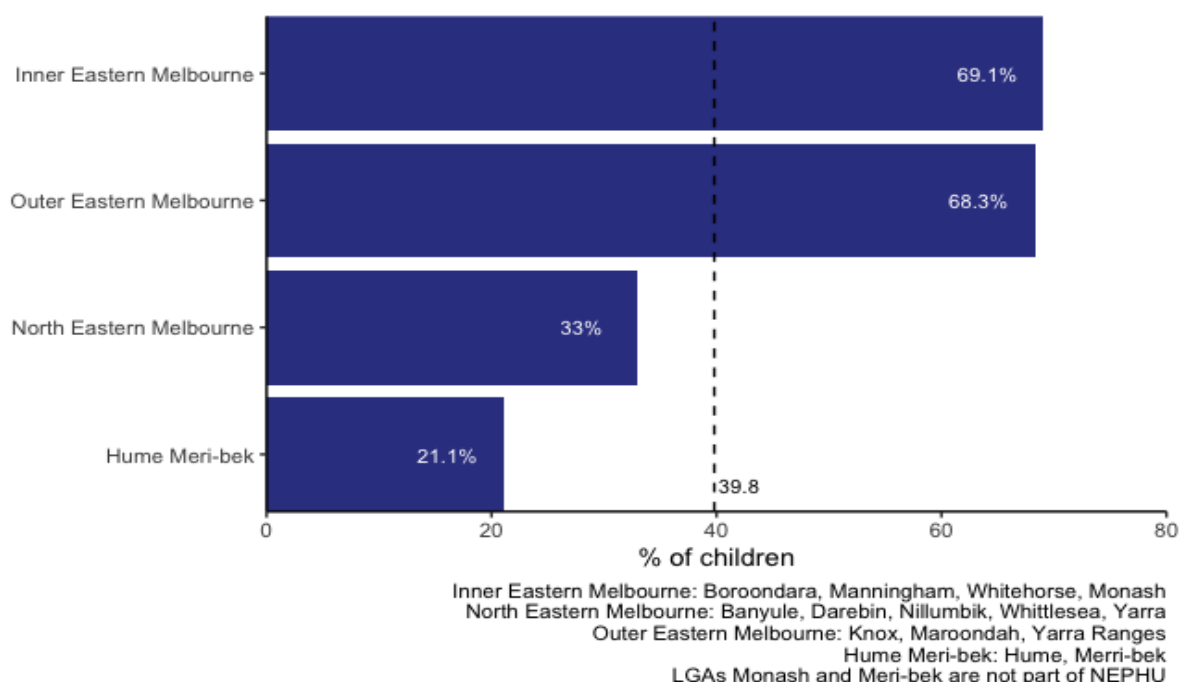
5.6. Exposure to Alcohol in Utero

Alcohol consumption in pregnancy can lead to poorer perinatal outcomes, including low birthweight, being small for gestational age, pre-term birth, and foetal alcohol spectrum disorder (FASD). No safe level of alcohol consumption during pregnancy or while breastfeeding has been identified, and the [Australian Guidelines to Reduce Health Risks from Drinking Alcohol](#) recommend that women who are pregnant, planning a pregnancy, or breastfeeding should not consume any alcohol.

Data was sourced from the VCHWS 2023 and reports on the proportion of children aged under two years of age who were exposed to alcohol while in utero. Reports of alcohol use during pregnancy vary between data sources and data collection methods, as discussed in **Box 6**.

- Nearly 70% of children aged 0-1 in Inner Eastern Melbourne and Outer Eastern Melbourne had been exposed to alcohol in utero (**Figure 17**). This is well above the state average of 39.1%.
- The Hume Merri-bek region reported the lowest proportion of children exposed to alcohol in utero (21.1%), followed by the North Eastern Melbourne region (33%), and both were below the Victorian average (39.1%).

Figure 17: Proportion of children (under 2 years) exposed to alcohol while in utero by Department of Education areas, 2023



Data source: [VCAMS](#) - [VCHWS](#), 2023

Data notes: Dashed line represents Victorian average. Collection Methods: Within the VCHWS, biological mothers with children aged under 2 years were asked to recall alcohol consumption during pregnancy. The following questions relating to alcohol exposure in utero: When you first became pregnant with (child), but before you knew you were pregnant, did you drink alcohol at all? Once you first knew that you were pregnant with (child), did you drink alcohol at all? Towards the end of your pregnancy with (child), did you drink alcohol at all?

Data table for this figure in **Appendix 2: Table A12**



Validity of self-reported data for alcohol use in pregnancy

Data regarding alcohol use during pregnancy is collected via self-report in a variety of different methods.

- The data presented in this profile is drawn from The [Victorian Child Health and Wellbeing Survey \(VCHWS\)](#) which is a triennial statewide telephone survey undertaken by the Department of Education and Early Childhood Development. Some women may consume alcohol before they know they are pregnant and stop once they find out they are pregnant. The results from the VCHWS represent the proportion of children (under 2 years) exposed to any alcohol while in utero.
- The [National Perinatal Data Collection](#) uses data collected by midwives and other birth attendants during care episodes and reports that in 2022, 98% of Victorian mothers did not drink alcohol during the first 20 weeks of pregnancy(17). Data in the NPDC is collected during care episodes, and reporting of alcohol use during pregnancy may be influenced by the relationship between the patient and clinician. A number of studies suggest that telephone surveys produce alcohol and drug use estimates that are comparable, or sometimes higher, than other methods, perhaps due to increased anonymity.
- Data from the [2022–2023 National Drug Strategy Household Survey](#) aligns with the findings presented in this report, where almost 2 in 3 women (64%) who were pregnant but did not know they were pregnant reported consuming alcohol before learning of their pregnancy.

Box 6: Validity of self-reported data for alcohol use in pregnancy

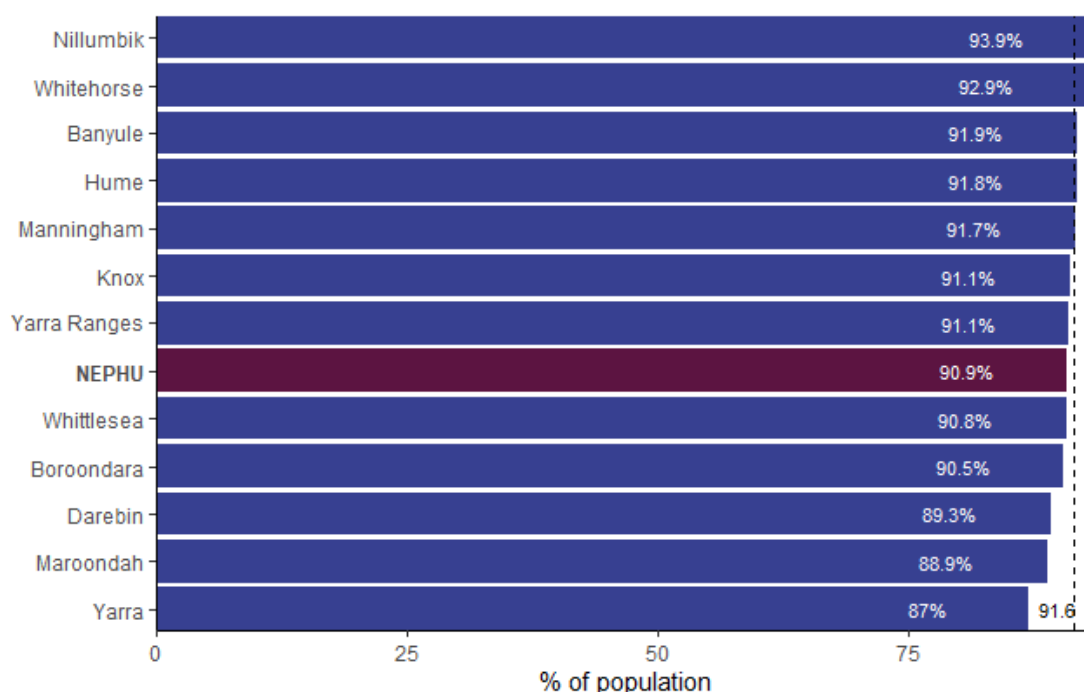
5.7. Early Childhood Education

Preschool programs are structured, play-based learning programs, delivered by qualified teachers, aimed at children in the one to two years before they start full-time schooling. Quality early childhood education has been shown to be associated with improved child development, school readiness and learning outcomes, while supporting workforce participation of parents and caregivers(23). In Victoria, children aged four to five years old are enrolled in 'Four-Year-Old' Kinder one year before school and this is free to the community. In 2022, the Victorian government began to subsidise 'Three-Year-Old Kinder' programs as well for three to four year olds, commencing two years before they start school (24).

Data sourced from the Department of Education Kindergarten Information Management System (KIMS) and records the proportion of first year children (age four and five years) who were enrolled in year-before-school kindergarten.

- On average, 90.9% (range 87% - 93.9%) of children aged four and five years in the NEPHU catchment were enrolled in kindergarten (**Figure 18**).
- The proportion of three to four year olds enrolled in kindergarten in the LGAs of Whittlesea (90.8%), Boroondara (90.5%), Darebin (89.3%), Maroondah (88.9%), and Yarra (87%) were lower than both the Victorian (91.6%) and NEPHU average (90.9%).

Figure 18: Proportion of children aged four and five who were enrolled in kindergarten in 2022 by LGA



Data source: [VCAMS - Kindergarten Information Management System \(KIMS\)](#).

Data notes: Numerator is the number of first year children who were enrolled in kindergarten. Denominator uses the number of three year old children (70%) and four year old children (30%) based on the previous year's estimated resident population, (as a proxy for four and five year olds in the current year and in keeping with the realistic age range of children in Four Year Old Kinder). Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A13**.

5.8. Early Childhood Development

A child's developmental readiness by the time they start school is influenced by a number of biological, social and environmental factors and has been shown to predict mental health, wellbeing and educational achievements later in life (19).

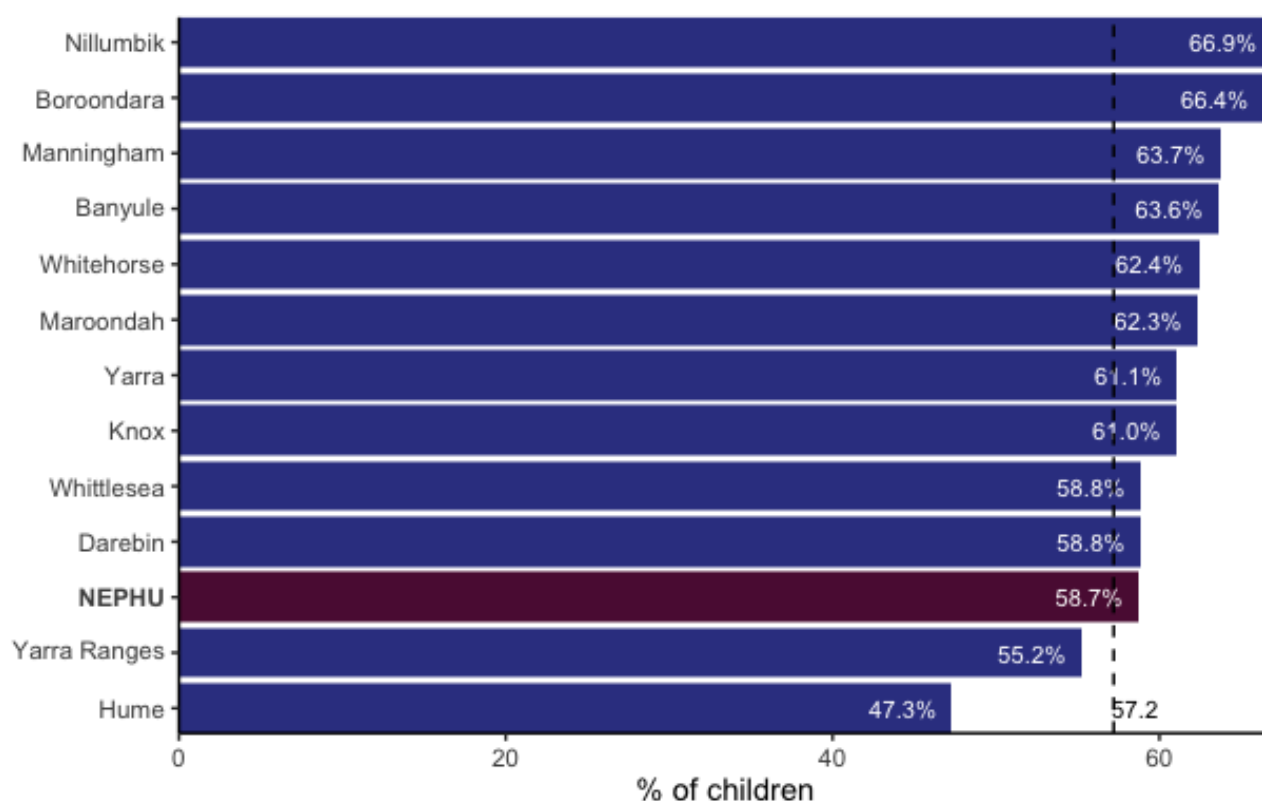
Data were sourced from the [Australian Early Development Census \(AEDC\)](#) in 2021. The AEDC is a national survey conducted every three years and measures five key areas of early childhood development: Children are assessed as 'on track', 'at risk' or 'vulnerable' in each domain.

AEDC domains:

- 1) physical health and wellbeing,
- 2) social competence,
- 3) emotional maturity,
- 4) language and cognitive skills (school-based), and
- 5) communication skills and general knowledge.

- *The average proportion of children who were assessed as 'on track' in all five domains across the NEPHU catchment was 58.7%, which was above the Victorian average (57.2%) (**Figure 19**).*
- *There was variation between LGAs, with two-thirds (66.9%) of children in Nillumbik assessed as 'on track' on all five domains, compared to less than half (47.3%) in Hume.*
- *Across NEPHU, approximately one in five (19%) children were assessed as 'developmentally vulnerable' in one or more domains, and approximately one in 10 (9%) were vulnerable in two or more domains (**Figure 20**). As per the AEDC, these children may not be ready to achieve success at school, and/or do not have the required skills in place.*

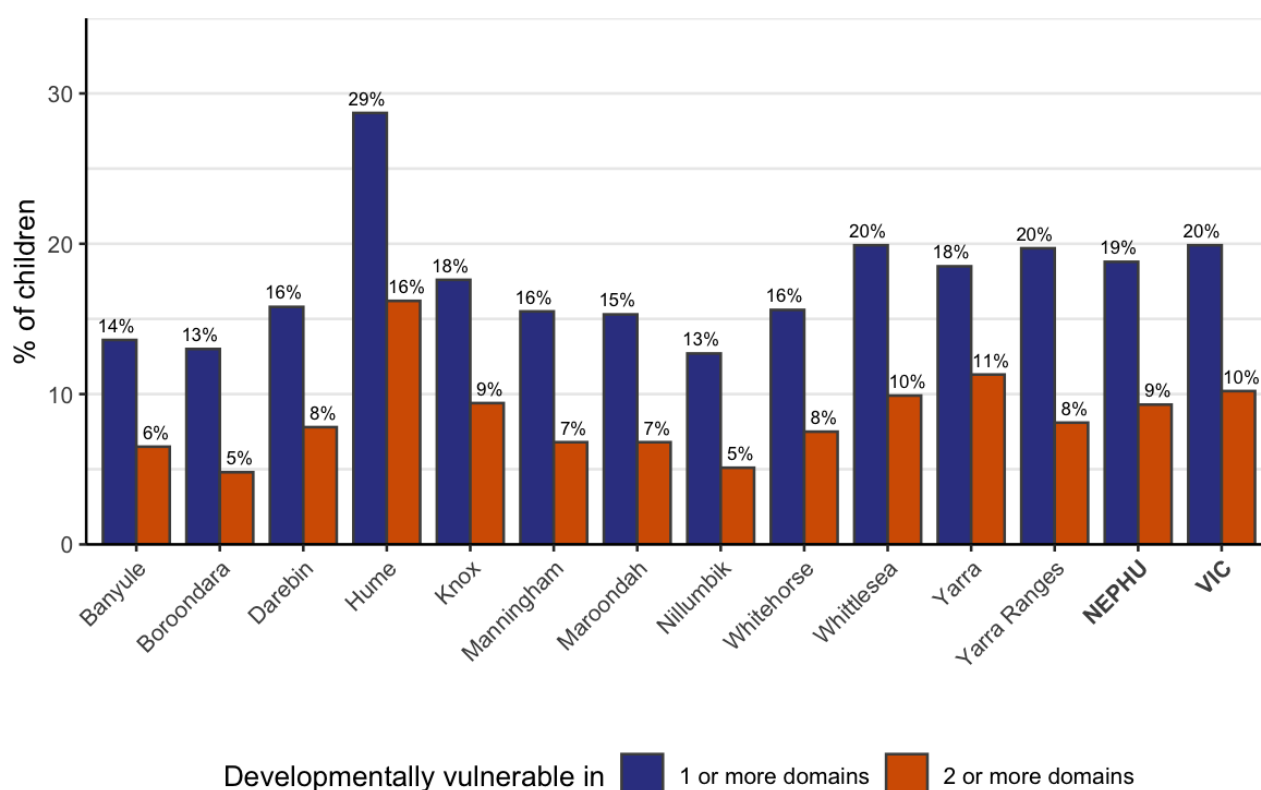
Figure 19: Proportion of children in the first year of full-time school who are 'on track' on all five early childhood development domains by LGA, 2021



Data source: [AEDC 2021](#)

Data notes: AEDC data is collected by teachers of children in their first year of school. Children are assessed as 'on track' if above the 25th centile, 'at risk' if between 10-25th centile or 'vulnerable' if below the 10th centile. Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A13**.

Figure 20: Proportion of children in the first year of full-time school who are classified as 'developmentally vulnerable' in early childhood development domains by LGA, 2021



Data source: [AEDC 2021](#)

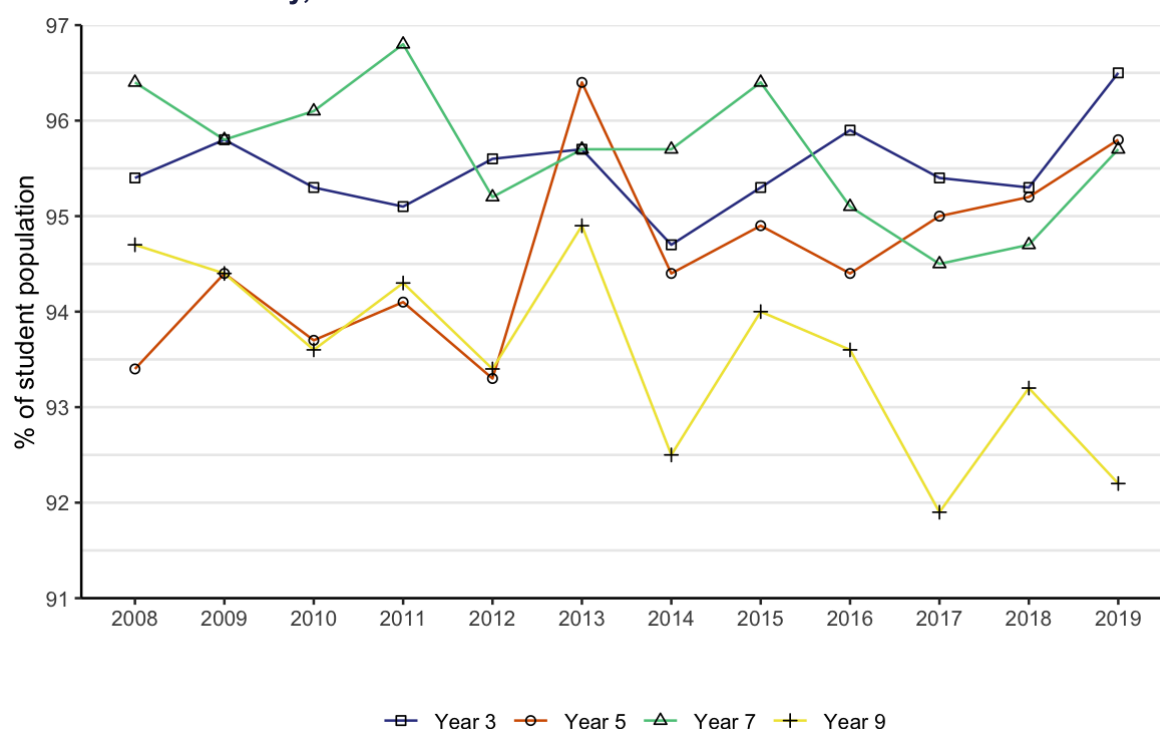
Data notes: The Australian Early Development Census (AEDC) is a national assessment conducted every three years to examine how children have developed by the time they start school. Data is collected by teachers of children in their first year of school and explores five areas of early childhood development. Children are assessed as 'on track' if above the 25th centile, 'at risk' if between 10-25th centile or 'vulnerable' if below the 10th centile. Data table for this figure in **Appendix 2: Table A13**.

5.9. Childhood Numeracy and Literacy

Literacy and numeracy are fundamental building blocks for children's educational achievement, their lives outside school and engagement with society, and their future employment prospects. Literacy and numeracy are assessed in several ways in Australia, including through the National Assessment Program – Literacy and Numeracy (NAPLAN) across school Years 3, 5, 7, and 9 since 2008. NAPLAN provides assessment against national minimum standards and allows for national and international comparisons (26).

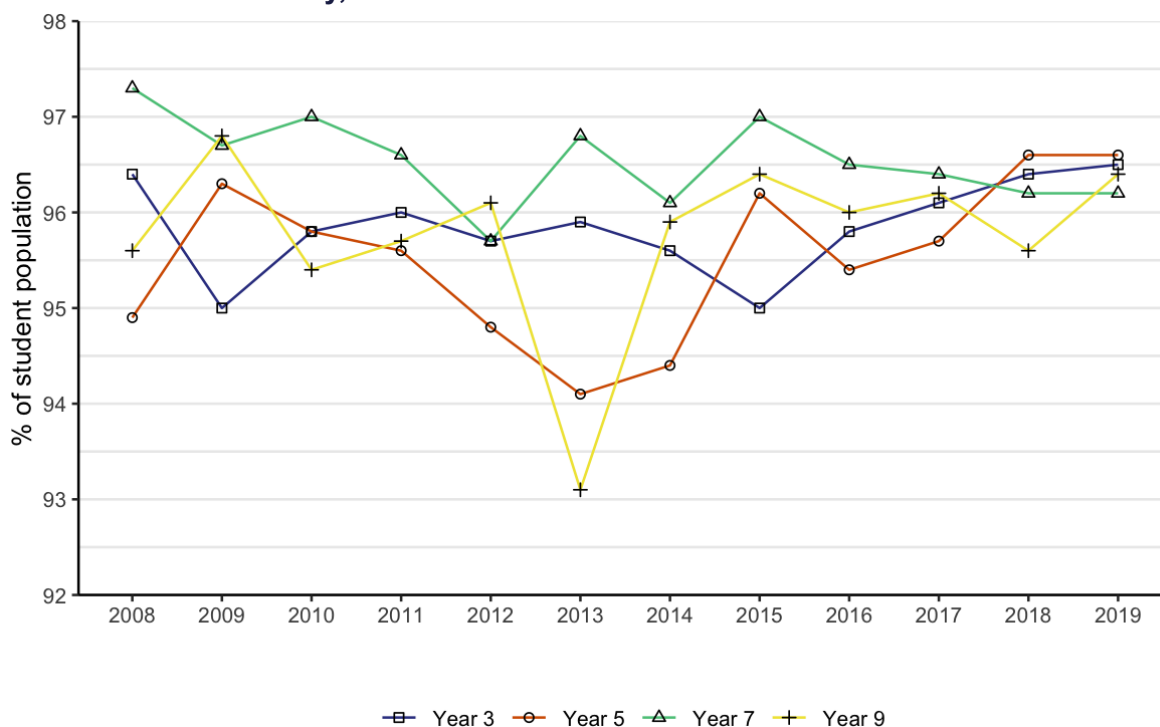
- *Numeracy benchmarks were more consistently achieved than literacy benchmarks, with less variation observed both between year-level cohorts and also over time.*
- *Between 2008 and 2018, the proportion of students in NEPHU who met or exceeded the national benchmarks for literacy increased in the Year 3 and Year 6 cohorts but decreased in the Year 7 and Year 9 cohorts (**Figure 21**).*
- *Between 2008 and 2018, the proportion of students in NEPHU who met or exceeded the national benchmarks for numeracy increased in the Year 3, Year 5 and Year 9 cohorts, but slightly decreased in the Year 7 cohort (**Figure 22**).*

Figure 21: Proportion of students in Years 3, 5, 7 and 9 in NEPHU who meet or exceed the benchmarks for literacy, 2008 to 2019



Data Source: [VCAMS - NAPLAN Indicator 4.4](#) – Proportion of students achieving national benchmark in literacy
 Data notes: Data table for this figure in **Appendix 2: Table A15**.

Figure 22: Proportion of students in Years 3, 5, 7 and 9 in NEPHU who meet or exceed the benchmarks for numeracy, 2008 to 2019



Data Source: [VCAMS - NAPLAN Indicator 4.5](#) – Proportion of students achieving national benchmark in numeracy
 Data notes: Data table for this figure in **Appendix 2: Table A16**

6. Social Determinants of Health

Section Summary

What is the prevalence and distribution of the social determinants of health across NEPHU?

As discussed in **Section 1.4**, there are many factors, or ‘determinants’, that can influence the health of individuals and populations beyond biological or bio-medical drivers. The World Health Organization (WHO) describes ‘social’ determinants as “the conditions in which people are born, grow, work, live, and age, and the wider set of systems shaping the conditions of daily life”(27). According to the WHO, social determinants of health account for between 30–55% of health outcomes (21). This report section focuses on a subset of socioeconomic determinants of health – including income, employment and educational attainment. Socioeconomic position is an important determinant of health and a key driver of health inequalities and inequities.

The NEPHU catchment encompasses 12 LGAs with diverse geographic and sociodemographic compositions. When examining the distribution of relative disadvantage across the catchment using the [Index of Relative Socioeconomic Disadvantage](#) (IRSD, see 6.16.1), the majority of LGAs had IRSD scores above the 1000 baseline, indicating a relative lack of disadvantage compared to the national average. These LGA-level IRSD scores however, masked a wide spectrum of disadvantage observed at the suburb-level within LGAs (see section 6.1). The LGAs of Hume and Whittlesea had the greatest relative disadvantage in the catchment, with LGA-level IRSD scores below the 1000 baseline.

Over half the NEPHU population (55%) over 15 years of age who were no longer at school

have attained further ‘non-school qualifications’, including Certificates/Diplomas, Bachelor Degrees and Graduate Diplomas/Postgraduate qualifications (see **Section 6.2**). One third (34%) of the NEPHU population reported their highest level of educational attainment was ‘high school or below’. Non-Australian born females were overrepresented in the lowest category of educational attainment, reported as ‘year 8 or below’. Health literacy data were only available at the national level. Most people self-reported high levels of health literacy across domains related to health information (see **Section 6.3**).

On average, 5% of the population in the NEPHU catchment was unemployed in 2021. Unemployment varied across LGAs however, with a range from 3.5% to 7.5% (see **Section 6.4**). When compared to males, there were higher proportions of females employed in part-time work and a lower proportion employed full-time across all LGAs. In 2021, median household weekly incomes for all LGAs in NEPHU were above both the Australian poverty line (\$1143.80/week) and the Victorian average (\$1552/week) (see **Section 6.5**). However, these median values mask individual variation occurring within LGAs, where between 5.4% and 10.7% of households were earning less than \$500/week, which is below the national minimum wage.

Over half (51.8%) of the age-eligible population were accessing the aged-pension for income support, and 1 in 10 people in

NEPHU required rent assistance payments (see **Section 6.6**). Carer payments were the least accessed form of income support and the drivers and impacts of this may be important to consider when recognizing the vital role that informal carers play in society.

In 2023, approximately 7.2% of people in the NEPHU catchment had experienced food insecurity in the past 12 months, reflecting an increase from 5.1% reported in 2020. Nearly one quarter (23.2%) of NEPHU residents were marginally food insecure, reporting they had worried that they would run out of money to buy food in the last 12 months (see **Section 6.7**).



Social Determinants of Health

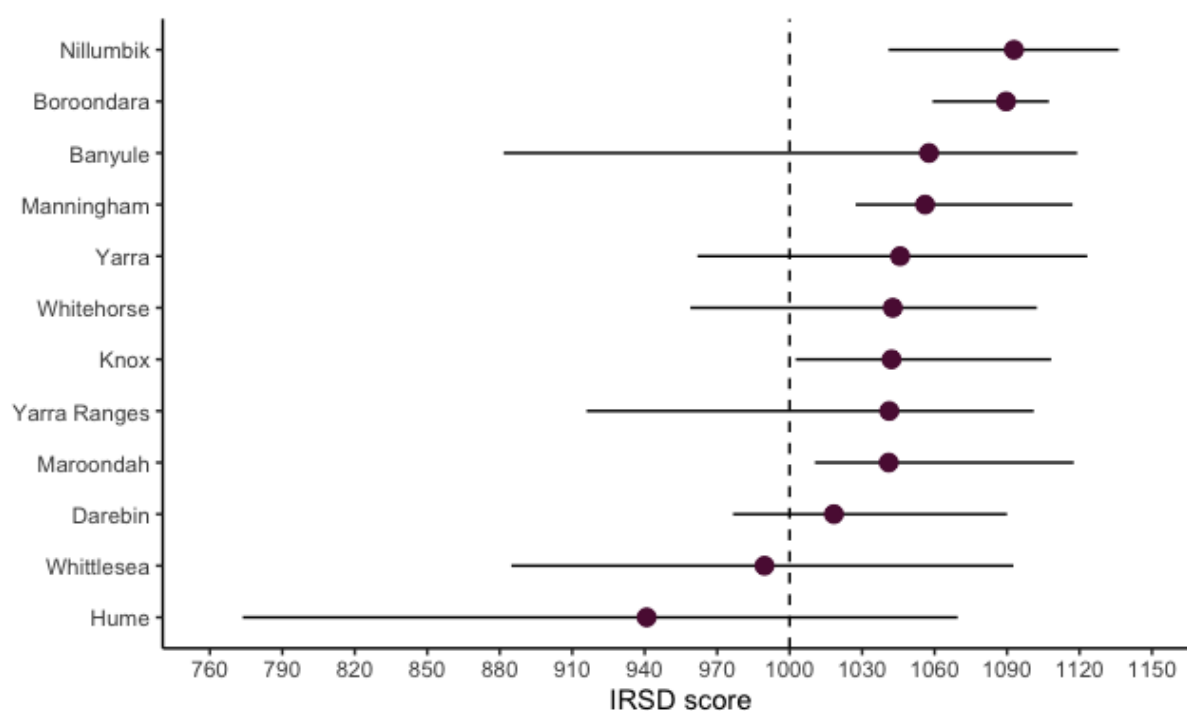
6.1. Socioeconomic disadvantage (IRSD)

Socioeconomic position is an important determinant of health and a key driver of health inequalities and inequities, likely through differences in distributions of power and resources (24). The WHO states that “in all countries, regardless of national income levels, health and illness follow a social gradient: the lower an individual’s socioeconomic position, the higher their risk of poor health” (31). The relationship is bi-directional, whereby poor health can be both a result of, and contribute to, lower socioeconomic position. These concepts are further discussed by AIHW [here](#) (24).

The Index of Relative Socio-economic Disadvantage (IRSD) is a general socio-economic index that summarises a range of information about the collective economic and social conditions of people and households within an area ([see here for IRSD details](#)). The IRSD is used to provide a broad measure of disadvantage at an area level, reflecting “people’s access to material and social resources, and their ability to participate in society” (30). IRSD only includes measures of relative disadvantage (such as low incomes or low education) and does not include measures of relative advantage (such as professional status or large housing size). Therefore, low scores indicate relatively greater disadvantage, and high scores indicate a relative lack of disadvantage (not necessarily that an area has a high proportion of advantaged people). An area with all of its indicators equal to the national average will receive a score of 1000, which is considered the baseline.

Data were sourced from the [ABS Census 2021](#).

- The overall IRSD score for the LGAs of Boroondara (1090), Knox (1042), Manningham (1056), Maroondah (1041) and Nillumbik (1093) were all above the baseline, and these LGAs had a relative lack of disadvantage among their suburbs, as shown by the short horizontal lines that did not cross the baseline (**Figure 23** and **Table 11**).
- Overall LGA scores may mask within-LGA variation. The LGAs of Banyule (IRSD 1058), Darebin (1018), Whitehorse (1043), Yarra (1046) and Yarra Ranges (1041) all had LGA-level IRSD scores above the baseline as well, however there was a greater spread of disadvantage. These LGAs have a proportion of suburbs experiencing relative disadvantage, as shown by the horizontal lines crossing the 1000 baseline.
- It is also important to consider the impact of extreme disadvantage. In the LGAs of Hume and Whittlesea, there were many suburbs above the baseline with a relative lack of disadvantage. However, both LGAs encompassed a larger proportion of suburbs with greater relative disadvantage, such that the overall IRSD for Hume (941) and Whittlesea (990) sat below the 1000 baseline.

Figure 23: Index of relative socioeconomic disadvantage (IRSD) scores by LGA, 2021

Data source: [ABS Census 2021](#)

Data notes: Horizontal line represents range of IRSD scores across suburbs in each LGA. Coloured dot represents the IRSD score for each LGA. Dashed line represents the baseline score of 1000.

Table 11: IRSD summary statistics by LGA

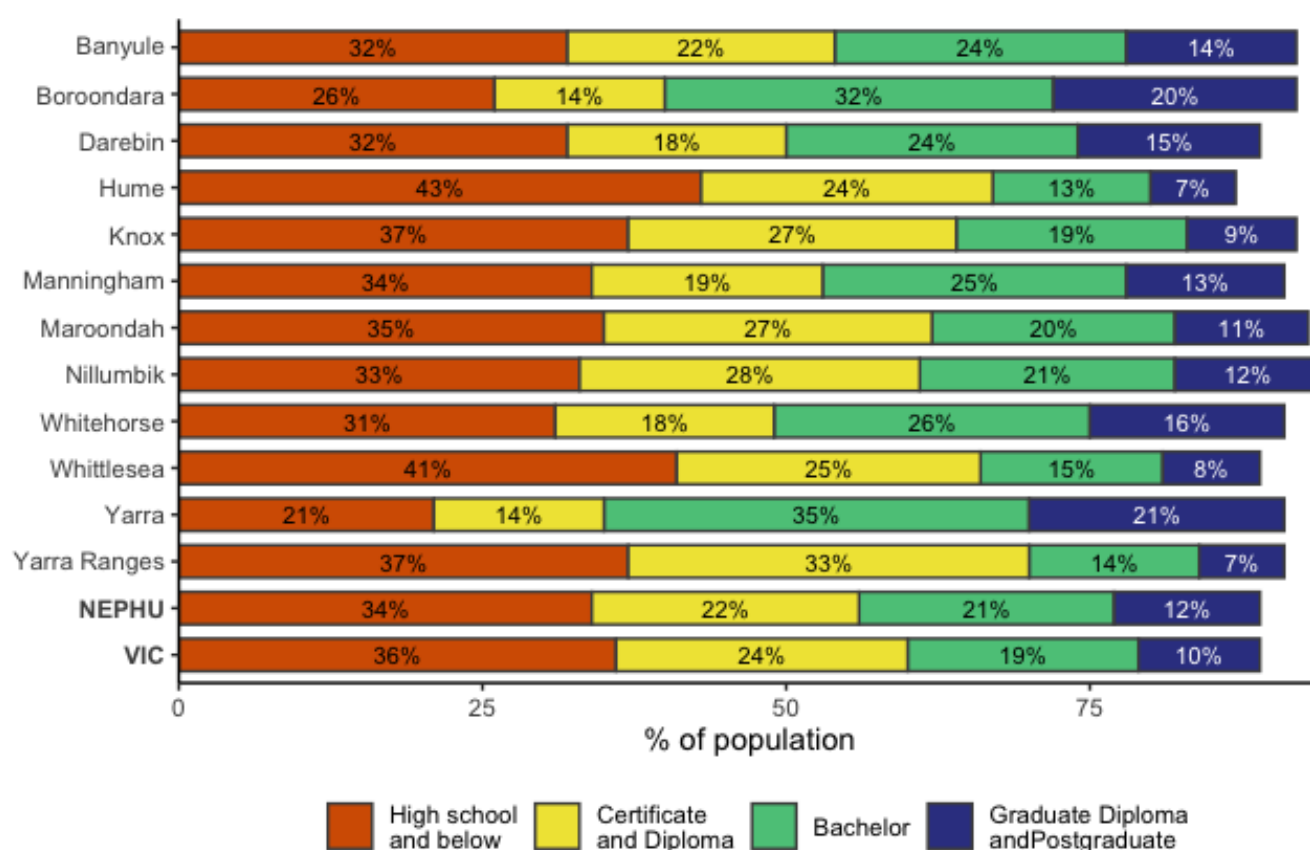
LGA	IRSD - suburb level (1000 is baseline)				
	IRSD- LGA level	Minimum	Maximum	% suburbs below baseline	% population below baseline
Banyule	1,058	882	1,119	11	6
Boroondara	1,090	1,059	1,107	0	0
Darebin	1,018	977	1,090	17	36
Hume	941	774	1,070	57	70
Knox	1,042	1,003	1,108	0	0
Manningham	1,056	1,027	1,117	0	0
Maroondah	1,041	1,010	1,118	0	0
Nillumbik	1,093	1,041	1,136	0	0
Whitehorse	1,043	959	1,102	6	8
Whittlesea	990	885	1,093	29	33
Yarra	1,046	962	1,123	20	22
Yarra Ranges	1,041	916	1,101	15	7

6.2. Education

Education is strongly associated with life expectancy, morbidity and health behaviours (31–33). Educational attainment plays an important role in health by shaping opportunities, employment, and income. In Australia, children must attend school until they complete Year 10. After Year 10, people are required to participate in education, training, or employment until they are 17 years old. People who complete Year 12 are more likely to continue with further education or training. Higher levels of education are associated with increased likelihood of being employed, being in good health and reporting higher life satisfaction (34).

Data was sourced from the ABS Census 2021 and describes persons aged 15 years and over who are no longer attending primary or secondary school.

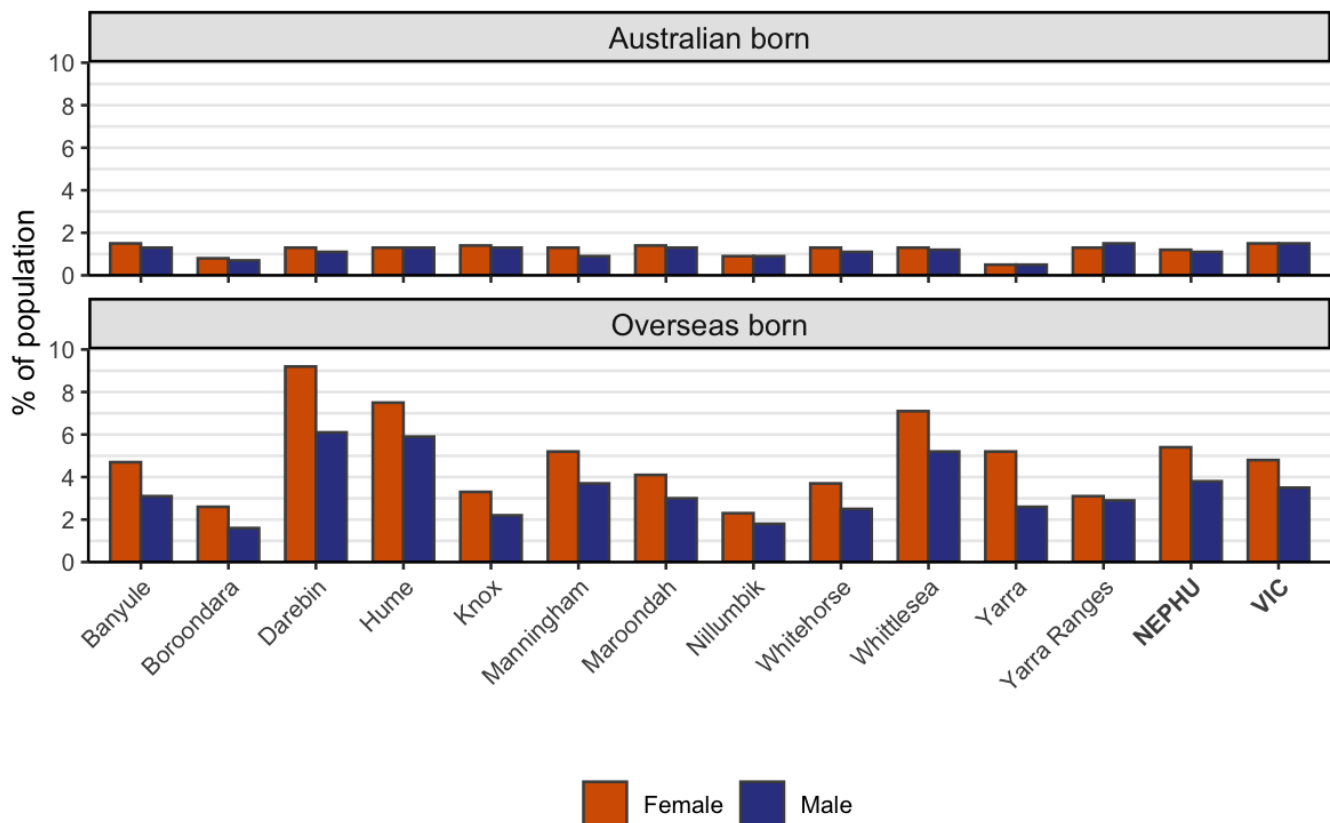
- Across NEPHU, the majority (55%) of individuals aged 15 years and over who were no longer at school reported their highest level of education as a 'non-school qualification' (including certificates/diplomas, bachelor's degrees and graduate diplomas/postgraduate qualifications). Certificates, diplomas and bachelor's degrees were generally more common than graduate diplomas or higher postgraduate study. Proportions of persons attaining non-school qualifications were highest in Yarra (70%) and Boroondara (66%) (**Figure 24**).
- Approximately one-third (34%) of NEPHU's population reported that their highest level of education was 'high-school or below' (including those who did not go to school), and this is consistent with the Victorian average. There were larger proportions of people reporting their highest level of education as 'high-school or below' in Hume (43%) and Whittlesea (41%) LGAs, compared to both NEPHU and Victorian averages (**Figure 24**).
- When focusing in on the lowest category of educational attainment, 'Year 8 or below (including those who did not go to school)' there were higher proportions of non-Australian born individuals compared to Australian-born within this group in every LGA (**Figure 25**).
- When further disaggregated by sex, non-Australian born females represented the highest proportion of people reporting Year 8 or below education across all LGAs, except Yarra Ranges (**Figure 25**).

Figure 24: Proportion of the population by highest education level and LGA

Data source: [ABS Census 2021](#)

Data notes: 'Non-school qualifications' are educational attainments other than those of a pre-primary, primary or secondary education level and include Graduate Diplomas/Postgraduate studies, Bachelor degrees and Certificates III-IV/ Diplomas. Responses that were 'not stated or inadequately described' are not shown here and so values do not total 100%. Data table for this figure in **Appendix 2: Table A17**

Figure 25: Proportion of population with Year 8 or below education (including those who did not go to school) by Australian-born status, sex and LGA, 2021



Data source: [ABS Census 2021](#)

Data notes: Responses that were 'not stated or inadequately described' are not shown here and so values do not total 100%. Data table for this figure in **Appendix 2: Table A18**

6.3. Health literacy – National Data

Health literacy is “the ability of individuals to gain access to, understand and use information in ways which promote and maintain good health” (35). Understanding health literacy from a population health perspective is important to inform the development of appropriate public health strategies to improve access to health services and health information. There is a recognised gap in data on this topic, particularly at the local level (see **Box 7**). National level data is presented here.

Data was sourced from the most recent [Health Literacy Survey](#) (HLS) conducted at a national level for ages 18 years and above by the ABS in 2018. The HLS uses the Health Literacy Questionnaire developed and tested extensively in Australia (35). This survey assesses nine domains of health literacy, based on the level of agreement with a set of health literacy statements.

Health literacy domains (35):

1. Feeling understood and supported by healthcare providers
- 2. Having sufficient information to manage my health**
3. Actively managing my health
4. Social support for health
- 5. Appraisal of health information**
6. Ability to actively engage with healthcare providers
7. Navigating the healthcare system
- 8. Ability to find good health information**
- 9. Understand health information well enough to know what to do**

Summary results from a selection of domains (2, 5, 8, and 9 in bold) are reported here.

- *The majority of people (97%) felt they had sufficient information to manage their health, with 23% strongly agreeing and 74% agreeing. Only 3% of people disagreed or strongly disagreed that they had sufficient information to manage their health.*
- *The majority of people (92%) felt they could understand health information well enough to know what to do (such as being able to understand written health information, accurately follow instructions from healthcare providers, understand what healthcare providers were asking them to do and confidently fill medical forms in the correct way). Over one third (39%) always found it easy and 54% usually found it easy. Eight percent of people reported finding it difficult to understand health information.*
- *A lower proportion (88%) reported always finding it easy to find good health information (such as using a diverse range of sources to find information that is up to date).*
- *A lower proportion of people (83%) strongly agreed or agreed that they could appraise health information (such as being able to identify reliable sources of information). Nearly one in five people (17%) disagreed or strongly disagreed that they could appraise health information.*

**Looking for more information on health literacy:**

1. The Centre for Culture, Ethnicity and Health – [CEH health literacy](#)
2. The Australian Commission on Safety and Quality Health Care – [Taking Action to improve safety and quality, 2014](#)

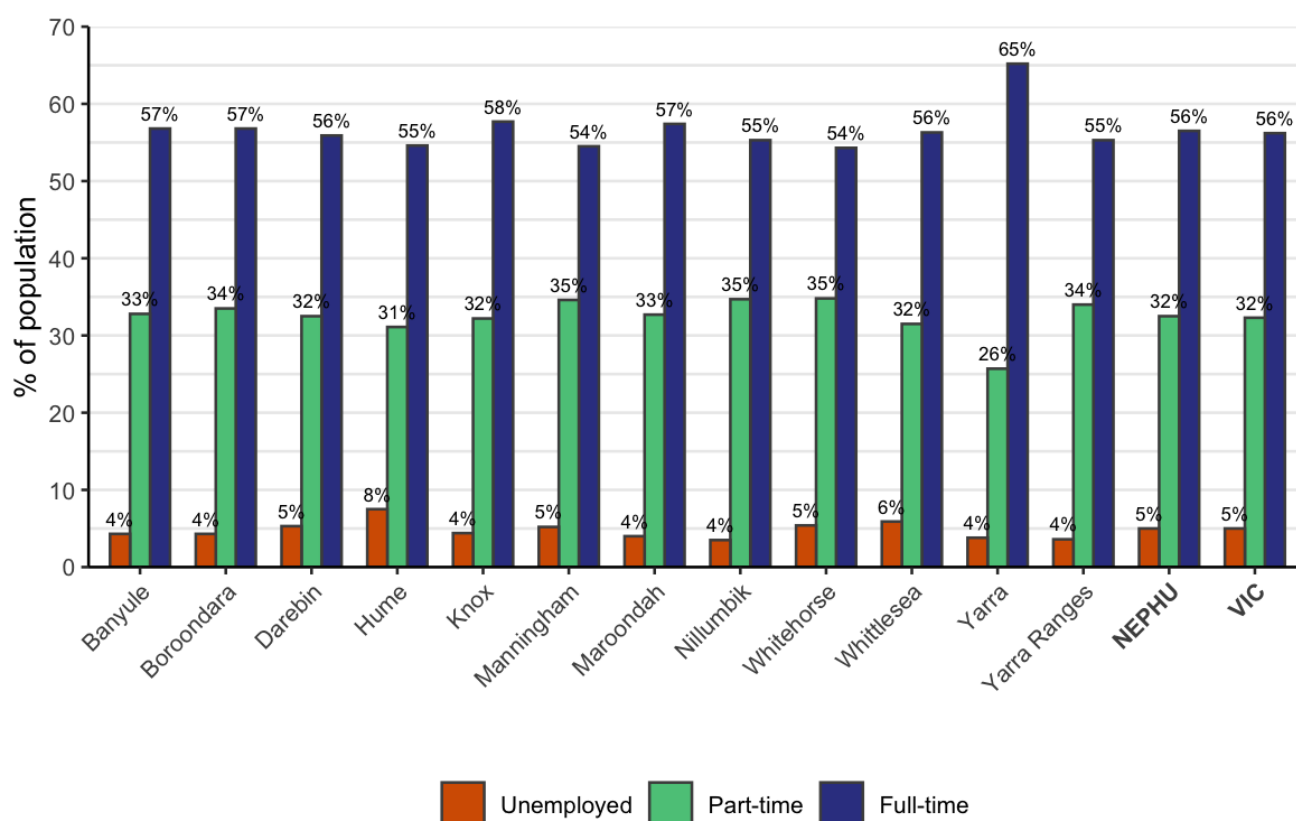
Box 7: Further information on health literacy

6.4. Employment Status

Being employed provides income and enables people to support themselves, their families and their communities (36). Employment is also associated with benefits for a person's physical health and wellbeing. Participating in quality work promotes self-esteem and a positive sense of identity, alongside providing opportunities for social interaction and personal development. The psychosocial stress caused by unemployment or underemployment has a strong adverse impact on physical and mental health and wellbeing (28). Labour force participation may include full-time or part-time work and may be structured in various casual or permanent arrangements. Local data on casual labour were not available, and further discussions on employment, underemployment and unemployment can be found in the AIHW section [here](#) (36)

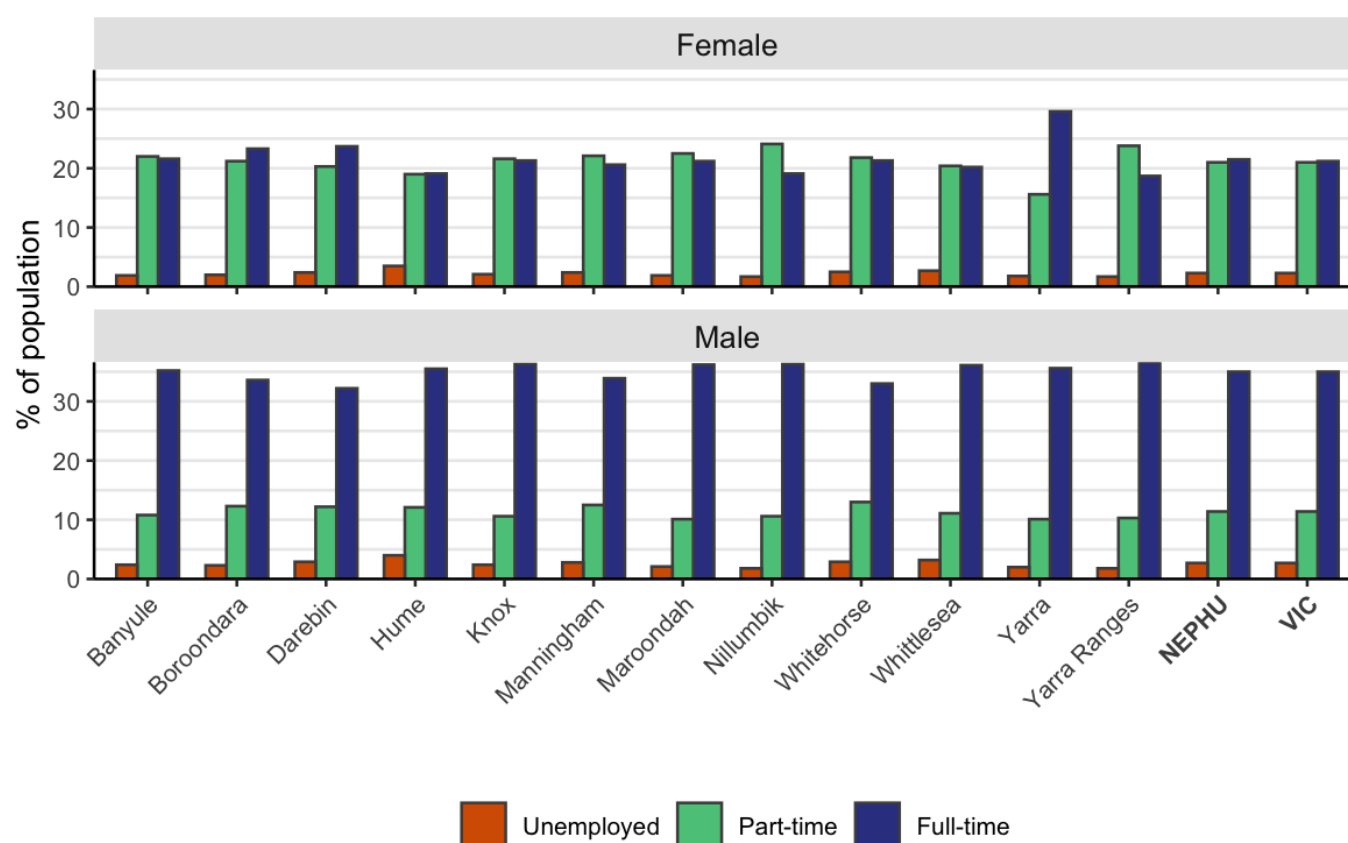
Data on the labour force status of persons aged 15 years and above were obtained from the ABS Census 2021. Responses of 'not stated' have not been included in these graphs so totals do not equal 100%.

- *In 2021, the average proportion of people unemployed in both NEPHU and Victoria was 5.0%. The proportion of unemployed people varied by LGAs, with the highest proportion reported in Hume (7.5%) and the lowest proportions reported in Yarra Ranges and Nillumbik (both 3.5%) (**Figure 26**).*
- *The proportion of unemployed individuals was higher than both the NEPHU and Victorian averages in the LGAs of Hume (7.5%), Whittlesea (5.9%), Whitehorse (5.4%), Darebin (5.3%), and Manningham (5.2%).*
- *The relative proportions of full-time versus part-time employment were consistent across most LGAs, with Yarra reporting the highest proportion of those in full-time employment (**Figure 26**).*
- *When compared to males, there were higher proportions of females employed in part-time work and a lower proportion employed full-time across all LGAs (**Figure 27**).*
- *The distribution of employment status between full-time, part-time and unemployed were equivalent between Australian born and overseas born persons (**Figure 28**).*

Figure 26: Employment status distribution (proportion of population) by LGA, 2021

Data source: [ABS Census 2021](#)

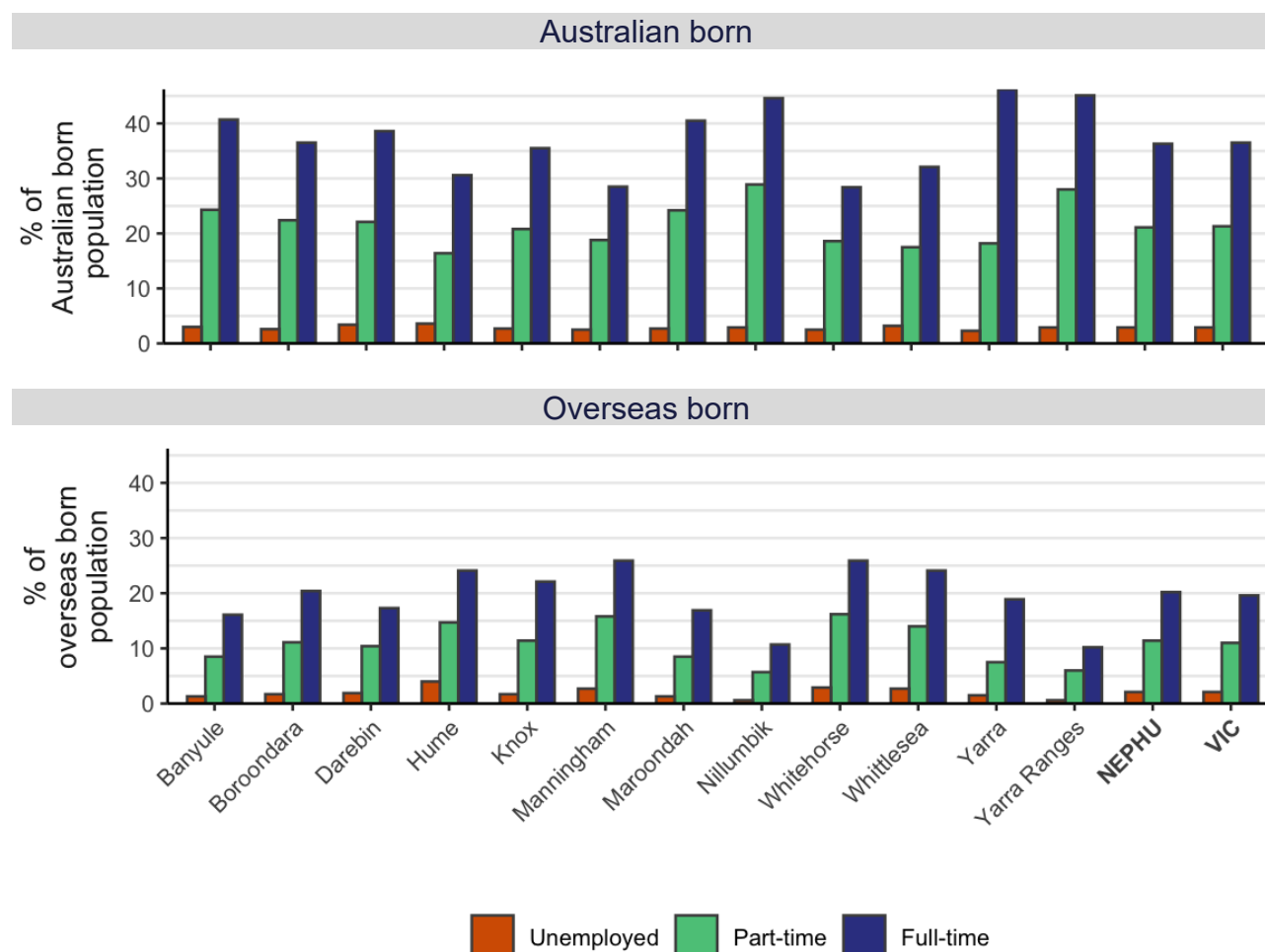
Data notes: Responses coded as 'unknown/not stated' have not been shown here and so totals do not equal 100%. Percentages have been rounded to whole numbers in this figure. Proportion is calculated with the denominator as the eligible labour force. An 'unemployed person' is a person who is not employed and currently actively looking for work (either part-time or full-time).

Figure 27: Employment status distribution (proportion of population) by LGA and sex, 2021

Data source: [ABS Census 2021](#)

Data notes: Responses coded as 'unknown/not stated' have not been shown here and so totals do not equal 100%. Percentages have been rounded to whole numbers in this figure. Proportion is calculated with the denominator as the eligible labour force. An 'unemployed person' is a person who is not employed and currently actively looking for work (either part-time or full-time). Data table for this figure in **Appendix 2: Table A19**

Figure 28: Employment status distribution (proportion of population) by LGA and Australian-born status, 2021



Data source: [ABS Census 2021](#)

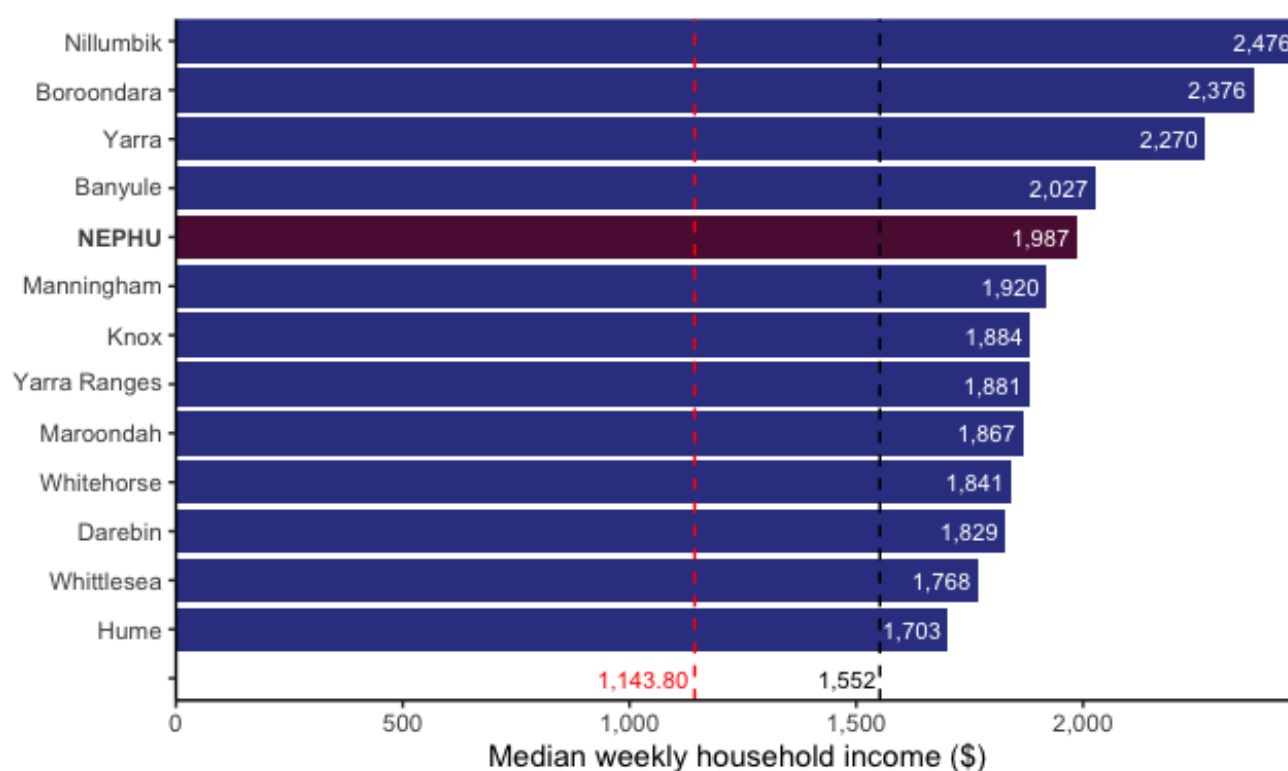
Data notes: Responses coded as 'unknown/not stated' have not been shown here and so totals do not equal 100%. Percentages have been rounded to whole numbers in this figure. Proportion is calculated with the denominator as the eligible labour force that is either Australian born or overseas born. An 'unemployed person' is a person who is not employed and currently actively looking for work (either part-time or full-time). Data table for this figure in **Appendix 2: Table A20**.

6.5. Income Level

People need a certain level of income to be able to afford the basics for a healthy life, such as food and quality housing. Beyond basic necessities, higher incomes often enable increased levels of social participation and increased opportunities to control life circumstances (37). Higher incomes often provide greater access to healthier options and choices. Conversely, having inadequate financial resources can be a source of stress and influence health-related behaviours. Low incomes are associated with poorer mental health outcomes and physical health can also be impacted, including conditions such as high blood pressure and back pain (38). Material deprivation and poverty can have bi-directional and intergenerational impacts (19).

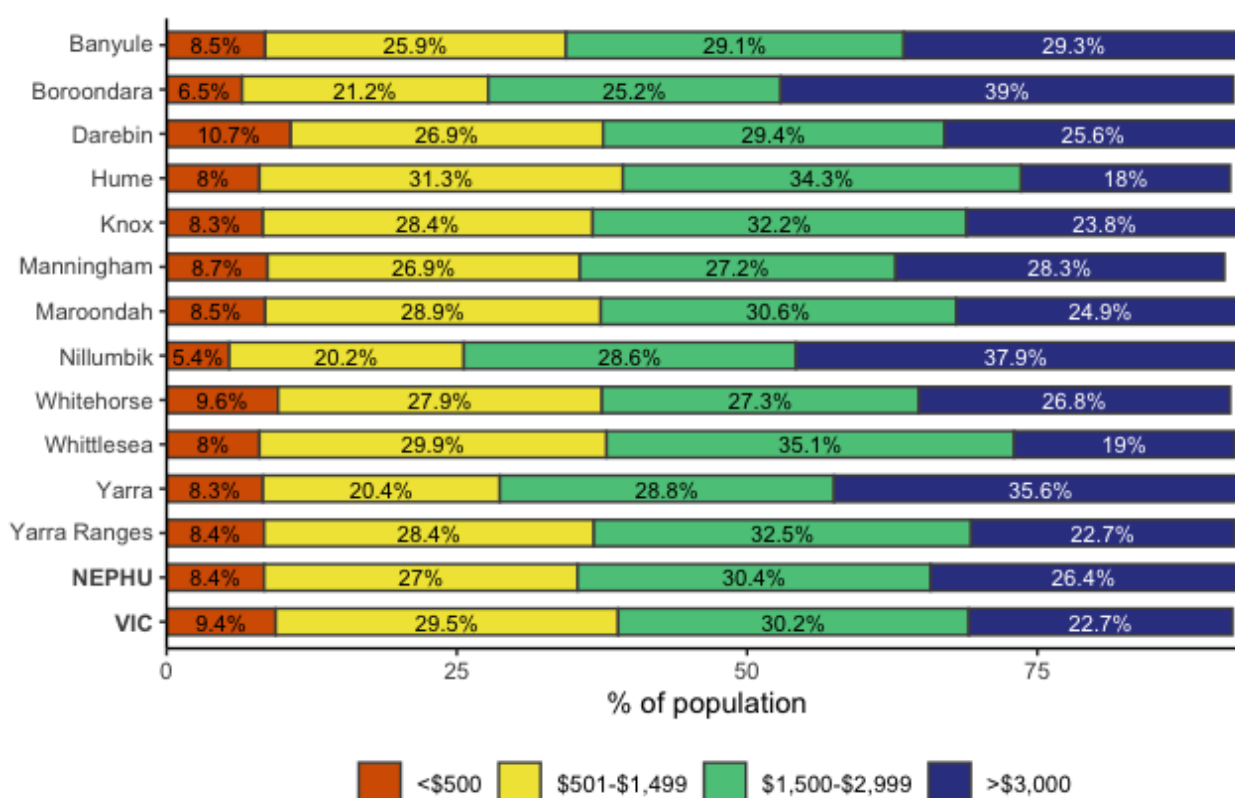
Weekly household income level data was obtained from the ABS Census 2021. Households include both family and non-family households. 'Median income' is the level of income which divides the units in a group into two equal parts, one half having incomes above the median and the other half having incomes below the median. Income can come from a range of sources, including employment, investments, businesses, government benefits and government allowances.

- *In 2021, the median weekly household incomes in all LGAs were above the Victorian median household income of \$1552/week, ranging from \$1703/week in Hume to \$2476/week in Nillumbik. (Figure 29).*
- *Median weekly household income across all LGAs in the NEPHU catchment were also above the Australian poverty line (2021 quarter 4, December), estimated as \$1143.80 per week in 2021. The poverty line estimates the disposable income required to support the basic needs of a family of two adults and two dependent children (39) (Figure 29).*
- *Figure 30 shows the breakdown by income bracket and reveals within-LGA variation, with approximately 35.8% of NEPHU households earning less than \$1500/week, including between 5.4% to 10.7% of households earning less than \$500/week.*
- *The LGAs of Whitehorse (9.6%) and Darebin (10.7%) had a greater proportion of households with incomes less than \$500/week compared to both NEPHU (8.4%) and Victorian (9.4%) levels. The National Minimum Wage, set by the Fair Work Commission in 2021, was \$772.60 per week calculated on the basis of a week of 38 ordinary hours, or \$20.33 per hour.*

Figure 29: Median weekly household income by LGA, 2021

Data source: [ABS Census 2021](#)

Data notes: Dashed black line represents Victorian median household income (\$1,552/week). The dashed red line represents the December 2021 Australian poverty line (\$1,143.80/week), calculated based on a family comprising of two adults, one of whom is working and two dependent children. Data table for this figure in **Appendix 2: Table A21**

Figure 30: Distribution of household weekly income levels by LGA, 2021

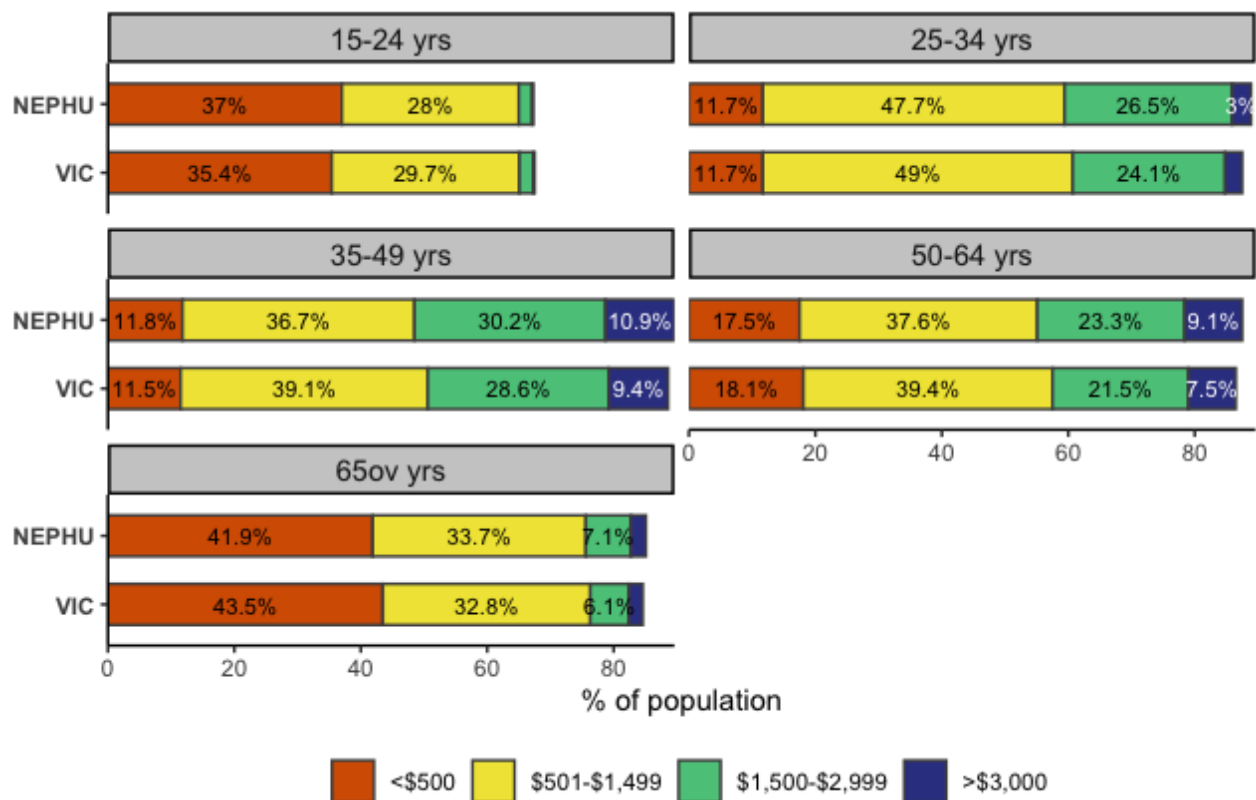
Data source [ABS Census 2021](#)

Data notes: Responses coded as 'unknown/not stated' have not been shown here and so totals do not equal 100%. Data table for this figure in **Appendix 2: Table A21**.

Income data were further disaggregated by age and sex to explore variation in personal income levels (**Figure 31** and **Figure 32**).

- There were higher proportions of young people (aged 15 – 24 years) and older people (aged 65 years and over) earning less than \$500/week, compared to other age groups (**Figure 31**).
- People in the 35 to 49 years age bracket had a higher proportion earning >\$1500/week.
- One in four females (25.9%) reported personal incomes of less than \$500/week compared to less than one in five (18.1%) males in NEPHU.
- The proportion of males earning >\$3000/week in NEPHU (8.6%) was over double that of females (3.3%) within this income bracket.

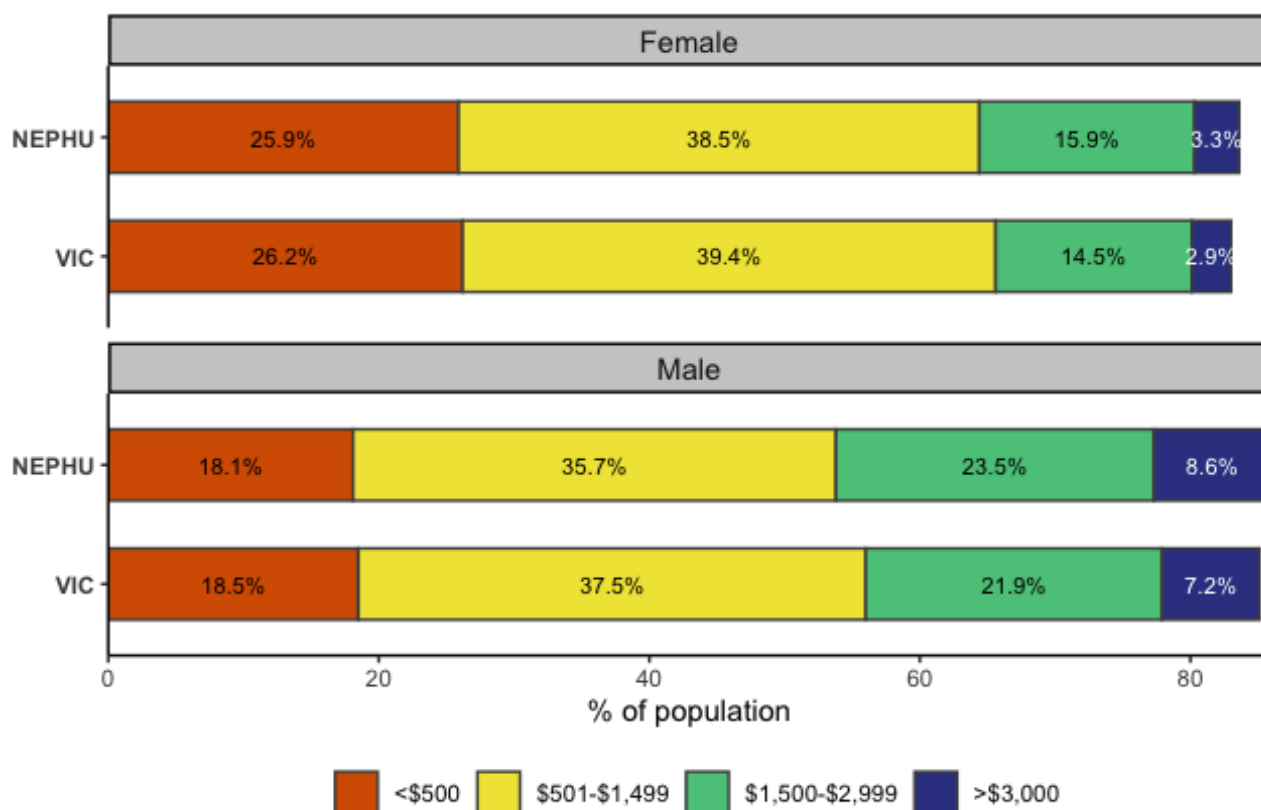
Figure 31: Proportion of personal weekly income levels in NEPHU and Victoria by age group, 2021



Data source: [ABS Census 2021](#)

Data notes: Responses coded as 'unknown/not stated' have not been shown here and so totals do not equal 100%. Data tables for this figure in **Appendix 2: Table A21 and Table A22**

Figure 32: Proportion of personal weekly income levels in NEPHU and Victoria by sex, 2021



Data source: [ABS Census 2021](#)

Data notes: Responses coded as 'unknown/not stated' have not been shown here and so totals do not equal 100% Data tables for this figure in **Appendix 2: Table A22 and Table A23**

6.6. Income Support Payments

The Australian Government provides a number of [income support payments](#) for eligible members of the population (**Figure 33**). Welfare spending is designed to improve the social and economic wellbeing of the population by providing a social security safety net. Measuring the uptake of income support payments in the population provides insights into the financial strain and expressed needs of the community. The perceived value of income support payments depends on numerous factors, including the payment amount relative to current costs of living, which has recently been under parliamentary review (40).

Data for this section were sourced from Department of Social Services (DSS) in 2021 and reports on people who received income assistance in the categories outlined below, expressed as percentage of the age-eligible population (**Table 12**). See data notes for age eligibility.

The Age Pension and Rent Assistance were the most common forms of income support accessed by the population. Across NEPHU, 51.8% of the age eligible population received the Age Pension, and 9.9% of households received Rent Assistance. These supports are means tested and the distribution correlates with areas with lower median incomes.

- *The Carer Payment was the least accessed form of income support, with 1.8% of the age-eligible population accessing this payment. The [AIHW Carer Payment topic summary](#) discusses the role of informal carers and unpaid care in society.*
- *The proportion of the population accessing the Sole Parent Pension was relatively low overall with the NEPHU average of 2.5% sitting below the Victorian average (3.5%). However, the proportion accessing the Sole Parent Pension was 7.5 times higher in Hume (4.5%) when compared to Boroondara, which had the lowest (0.6%).*
- *Disability supports, through either the National Disability Insurance Scheme (NDIS) and the Disability Support Pension (DSP), were accessed in proportions greater than NEPHU average in the LGAs of Banyule, Hume, Maroondah, Whittlesea and Yarra Ranges.*
- *Across NEPHU, the proportion of people accessing the Jobseeker payment (4.3%) was slightly below the proportion of people unemployed (5.0%) however the LGAs with higher-than-average proportions on Jobseeker (Darebin 5.4%, Hume 7.5%, Whittlesea 5.3%) correlated with higher reported unemployment (**Table 12**).*
- *The LGAs of Boroondara, Manningham, Nillumbik, and Whitehorse had lower proportions of their population accessing any form of income supports compared the rest of NEPHU or Victoria (**Table 12**, light blue).*
- *People living in the LGAs of Darebin, Hume, Maroondah, Whittlesea, and Yarra Ranges were accessing two or more income supports in higher proportions than the NEPHU or Victorian average (**Table 12**, dark blue).*

Figure 33: Description of selected income support payments (as per Services Australia 2021)

NATIONAL DISABILITY INSURANCE SCHEME (NDIS)
The NDIS provides funding for people aged 0-65 years with a disability to gain greater independence, access to skills and jobs and improved quality of life.
SOLE PARENT PENSION
The Sole Parent pension provides payment to single parents aged 15-54 years who meet eligibility criteria including being the main carer to at least one child under 8 years of age. (This payment is now called the 'Parenting Payment' and the age cut off increased to 14 years).
DISABILITY SUPPORT PENSION (DSP)
The DSP provides income support payment or people aged 16-64 years who are unable to work for 15 hours or more per week at or above the relevant minimum wage, independent of a Program of Support, due to a permanent physical, intellectual or psychiatric impairment.
CARER PAYMENT
The Carer Payment provides income support for full-time carers aged 16 years and over who meet eligibility criteria and, because of the demands of their caring role, are unable to support themselves through substantial paid employment.
JOBSEEKER PAYMENT
The JobSeeker payment is an unemployment benefit paid through the JobSeeker scheme for people aged 22-64 years who are looking for work.
AGE PENSION
The Age Pension is a support payment paid to people who have reached the qualifying age (65 years and above) with the amount paid subject to income and asset tests. (The eligible age is set at 67 in 2024).
RENT ASSISTANCE
Rent assistance provides a regular extra payment for people who are receiving other income support payments from the Commonwealth and pay more than a certain amount of rent per fortnight.

Figure 33 reference: [Department of Social Services](#)

Table 12: Proportion of age-eligible population receiving forms of income support by LGA, 2021

LGA / NEPHU / VIC	Proportion of age-eligible population (%)						
	NDIS payment ^a	Sole parent pension ^b	Disability support pension ^c	Carer payment ^d	JobSeeker payment ^e	Age pension ^f	Rent assistance ^g
Banyule	3.7	2.2	4.1	1.1	3.9	47.2	8.5
Boroondara	2.1	0.6	1.8	0.3	1.9	27.1	5.6
Darebin	3.4	1.9	4.7	1.4	5.4	60.6	11.4
Hume	4.5	4.5	5.4	5.2	7.5	67.3	17.6
Knox	3.4	2.7	4.0	1.2	3.7	57.2	9.1
Manningham	2.5	1.3	2.3	0.9	2.7	43.3	6.4
Maroondah	4.4	2.5	4.4	1.0	3.7	55.7	10.4
Nillumbik	3.2	1.6	2.1	0.6	2.3	40.1	4.3
Whitehorse	3.0	1.3	2.9	0.7	2.9	47.6	7.9
Whittlesea	3.7	4.0	4.5	2.7	5.3	67.5	13.9
Yarra	2.1	1.6	3.2	0.7	4.4	42.0	6.8
Yarra Ranges	3.9	3.2	4.3	1.1	3.8	57.3	8.5
NEPHU	3.4	2.5	3.9	1.8	4.3	51.8	9.9
VIC	3.6	3.5	4.5	1.8	4.9	55.3	12.0

Data source: [DSS](#), [NDIS](#)

Data notes: Age eligibility and payment name based on 2021 criteria.

Light blue: estimate is less than both NEPHU and VIC estimates;

Medium blue: estimate is greater than either NEPHU or VIC estimate;

Blue: estimate is greater than both NEPHU and VIC estimate

^aage-eligible population: 0 - 65 years

^bage-eligible population: 15 - 54 years. Payment name is now Parenting Payment. Only females receiving this payment have been included in this data because females comprise the majority of sole parent pensioners (and to include both females and males as the denominator population would distract from the figures for females receiving this payment).

^cage-eligible population: 16 - 64 years (Data includes recipients who are determined to be current (including those entitled to be paid or in receipt of zero rate of payment) or suspended from payment on the Centrelink payment system.

^dage-eligible population: 16 years and over

^eage-eligible population: 22 to 64 years

^fage-eligible population: 65 years and over (Note than age eligibility has changed in 2024 to 67 years).

^g data represent proportion of households. Households may be eligible for rent assistance if already receiving other income support payments from the Commonwealth and pay more than a certain amount of rent per fortnight.

6.7. Food Security

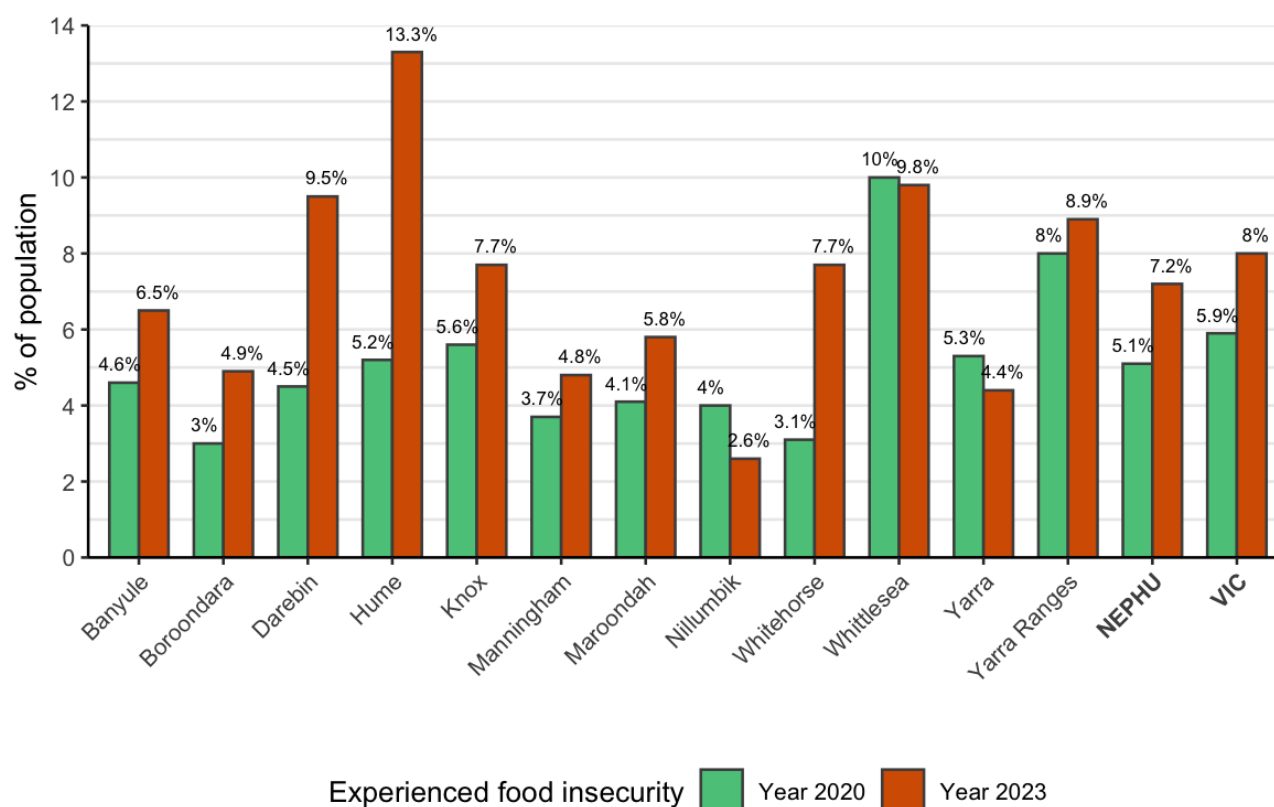
Food security is defined as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (41). To achieve a state of food security requires simultaneous food availability, food accessibility, food utilisation, stability, agency and sustainability (41). A deficit in any of these dimensions can result in food insecurity. Experiences of food insecurity can range in severity, from worrying that food will run out (marginally food insecure), to a reduction of the quality, variety and amount of food consumed (moderately food insecure), to regularly skipping meals or going without food at all (severe food insecurity) (42). Food insecurity may be transitory or chronic. Food insecurity has been noted to be increasing in Victoria (43).

Health impacts can be wide ranging and cumulative, impacting physical health and mental wellbeing from infancy through to old age (44). Effects are often gendered with women and children particularly vulnerable to food insecurity. Low income is the strongest and most consistent predictor of food insecurity, however higher income does not always equate to food security (45). High food costs, poor nutrition literacy, difficulty in accessing fresh and nutritious food, difficulty in accessing food preparation and storage infrastructure, or poor or insecure transport links may all play a role (42) (45). In high income countries with social safety nets like Australia, drivers of food insecurity are complex and require system-level solutions (see **Box 8**).

Data was sourced from VPHS 2023 with two indicators reported here. Respondents were categorised as ‘Food insecure’ if they answered ‘yes’ when asked if there were any times in the last 12 months where they ran out of food and could not afford to buy more. Food insecurity data was compared to responses in VPHS 2020 (see **Figure 34**). Respondents were categorised as ‘worry(ing) about food insecurity’ if they answered ‘Yes, definitely’ or ‘Yes, sometimes’ when asked if they had ever worried that they would run out of money to buy food in the last 12 months (see **Figure 35**). The available VPHS 2023 data could not be disaggregated by sex or age at the time of analysis to further explore these indicators.

- *In 2023, 7.2% of people across the NEPHU catchment experienced food insecurity, reporting they had run out of food and could not afford to buy more within the last 12 months (**Figure 34**).*
- *Food insecurity was unevenly experienced across the catchment in 2023, with the LGAs of Hume (13.3%), Whittlesea (9.8%), Darebin (9.5%) and Yarra Ranges (8.9%) experiencing food insecurity in higher proportions than the Victorian average (8.0%) (**Figure 34**).*
- *When comparing to 2020, the average proportion of people experiencing food insecurity increased from 5.1% in 2020 to 7.2% in 2023. The majority of LGAs within the NEPHU catchment reporting an increase in food insecurity except Nillumbik, Whittlesea and Yarra.*
- *In 2023, nearly one quarter (23.2%) of people in the NEPHU catchment were marginally food insecure, reporting they had worried about food insecurity to some degree (either definitely or sometimes) in the last 12 months. This is slightly lower than the Victorian average of 25.1% (**Figure 35**).*
- *The proportion of people who definitely worried about food insecurity was unevenly distributed across the catchment (range 4.4% to 15.9%) in 2023 (**Figure 35**). The LGAs with people definitely worrying about food insecurity in greater proportions than the Victorian average (9.7%) were Darebin (10.5%), Yarra Ranges (10.5%), Knox (10.6%), Whittlesea (11.2%) and Hume (15.9%).*

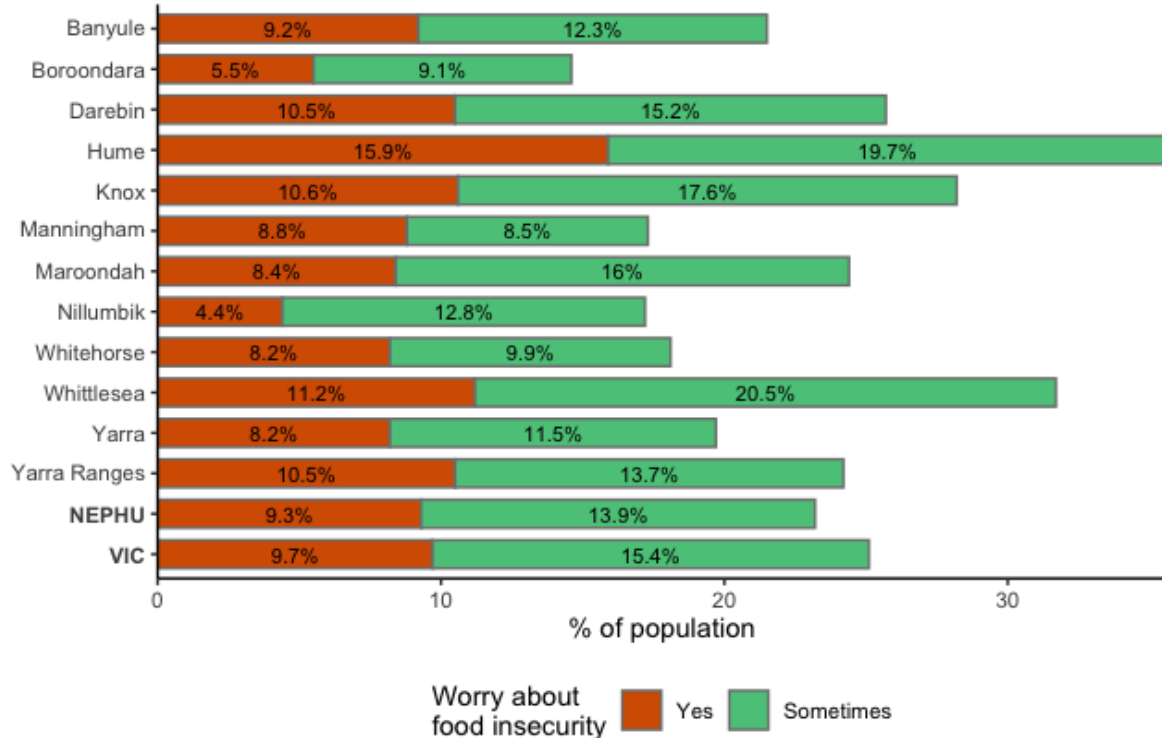
Figure 34: Proportion of population who experienced food insecurity by LGA, 2020 and 2023



Data source: [VPHS 2020 and 2023](#)

Data notes: Respondents were categorised as 'Food insecure' if they answered 'yes' when asked if there were any times in the last 12 months where they ran out of food and could not afford to buy more. Data table for this figure in **Appendix 2:Table A24**

Figure 35: Proportion of population who worry about food insecurity in the last 12 months by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: Respondents were asked if they had ever worried that they would run out of money to buy food in the last 12 months. Respondents who answered 'no or not often' to worrying about food insecurity have not been included here. Data table for this figure in **Appendix 2: Table A25**



VCOSS – Mapping Poverty in Victoria

The Victorian Council of Social Service (VCOSS) is the peak body for Victoria's social and community sector, and the state's premier social advocacy body. In 2023 they undertook an analysis to explore the *extent* and *characteristics* of poverty in Victoria.

They report that in total, more than 800,000 Victorians live in significant economic disadvantage, including 216,000 children.

That's 13.3% of all Victorians.

For data visualisation of economic disadvantage, see:

<https://vcoss.org.au/cost-of-living/2023/08/povertymaps/>

Box 8: VCOSS - Mapping Poverty in Victoria

7.Housing

Section Summary

How is housing status impacting the health of the NEPHU population?

Adequate housing is protective for physical and mental health. Evidence suggests that suitability, affordability and security of tenure are three elements of housing that have an impact on health (46). These elements can shape a person's identity, social supports, physical environments and living practices, as well as impact their sense of stability, safety, control and mastery over their lives.

Housing may be considered inadequate if it is: unsuitable (overcrowded and/or in poor condition and/or unsafe and/or poorly located); unaffordable (high rent or mortgage costs relative to income) or insecure (insecure tenure and subject to forced moves) (46). When housing is inadequate or precarious it is harmful to health. When numerous precarious elements are experienced simultaneously, the detrimental effect on health is greater. The degree of impact these housing aspects have on health may be further influenced by age, gender or culture, and personal circumstances such as having access to a car.

The majority of the NEPHU population (71%) owned their own homes (either outright or with a mortgage), except in Yarra and Darebin where renting occurred in higher proportions. Approximately 13% of households across NEPHU were spending more than 30% of their annual income on housing costs which may cause housing stress (**Section 7.2**).

The proportion of dwellings in NEPHU classified as 'overcrowded' were relatively low, with a concentration in Hume, Whittlesea and Darebin LGAs (**Section 7.3**). Long-term, involuntary overcrowding is recognised as detrimental to health, often related to reduced access to 'health hardware' such as washing facilities, clean linen, cooking facilities and personal space. However, there are limitations with the way overcrowding is currently measured, particularly as it relates to households with more intricate family relationships or multiple family groupings (see **Box 9**). Intergenerational households are common in many cultures and can have protective effects. Noting the high proportion of people born outside of Australia residing within Hume, Whittlesea and Darebin LGAs, further exploration of this measure in these populations is warranted.

The rates of people experiencing homelessness varied considerably across the NEPHU catchment, ranging from 14.4 per 10,000 people in Manningham and Nillumbik, to 72.5 per 10,000 people in Whitehorse (**Section 7.4**). Levels of social housing stock also varied across the catchment. There were high rates of people experiencing homelessness in Yarra (64.5/10,000) and Darebin (70.1/10,000) despite having the highest absolute number of social housing dwellings within the catchment.



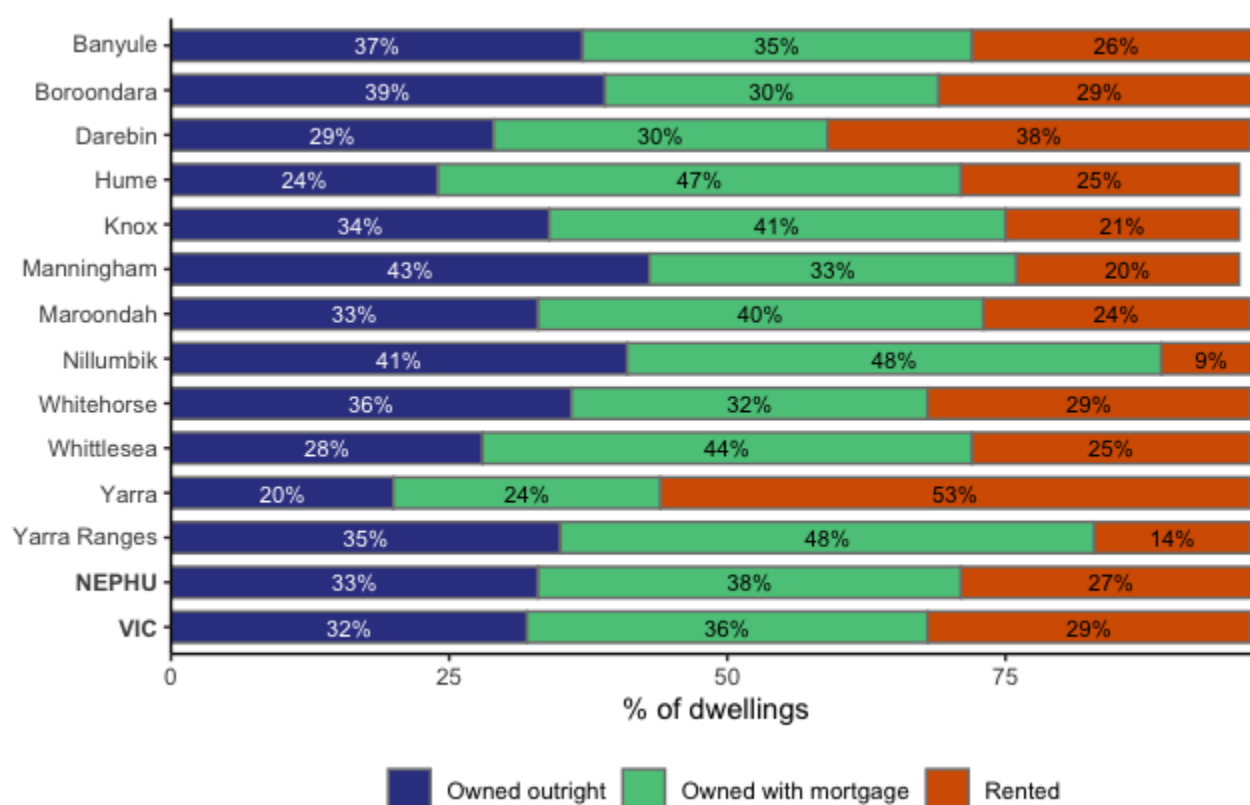
Housing

7.1. Home Ownership and Housing Tenure

Housing tenure refers to the legal and financial arrangements through which a person or household is entitled to occupy housing. Tenure is typically identified in three categories: home ownership, private rental and public rental (in social housing). Secure housing tenure improves peoples' sense of identity and stability (46). A wide range of research has found better health outcomes for homeowners compared to those of renters, particularly private renters, though the causal pathways of the impact of housing on health are still being elucidated (46,47). Insecure housing increases vulnerabilities to negative health impacts, with private rental being the most insecure tenure in the Australian context (46).

Data was sourced from the [ABS Census 2021](#) and measures the proportion of dwellings that are either owned outright, owned with a mortgage or rented.

- *In the NEPHU catchment, 33% of the population owned their home outright, whilst 38% owned their home with a mortgage and 27% were renting. These proportions were consistent with those of the Victorian population (**Figure 36**).*
- *Renting was less common in Yarra Ranges (14%) and Nillumbik (9%) LGAs compared to NEPHU or Victoria overall (**Figure 36**), which may reflect the older age profile and stable population size in these regions (see **Section 3.2**).*
- *In Yarra (53%) and Darebin (38%), higher proportions of the population were renting a home relative to NEPHU and Victoria overall, which may reflect the younger age profile of these populations (**Figure 36**).*

Figure 36: Housing tenure type (proportion of dwellings) by LGA, 2021

Data source: [ABS Census 2021](#)

Data notes: Data table for this figure in **Appendix 2: Table A26**.

7.2. Housing Affordability and Housing Stress

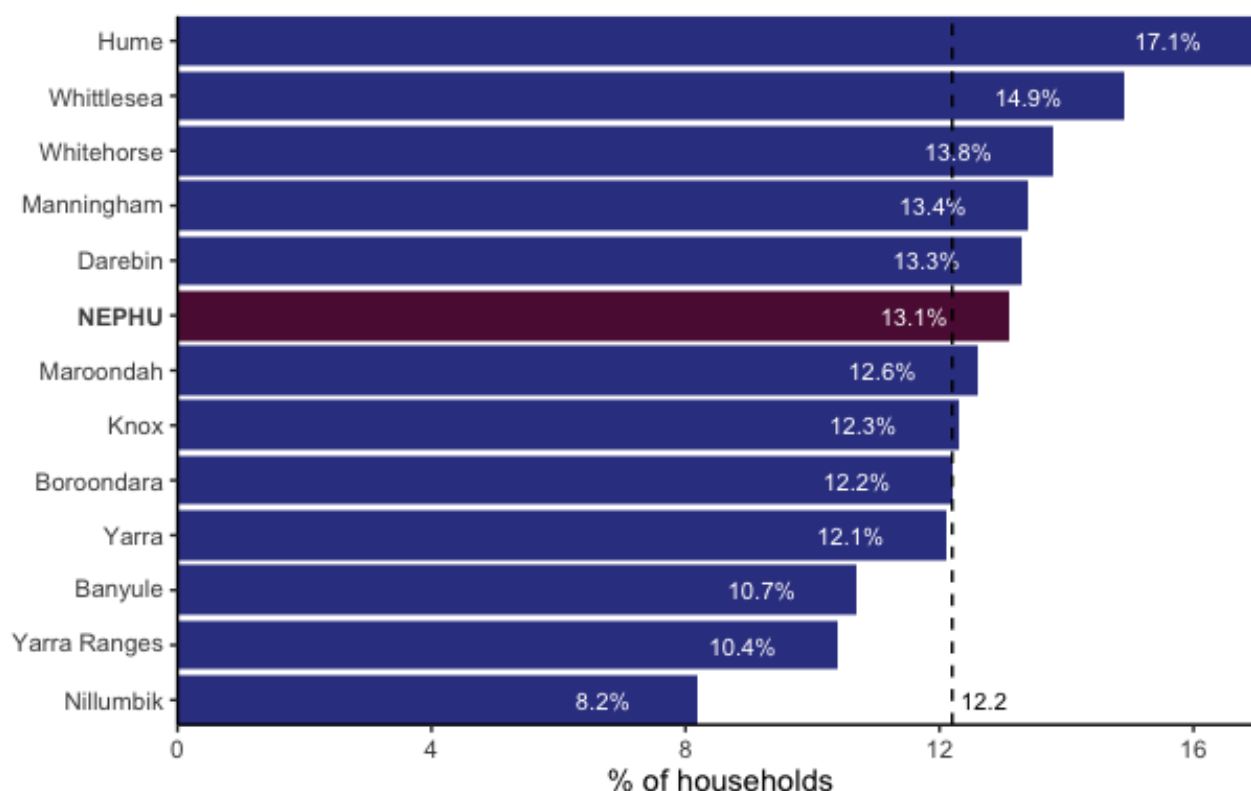
The ability to afford adequate housing provides people with a sense of control and mastery in their lives. When housing is unaffordable, individuals may have restricted choice about dwellings and location, and may experience a lack of privacy and perceived safety. Housing affordability may also affect other living practices or health-related behaviours such as the ability to buy food or seek healthcare. There is a causal relationship between losing the ability to pay for housing and a decline in mental health (46). Housing affordability stress has been associated with a negative impact on the nutritional status of children in low-income families (48).

Measuring [housing affordability](#) is not straightforward. One simple method is to compare housing costs to gross (pre-tax) household income. **Housing stress** is typically described as lower-income households that spend more than 30% of gross income on housing costs. This distinction acknowledges that high-income households may choose to spend more than 30% of their household income on housing without necessarily experiencing financial stress (22). However, in the current economic climate and where rising inflation has led to declines in the real value of wages, even households with incomes in the average range may experience housing stress.

Data was sourced from the ABS Census 2021 and measures the proportion of households whose housing costs (mortgages or rent) are greater than 30% of their annual household gross income. Depending on the income of these households, this may or may not equate to housing stress.

- *Approximately 13.1% of households across NEPHU spent more than 30% of their annual household gross income on housing costs (range 8.2% - 17.1%) (**Figure 37**).*
- *The LGAs of Darebin (13.3%), Manningham (13.4%), Whitehorse (13.8%), Whittlesea (14.9%) and Hume (17.1%) had higher proportions of households spending more than 30% of their annual incomes on housing costs compared the NEPHU average. These LGAs also have among the lowest median income households within the catchment (**Figure 29** and **Figure 37**).*

Figure 37: Proportion of households with housing costs (mortgage or rent) >30% of annual household income by LGA, 2021



Data source: [ABS Census 2021](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A27**

7.3. Crowded Dwellings and Household Occupancy

The Australian Government defines overcrowding as there being more than two persons per bedroom, in line with the [Canadian National Occupancy Standard](#) for housing appropriateness. It is recognised that culture strongly influences the relationship between space and health and that in some circumstances, high household occupancy may be protective for children against behavioural and emotional difficulties. However, long-term involuntary crowding can negatively impact short and long-term health outcomes. Children may experience increased spread of infectious diseases, emotional and behavioural dysregulation, anxiety, depression, stress, poor school performance and reduced growth. Adults are at an increased risk of heart disease and family conflict (23).

Overcrowding data is derived from responses in the ABS Census 2021 comparing the number of bedrooms in a dwelling with household size and demographics. Households that require at least one additional bedroom are considered to experience some degree of overcrowding. See **Box 9** for the limitations and opportunities of this method of measuring overcrowding.

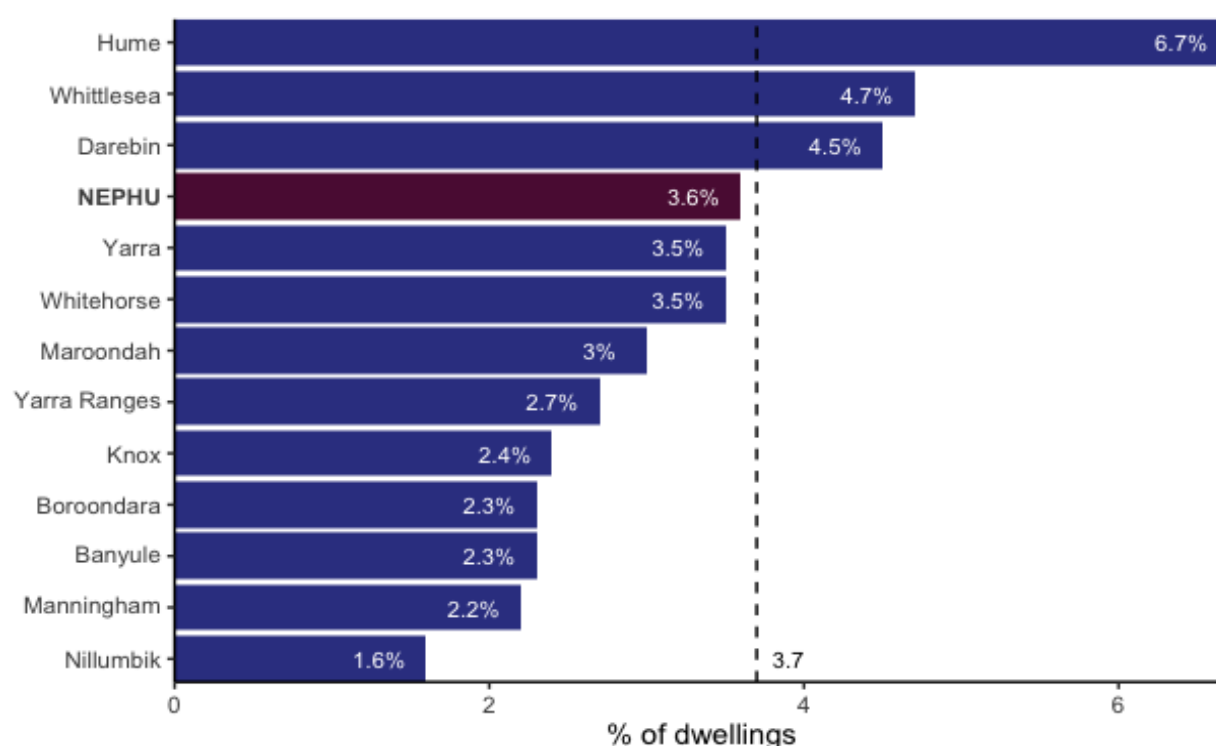
- *The proportion of dwellings classified as overcrowded within NEPHU LGAs was relatively low (range 1.6% to 6.7%), with the NEPHU average (3.6%) sitting just below the Victorian average (3.7%) (Figure 38).*
- *Three LGAs had a higher proportion of overcrowded dwellings than the NEPHU and Victorian averages. These LGAs include Hume (6.7%), Whittlesea (4.7%) and Darebin (4.5%) (Figure 38).*
- *Figure 39 depicts postcode level data, showing that high proportions of overcrowded dwellings are clustered around the borders of the above-mentioned LGAs. In these border areas, the proportion of overcrowded dwellings by postcode areas ranged from 7.4% to 13.7%.*



Data limitations and development opportunities for measuring overcrowding: AIHW

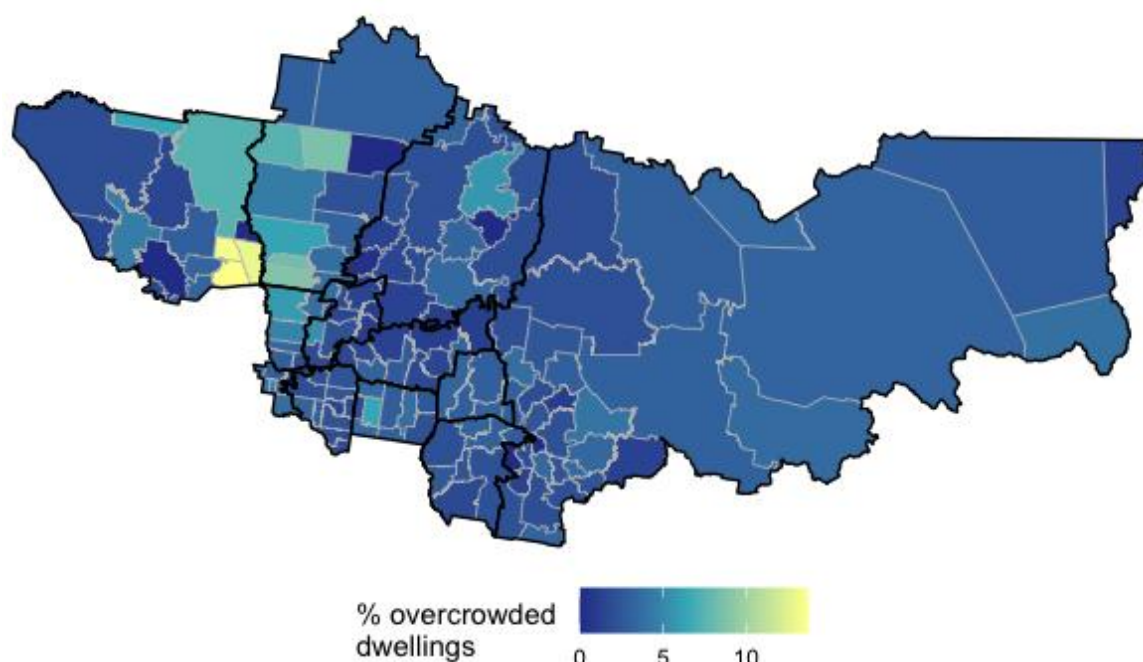
Limitations to the way family relationships are coded in the Census can result in the misclassification of relationships, especially for large households with intricate family relationships or multiple families. If relationships are incorrectly recorded, households including more than one couple may look like crowded group households as single adults require their own bedroom while couples can share a bedroom under the Canadian National Occupancy Standard. This may inflate the number of children recorded as living in overcrowded housing. The ABS has recently started exploring the definitions of family across its full suite of surveys and data sources (15).

Box 9: Data limitations of overcrowding

Figure 38: Proportion of overcrowded dwellings in NEPHU by LGA, 2021

Data source: [ABS census 2021](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A29**

Figure 39: Proportion of overcrowded dwellings in NEPHU by postcode area, 2021

Data source: [ABS census 2021](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A29**

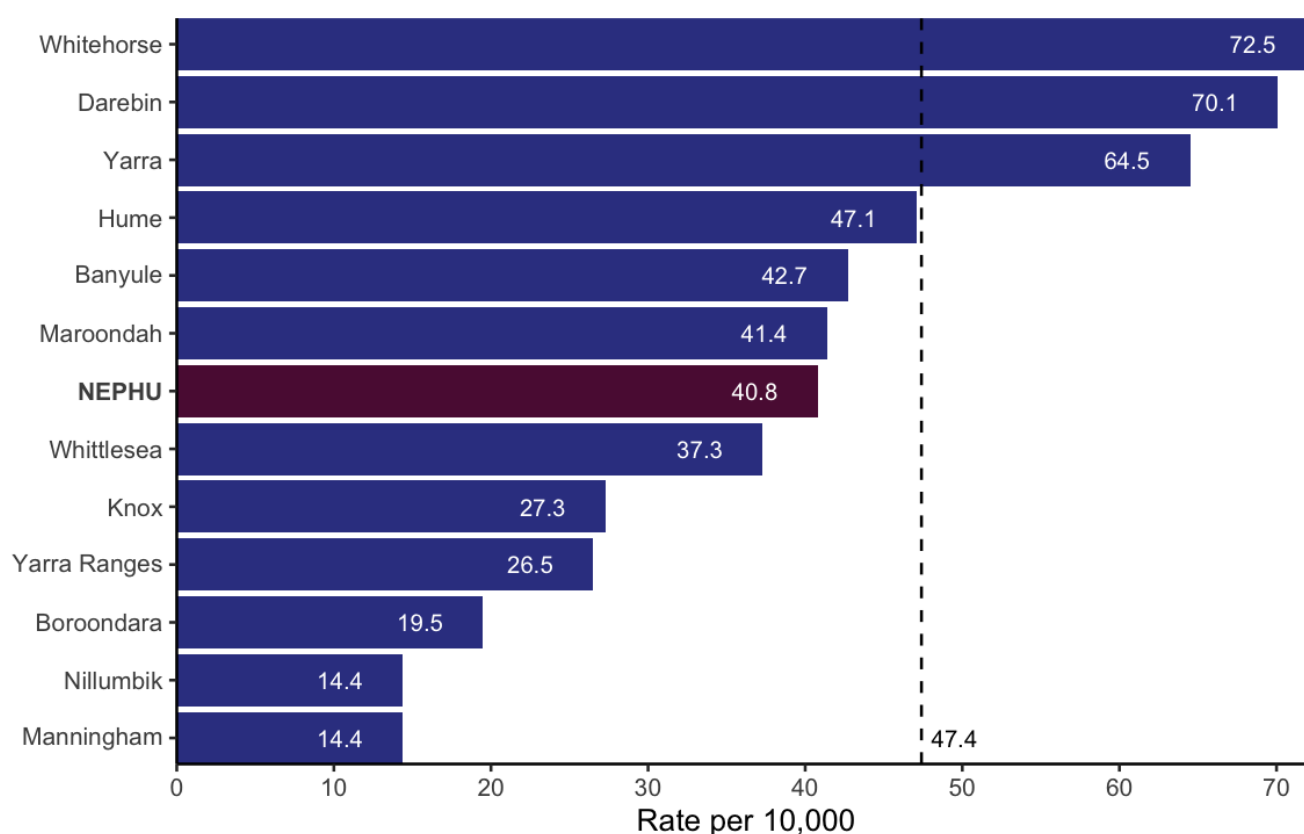
7.4. Homelessness and Social Housing

People experiencing homelessness, and those at risk of homelessness, are among Australia's most socially and economically disadvantaged. People experiencing homelessness may suffer adverse health outcomes because of homelessness, such as malnutrition, dental disease or exposure to violence. Homelessness also limits the ability to manage other existing health conditions and sustain wellbeing (50).

Social housing is short and long-term rental housing that is owned and run by the government (public housing) or not-for-profit agencies (community housing). Social housing is generally subsidised for people on low incomes who need housing, especially those who have experienced homelessness, family violence or have other special needs.

Data is sourced from the ABS Census 2021 and estimates the number of people experiencing homelessness on Census night (**Figure 40**), as well as the estimated social housing stock by LGA (**Table 13**).

- *The rate of people experiencing homelessness varied considerably across the NEPHU catchment, with an average of 40.8/10,000 people across the catchment.*
- *The highest rate of people experiencing homelessness was reported in Whitehorse (72.5 per 10,000) and was five times the rate reported in Manningham or Nillumbik (both 14.4 per 10,000) (**Figure 40**)*
- *Yarra (64.5/10,000), Darebin (70.1/10,000) and Whitehorse (72.5/10,000) had rates of homelessness above the Victorian average (47.4/10,000).*
- *The high rates of people experiencing homelessness in Yarra and Darebin occur despite these LGAs having the highest absolute number of social housing dwellings within the catchment (note this table does not reflect housing stock per capita). Whitehorse had the fifth highest number of social housing properties in the catchment (**Table 13**).*

Figure 40: Rate of homeless persons per 10,000 of the population by LGA, 2021

Data source: [ABS Census 2021](#)

Data notes: The ABS statistical definition of homelessness has six operational groups including people 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 other temporary lodgings; and people living in 'severely' crowded dwellings (operationalised as dwellings which require 4 or more extra bedrooms to accommodate the people who usually live there). Note that data may be affected by measures put in place in response to COVID-19 pandemic. Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A30**.

Table 13: Estimated number of social housing dwellings by LGA

LGA / NEPHU / VIC	State housing authority	Community housing provider	Total social housing
Banyule	1,444	331	1,775
Boroondara	414	203	617
Darebin	2,173	375	2,548
Hume	1,583	247	1,830
Knox	937	247	1,184
Manningham	165	89	254
Maroondah	802	264	1,066
Nillumbik	101	12	113
Whitehorse	1,074	349	1,423
Whittlesea	678	212	890
Yarra	3,074	428	3,502
Yarra Ranges	432	153	585
NEPHU	12,877	2,910	15,787
VIC	49,950	11,916	61,866

Data source: [ABS Census 2021](#)

Data notes: Data is sourced from ABS Census 2021 and estimates the number of dwellings provided by state government and community organisations.

8.Environmental Determinants of Health

Section Summary

What factors in our built and natural environments may impact our health?

The physical environments in which we are born, grow, live, work and play can influence our health and wellbeing. The natural environment comprises the atmosphere, land, water, oceans, and the diversity of living things. The built environment refers to the human-made surroundings where people live, work and recreate.

Regarding the built environment of NEPHU, data were sourced from the AUO across a range of factors found to be associated with health and wellbeing. Over 80% of dwellings in NEPHU were within 400 metres of open spaces and parks (see **Section 8.2**). Walkability was generally low, with 7 of 12 LGAs having negative ratings (see **Section 8.1**). Yarra had the highest LGA level index of 7.6, and resultant high rates of active travel, where people use walking or cycling as their means of transportation. The [Plan Melbourne 2017-2050 framework](#) recognises the importance of urban design in promoting active transport.

The Social Infrastructure Index reported on 16 types of social infrastructure (such as childcare, aged care, community centres, dentists, general practitioners, sporting facilities, pools, schools, cinemas, etc.) that people should be able to access within recommended distances in their area (see **Section 8.3**). Higher scores (able to access $\geq 8/16$ services) were seen in the

inner metropolitan regions. The overall Liveability Index combined six domains of liveability found to be associated with health and wellbeing outcomes: walkability; access to social infrastructure; public transport; larger public open space; affordable housing; and local employment. Areas that scored above average on the Liveability Index (i.e. above 100) generally correlated with areas that had high scores on the Social Infrastructure Index (see **Section 8.4**).

Regarding the alcohol and food environment in NEPHU, close proximity to a supermarket (< 1 km) was generally low across the catchment and 20% of dwellings in Nillumbik and Yarra Ranges had no food outlets within 3.2 kilometres (see **Section 8.5**). Proximity to supermarkets can improve access to nutritious, fresh produce to improve health, however commercial practices that promote unhealthy options may undermine these benefits. Average distances were generally equivalent to access a healthy food or fast-food outlet across the catchment (with the exception of Yarra Ranges). In all LGAs however, it was closer to access an off-licence alcohol outlet than a healthy food outlet (see **Section 8.6**).

When considering the natural environment and the impacts of climate change, there was a concentration of postcodes at high risk of adverse health outcomes from heat waves in the Darebin, Whittlesea and Hume LGAs, as well as Knox and Yarra

Ranges to the east (see **Section 8.8**). Reviewing carbon emissions across the catchment, the quantity of emissions typically increased with increasing population size (see **Section 8.5**). Gas and electricity were the highest relative proportion of emissions for all LGAs. Transport emissions were high in Hume predominantly due to the airport, and high in Nillumbik and Yarra Ranges, presumably owing to their large geographical footprints and increased dependence on road travel.



Environmental Determinants of Health

8.1. Walkability

Walkable neighbourhoods discourage driving and increase walking, cycling and active transport (whereby cycling and walking are used for transportation and not just recreation). Walkable neighbourhoods improve levels of physical activity, reduces chronic disease outcomes and have associated co-benefits for climate health. Research suggests that a 20-minute round trip (i.e. 800m each way) is the maximum time people are willing to walk to meet their daily needs (see **Box 10**).

Walkability is calculated as a composite index that includes access to daily living destinations (something to walk to), dwelling density (population needed to supply services and destinations) and street connectivity (a way to get there) within a reasonable walking distance of home (1600m).

Data was obtained from [Australian Urban Observatory \(AUO\)](#) and provides LGA level summary statistics (**Table 14**) as well as suburb level data, represented as a map in **Figure 41** (individual suburb score raw data is not shown here). A score of 0 is average, with negative values being less walkable, and positive values being more walkable.

- *Walkability was generally low across NEPHU (LGA index range -2.3 to 7.6).*
- *At the postcode level, there were only two LGAs in which all suburbs had a positive rating, these were Boroondara (suburb range 0.8 – 3.3) and Darebin (suburb range 0.5-4.6) (**Table 14** and **Figure 41**).*
- *Yarra had the highest overall walkability (7.6) and contained the highest individual suburb score of 11.7 (3065, Fitzroy). The range of suburb scores was -0.1 to 11.7, with Alphington having the only negative rating within the LGA of -0.1.*
- *Yarra Ranges and Nillumbik had the lowest scores on walkability, likely corresponding to their large geographical area.*



20 minute neighbourhoods: Plan Melbourne 2017 – 2050

Research shows that 20-minutes is the maximum time people are willing to walk to meet their daily needs locally (e.g. school, supermarkets, health service). This 20-minute journey represents an 800 metre walk from home to a destination and back again or a 10-minute walk to your destination and 10 minutes back home. The [Plan Melbourne 2017 – 2050](#) Strategy from the Department of Transport and Planning aims to embed an approach to 20 minute neighbourhoods in major infrastructure projects.

Box 10: 20-minute neighbourhoods. Plan Melbourne 2017-2050



8.2. Access to Parks and Open Spaces

Open spaces are important as they provide places for people to meet, socialise, play and connect. Public open space is defined as urban parks greater than or equal to 1.5 hectares, since larger parks have been shown to support increased physical activity. Access is measured as the percentage of dwellings within 400m, based on a walkable road network distance. The distance of 400m represents a 5-minute walk for most people. Data was obtained from AUO.

- *Access to parks and open spaces was high across the NEPHU catchment, with approximately 80% of dwellings located within 400m of access (average range 80.3% to 83.1%) (Table 14 and Figure 41).*

8.3. Social Infrastructure Index

Well-planned social infrastructure promotes community interaction and active travel and is associated with improved physical and mental health.

The Social Infrastructure Index from the AUO examines access to 16 types of social infrastructure at various recommended distances from dwellings. It includes access to childcare facilities, community centres, libraries, aged care facilities, pharmacies, family and community healthcare, dentists and general practitioners, sporting facilities, swimming pools, outside school hours childcare, primary and secondary schools, museums or galleries, cinemas and theatres. More details on this index and how it is calculated can be found [here](#).

The Social Infrastructure Index reports the number of social services people in that area are able to access as a score ranging from a minimum of 0/16 to a maximum of 16/16.

- *Social infrastructure scores varied widely across the catchment but were higher in inner metro regions with greater population densities (Table 14 and Figure 41).*
- *There was within-LGA variation with wide ranging scores across suburbs.*
- *There was between-LGA variation as well. LGAs such as Boroondara and Yarra scored 8 or higher out of 16 across all suburbs, while no suburbs in Nillumbik, Whittlesea or Yarra Ranges achieved a score of 8 or higher out of 16.*

8.4. Liveability

The Liveability Index was sourced from the AUO. This is a composite measure which comprises of: street connectivity; dwelling density; access to community, culture and leisure destinations; access to childcare services; access to public schools; access to health services; access to sport and recreation facilities; access to fresh food; access to convenience stores; access to regular public transport; access to large public open space; low housing affordability stress; and local employment opportunities. A score of 100 is the national average for this indicator. More details on this index and how it is calculated can be found [here](#).

- *Across all suburbs within the NEPHU catchment, liveability scores ranged from 87.0 to 107.5 (**Table 14** and **Figure 41**).*
- *All suburbs within the Boroondara, Darebin and Yarra LGAs scored above average (above 100) on the liveability indicator.*
- *In the LGAs of Manningham, Maroondah, Nillumbik and Yarra Ranges, no suburbs scored above 100 for liveability.*

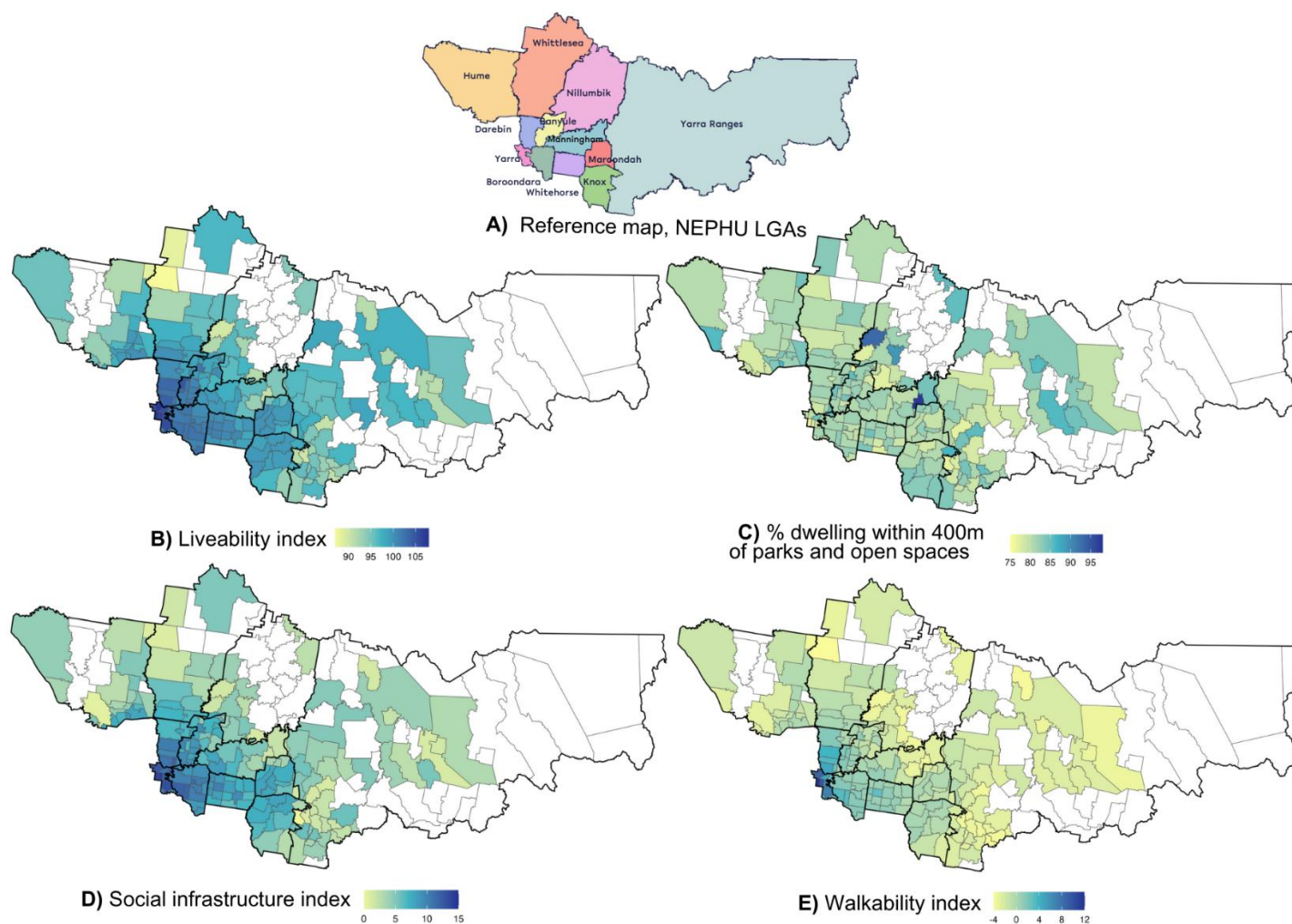
Table 14: Summary (LGA level) statistics for walkability, access to parks/open spaces, social infrastructure and liveability by LGA, 2021

LGA	Walkability index	% dwellings with 400m of park/open space	Social infrastructure index	Liveability index
Banyule	0.3	81.3	7.8	100.5
Boroondara	1.7	81.2	10.1	101.9
Darebin	2.8	80.9	9	101.9
Hume	-0.9	81.3	4.7	96.5
Knox	-0.5	81.7	6.3	98.6
Manningham	-0.2	81.1	6.6	98.3
Maroondah	-0.7	80.6	6.7	98.9
Nillumbik	-2.3	80.1	4.1	95.7
Whitehorse	0.9	81.3	7.9	100
Whittlesea	-0.9	80.7	4.8	97
Yarra	7.6	80	12.8	105.9
Yarra Ranges	-2	81	4.3	96.1

Data source: [AUO, 2021](#)

Data notes: Walkability index: average is 0. Social infrastructure index range 0 to 16. Liveability index, average is 100.

Figure 41: Map of walkability, access to open spaces, social infrastructure and liveability, by suburb, 2021

Data source: [AUO](#), 2021

8.5. Distance to a Supermarket or Food Outlet

Measuring distance to supermarkets is one measure of food access. Supermarkets are a common source of fresh healthy foods and several international studies suggest a lower BMI and/or lower likelihood of obesity is linked with the presence of supermarkets (51). It is recognised however that duopoly and lack of community grocers, alongside commercial practices that may promote unhealthy choices or make healthy choices unaffordable, may undermine these potential health benefits (52). A recent study into Australian supermarkets concluded that supermarkets can do more to support their customers in making healthier food choices and improve the health of the communities in which they operate (52).

Data was sourced from the AUO and the location of supermarkets and greengrocers was derived from the five major supermarket chain websites of Aldi, Coles, Foodworks, IGA and Woolworths.

- *On average, access to supermarkets within 1km from home was relatively low across the catchment. In 8 out of 12 LGAs, less than 50% of dwellings were within 1 km of a supermarket.*
- *There was variation across the catchment however, with 94.8% of dwellings in Yarra within 1km of a supermarket compared to just 25.1% of dwellings in Nillumbik or 26.0% in Yarra Ranges (**Table 15**).*
- *Approximately 5% and 7% of dwellings in Nillumbik and Yarra Ranges respectively had no food outlets within 3.2km.*

Table 15: Average proportion of dwellings within distance of food source by LGA, 2021

LGA	Average % dwellings without any food outlet within 3.2km	Average % dwellings within 1km of a supermarket
Banyule	0.0	51.1
Boroondara	0.0	65.3
Darebin	0.0	60.9
Hume	6.0	31.2
Knox	0.4	36.5
Manningham	1.8	37.5
Maroondah	0.4	37.6
Nillumbik	4.8	25.1
Whitehorse	0.0	43.5
Whittlesea	4.4	33.8
Yarra	0.0	94.8
Yarra Ranges	7.4	26.0

Data source: [AUO](#), 2021

8.6. Access to Take Away Food and Alcohol

In Australia, outlets that sell alcohol which can be purchased and taken away to consume elsewhere are known as off-licence retailers. Research suggests that high local alcohol outlet density may have a detrimental effect on self-rated health, particularly for those living in more disadvantaged neighbourhoods compared with those living in more advantaged areas(53).

Availability of fast-food outlets and convenience stores can result in poorer diet quality, such as low fruit and vegetable consumption and increased consumption of sugar sweetened beverages, saturated fat and salt. Evidence is mixed however regarding the density and proximity of fast-food outlets on behaviours and BMI, and likely reflects the complex interwoven drivers of obesity (51).

Data on access to alcohol and food was sourced from the [AUO](#).

- *In all LGAs, it was closer to access an off-licence alcohol outlet than a healthy food outlet (average of 0.9km versus 1.2km respectively) (**Table 16** and **Figure 42**).*
- *When averaging across all LGAs, it was closer access to a healthy food outlet (1.2km) than a fast-food outlet (1.8km). This difference became considerably smaller if Yarra Ranges was excluded as an outlier (with a distance of over 5km), after which the average distance to a fast-food outlet was 1.5km. Thus, fast-food was almost equally as accessible as healthy food for most populations.*
- *Average distances to any food outlets (health or fast-food) were further in the outer regions of the catchment with large geographical boundaries. For example, the LGAs of Hume, Whittlesea and Manningham averaged over 1.5km to any healthy or fast-food outlet and Yarra Ranges and Nillumbik averaged over 2km.*

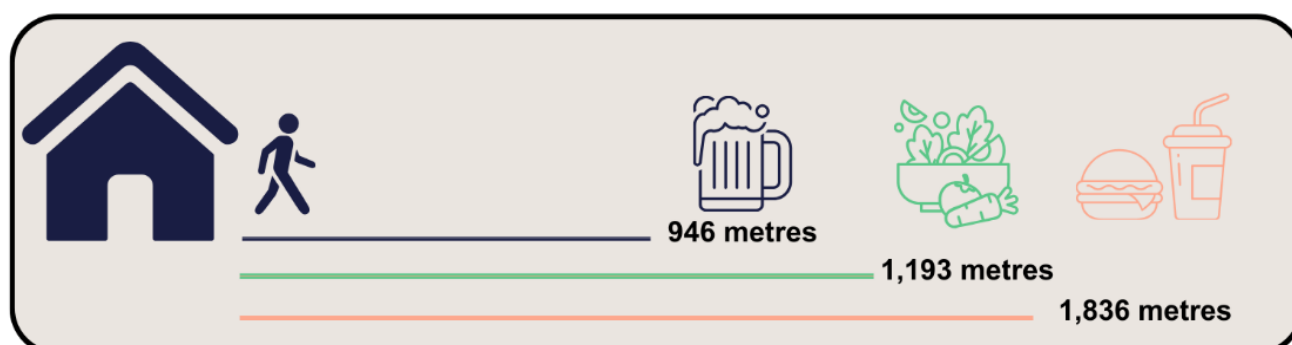
Table 16: Average distance to food and alcohol access by LGA, 2021

LGA	Average distance to closest healthy food outlet (m)	Average distance to closest fast-food outlet (m)	Average distance to closest off-licence outlet (m)
Banyule	1,072.4	1,288.9	865.6
Boroondara	834.1	1,235.3	574.4
Darebin	879.6	1,187.9	568.3
Hume	1,579.6	1,661.2	1,492.2
Knox	1,234.1	1,665.3	1,074.6
Manningham	1,274.6	1,686.7	977.1
Maroondah	1,214.6	1,394.1	1,032.3
Nillumbik	1,579.0	2,694.2	1,243.1
Whitehorse	1,046.3	1,105.9	747.3
Whittlesea	1,429.6	1,589.2	1,201.7
Yarra	498.8	808.2	246.8
Yarra Ranges	1,667.3	5,713.8	1,326.7
Average	1,192.5	1,835.9	945.8

Data source: [AUO](#), 2021

Data notes: The location of fast-food outlets was derived from the websites of fast food outlets with over 100 stores nationally and includes McDonalds, Dominoes, KFC, Hungry Jacks, Red Rooster, Subway, Nando's, Pizza Hut, Zambrero, Oporto, Grill'd and Guzman Y Gomez. The location of supermarkets and greengrocers was derived from the five major supermarket chain websites of Aldi, Coles, Foodworks, IGA and Woolworths.

Figure 42: Average distance (metres) to alcohol, healthy food and fast-food outlets in NEPHU, 2021



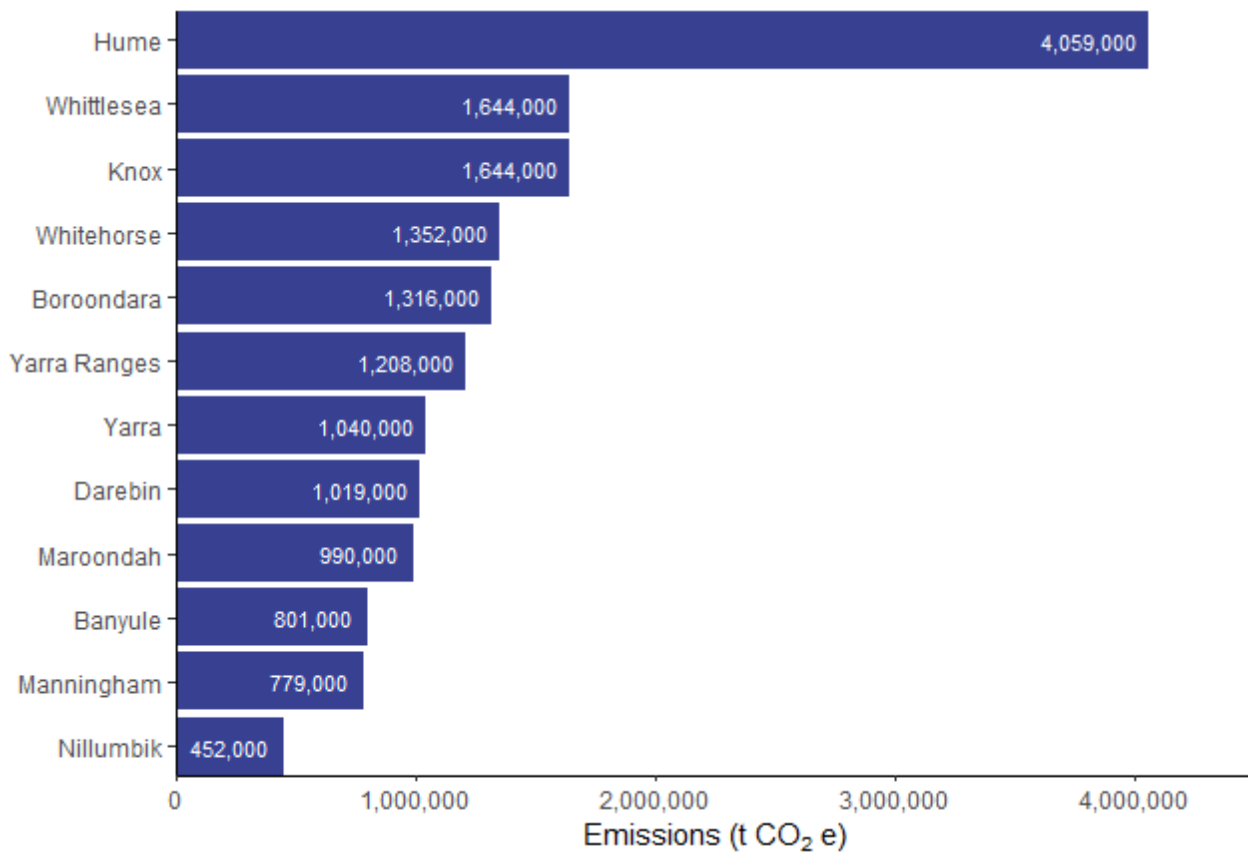
Data source: [AUO](#), 2021

8.7. Emissions

The climate is changing due to greenhouse gas emissions, which are causing a rise in average global temperatures and disruption of ecosystems. Climate is a key determinant of health that affects other determinants and health equity. The [Victorian Climate Change Strategy](#) outlines mitigation plans to reach net zero emissions by 2050 and adaptation plans to build resilience in communities against direct and indirect health impacts of climate change. Many of Victoria's local governments have submitted [council emissions reduction pledges](#).

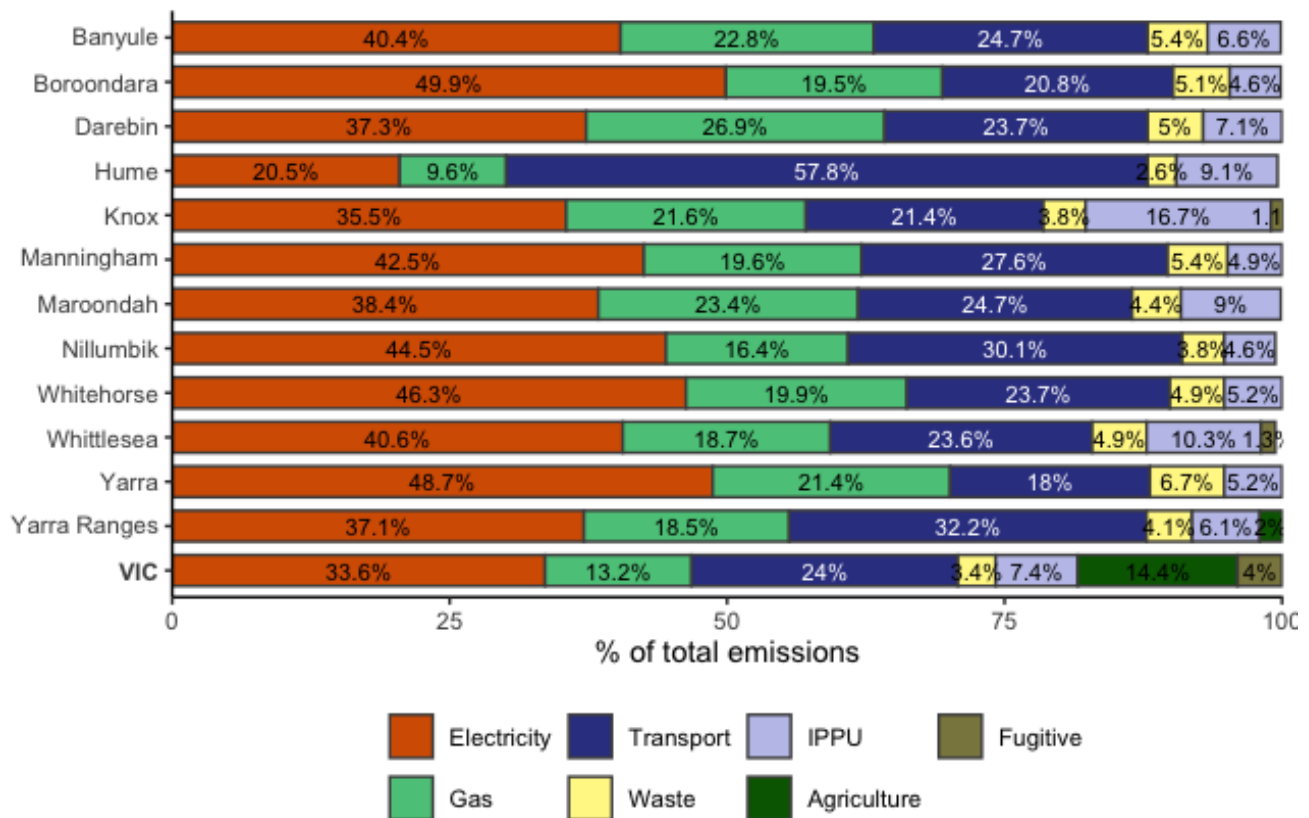
Data was sourced from [Snapshot Climate](#) and records the total emissions in carbon dioxide equivalent (t CO₂e) and proportion by emissions sector for each LGA.

- Quantities of carbon emissions per LGA (**Figure 43**) broadly mirrored population size (see **Figure 4**, Section 2) except for Hume where there was a disproportionately high volume of total emissions, contributed by transport emissions from the Airport.
- Electricity use contributed the largest proportion to total emissions for all LGAs (**Figure 44**).
- Most LGAs had relatively equivalent proportions of gas and transport emissions except for Hume (gas 9.6%, transport 57%) Nillumbik (gas 16.4%, transport 30.1%) and Yarra Ranges (gas 18.5%, transport 32.2%), where transport was almost double gas. In Nillumbik and Yarra Ranges this may correlate with their large geographical footprint and an increased dependence on road travel, or reduced residential access to gas services. Conversely, Yarra had the lowest transport related emissions (18%), correlating with higher levels of active transport and walkability.
- Knox had a relatively higher proportion of Industrial process and product use (IPPU) (16.7%), attributed to industrial processes in the region(54).

Figure 43: Total emissions by LGA from 2022-2023

Data source: [Snapshot climate](#)

Data notes: (t CO₂e) is the universal unit of measurement for greenhouse gas emissions, as it considers the global warming potential of each greenhouse gas expressed in terms of one unit of carbon dioxide. It is used to evaluate the climate impact of releasing (or avoiding releasing) different greenhouse gases with a common basis. Due to the approximate nature of the profile, the emission values are represented as rounded numbers. Data table for this figure in **Appendix 2: Table A32**

Figure 44: Total emissions by sector by LGA, 2022-2023

Data source: [Snapshot climate](#)

Data notes: for explanations of categories, see [Snapshot climate FAQs](#)

IPPU represents *industrial processes and product use* sector which covers greenhouse gas emissions resulting from various industrial activities which are not directly the result of energy consumed during the process.

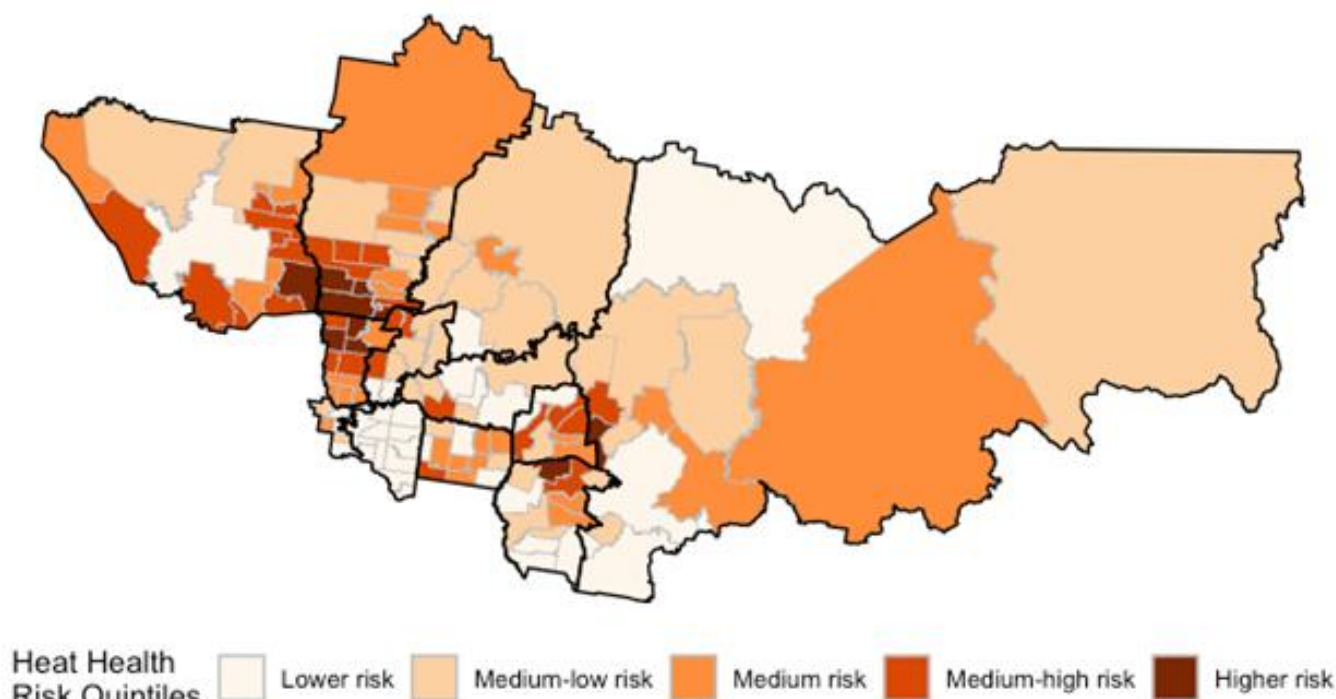
Fugitive emissions are the gases unintentionally released during the extraction, processing, storage, transport, and discharge of fossil fuels. Data table for this figure in **Appendix 2: Table A32**

8.8. Heat Health Risk Index

Extreme heat kills more Australians than any other natural hazard combined (55). Summer preparedness and heat health campaigns can be an important risk mitigation strategy for at risk communities. The Heat Health Risk Index (HHRI) is a composite measure developed by the ABS that indicates areas that have an increased risk to human health from heatwaves, based on heat exposure, social vulnerability and adaptability capacity. The data was obtained from ABS and more information can be found [here](#).

- There were pockets of increased risk in the inner west of the catchment, with 57% of the population of Darebin residing in areas with greater than medium risk (**Figure 45**).
- There were also pockets of increased risk within the east, with 43% of the population in Maroondah living in areas with greater than medium risk.

Figure 45: Distribution of heat health relative index by Statistical Area 2 (SA2)



Data source: ABS – HHRI information can be found [here](#)

Data notes: The Heat Health Risk Index combines heat exposure index, social vulnerability index (including social economic status, household composition, language and culture, housing condition and chronic disease health status) and adaptability capacity index (including cool place accessibility, social connectivity and health care accessibility). The index ranges from 0.0 to 1.0 where a higher value indicates that an area is relatively more at risk from heatwaves compared to an area with a lower value. Data table for this figure in **Appendix 2: Table A33**

9. Social Capital and Safety

Data in this section may relate to sensitive topics. If you are experiencing distress or require support, please [CLICK HERE](#) for a list of support services available.

Section Summary

Does our population feel connected and safe in their community?

'Social capital' is an evolving concept and broadly relates to our social relationships and the benefits derived from them (56). Social capital can be considered at the group or individual level. For example, social networks, together with shared norms, values and understandings, can facilitate cooperation between groups for mutual benefit. Individuals may be able to draw upon resources from groups or networks to find work and cope with economic or material hardship or obtain social support. As such, social capital is recognised as a determinant of health with evidence of causal links between social capital and physical and mental health, including increased survival (57).

As discussed in the VPHS 2019 (57), there are many measures of social capital but no universal consensus on what constitutes an indicator of social capital or the taxonomy under which measures of social capital are classified. This report includes a range of indicators collected by the VPHS in the year 2020 under their 'social capital' domain, including trust in people, feeling valued by society, tolerance of diversity, having someone to talk to regularly and group membership. Other VPHS indicators from 2023, including experiences of discrimination, racism and loneliness are also examined. In addition, this section describes elements of safety including bullying, crime and family violence, which may all impact on peoples' ability to

connect with and draw from their social networks.

The majority of people within the NEPHU catchment (69.6%) agreed that multiculturalism made life better in their area, with a lower proportion feeling valued by society (48.3%) or agreeing that people could be trusted all the time (37.8%) (see **Section 9.1**). The proportion of people experiencing discrimination (15.7%) or racism (6.8%) in the last 12 months was consistent across all LGAs. Although almost everyone (95.4%) reported they regularly spoke with close friends or family, loneliness was common across the catchment with one in five people (22.2%) reporting high loneliness scores (see **Section 9.3**). Just over half (57.6%) of the adult population reported belonging to a community or action group. There were greater proportions of people experiencing loneliness in the areas with lower reported group membership (see **Section 9.3**).

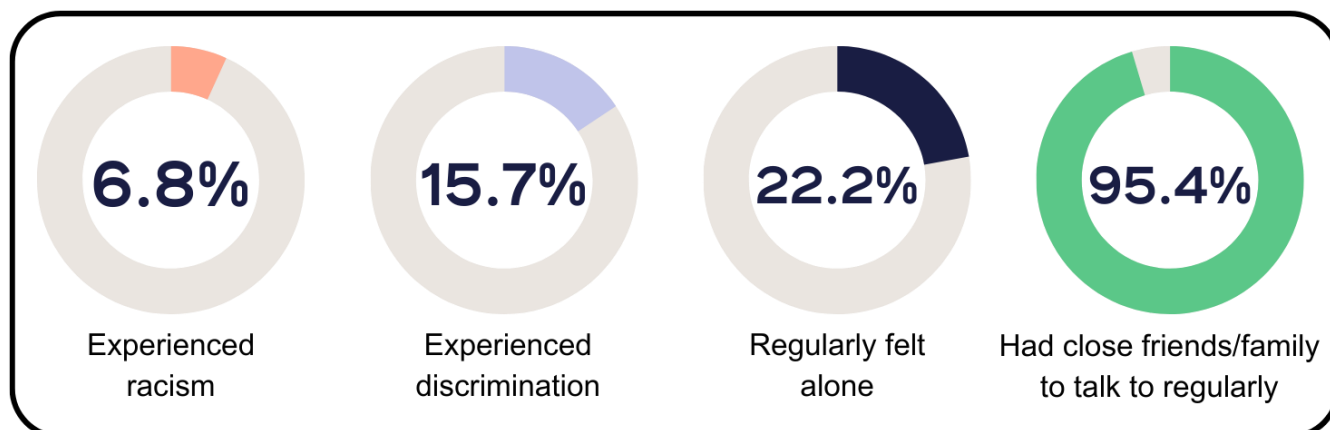
Across the NEPHU catchment, one in six (16%) children in Years 4 to 9 reported experiencing bullying at school (see **Section 9.4**). Rates of crime in the NEPHU catchment were also lower (4,775.6/100,000) than the Victorian average (5,915/100,000) (see **Section 9.5**). Rates of crime were higher in Yarra (10,405.9/100,000) however, and a summary of the types of incidents can be found on the Crime Statistics website.



Average rates of family violence incidents across NEPHU (1084.2/100,000) were below the Victorian average (1378/100,000) (see **Section 9.6**).

Preventing all forms of violence is identified as a priority within the Victorian Public Health and Wellbeing Plan 2023-2027.

Figure 46: Social capital indicator summary for NEPHU, 2023



Data source: [VPHS, 2023](#)



Social Capital and Safety

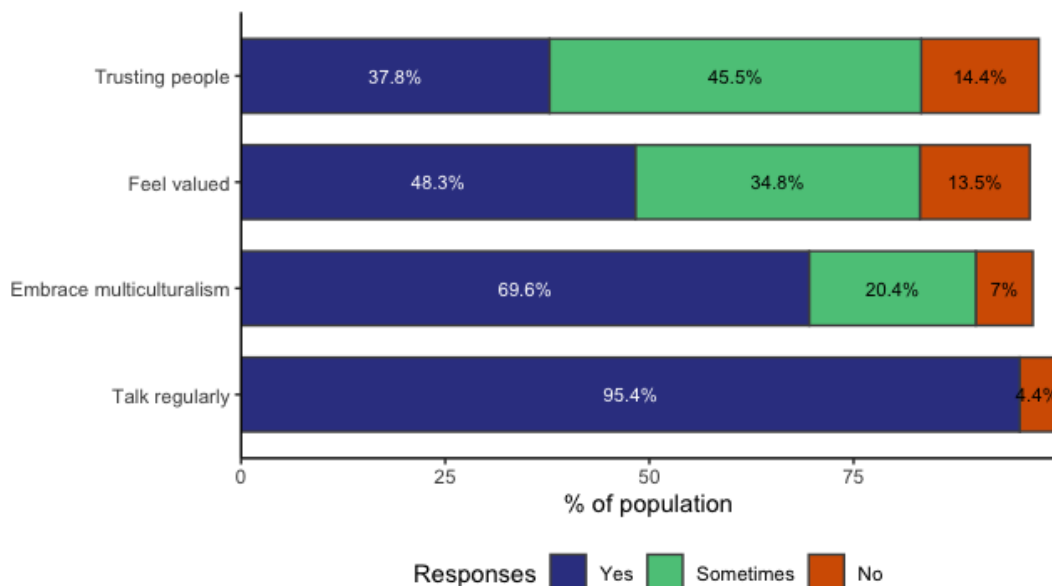
9.1. Civic Trust, Feeling Valued and Multiculturalism

As discussed in this **Section Summary**, the level of generalised trust in communities is a proxy indicator for social capital (25).

Data for **Sections 9.1, 9.2** were sourced from the VPHS 2020 and 2023 surveys (VPHS 2022 was not used as it did not provide LGA level data). Across the NEPHU catchment, responses to social capital indicators were fairly consistent across all LGAs and so are presented over the following section as summary statistics, however LGA level proportions can be found in **Appendix 2: Table A34 to Table A39**.

- A majority of people within the NEPHU catchment (69.6%) agreed that multiculturalism made life better in their area (**Figure 47**).
- People were less certain about feeling valued by society or trusting people, with just under half the catchment (48.3%) agreeing they feel valued by society and approximately one third (37.8%) feeling that people can be trusted all the time (**Figure 47**).
- The vast majority of people reported they had close friends or family spoke to regularly (95.4%) (**Figure 47**).

Figure 47: Proportion of NEPHU population and response to social capital indicator questions (trust, feeling valued, multi-culturalism, talk regularly), 2020.



Data source: [VPHS 2020](#)

Data notes: Questions used in the VPHS survey 2020 for each domain include:

Trusting people: Do you think that most people can be trusted?

Feel valued: Do you feel valued by society?

Embrace multiculturalism: Do you think that multiculturalism makes life in your area better?

Talk regularly: Do you have close family or friend to talk to regularly?

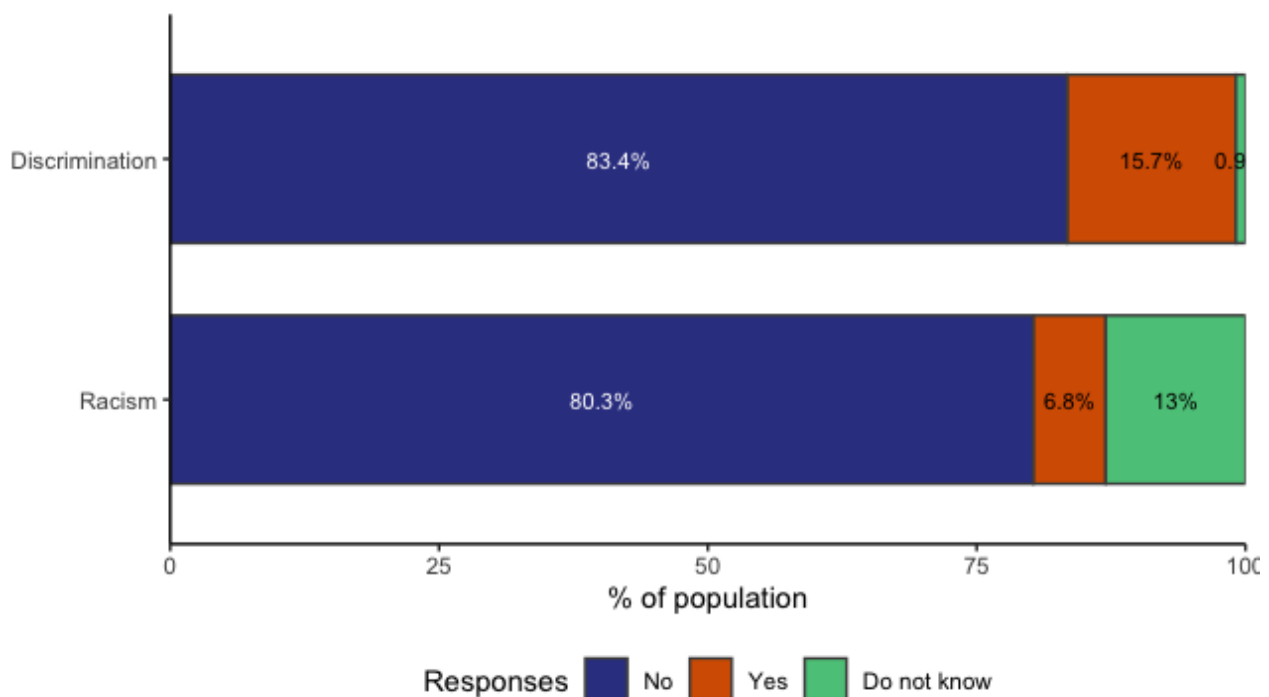
Data tables for this figure in **Appendix 2: Table A34, Table A35, Table A36, Table A37**

9.2. Experiences of Discrimination and Racism

Experiences of discrimination or racism can be a marker of intolerance within societies. Data were sourced from the VPHS 2023 survey.

- The proportion of people within the NEPHU catchment reporting experiences of discrimination (15.7%) or racism (6.8%) in the last 12 months was consistent across all LGAs (**Figure 48**).
- While this may be an underestimate due to limitations of self-report, it corresponds with the relatively high proportion of people who embrace multiculturalism and tolerate diversity, as seen in **Figure 47**.

Figure 48: Proportion of NEPHU population and response to social capital indicator questions regarding the last 12 months (racism, discrimination), 2023.



Data source: [VPHS 2023](#)

Data notes: Questions used in the VPHS survey for each domain include:

Discrimination: In the past 12 months, do you feel that you have experienced discrimination or have been treated unfairly by others?

Racism: In the past 12 months do you feel that you have experienced discrimination that was due to your Aboriginal status, skin colour, nationality, race, and/or ethnic group?

Data tables for this figure in **Appendix 2: Table A38 and Table A39**

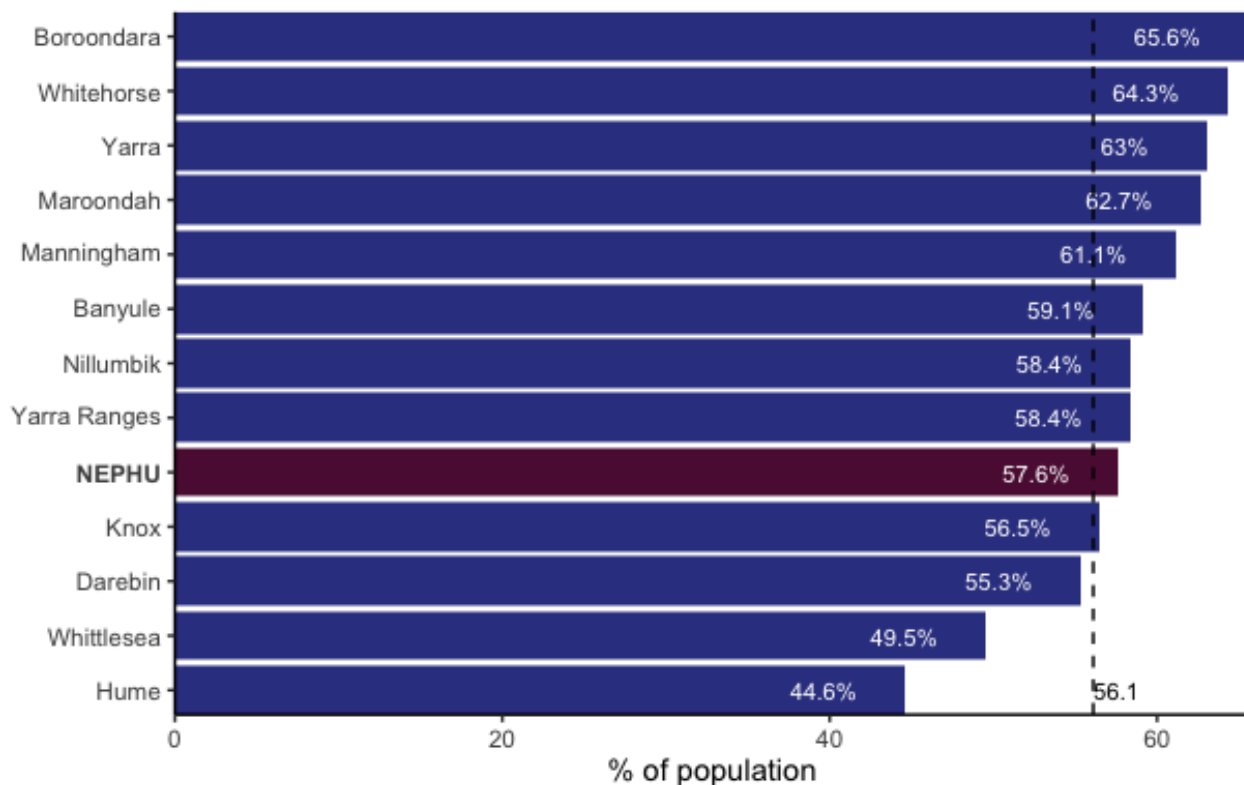
9.3. Group Membership and Loneliness

Throughout life, the number and strength of relationships can affect mental and physical health. Strong social connection has been shown to lower rates of anxiety and depression, and strengthen the immune system and recovery from disease, among many other societal benefits (26). Conversely, loneliness has been linked to premature death, poor physical and mental health, greater psychological distress and general dissatisfaction with life.

Data was obtained from the VPHS 2017 and 2020 and measures the proportion of the population aged 18 and above who report that they belonged to a community or action group or reported high scores (score 6- 9) on the UCLA Loneliness Scale.

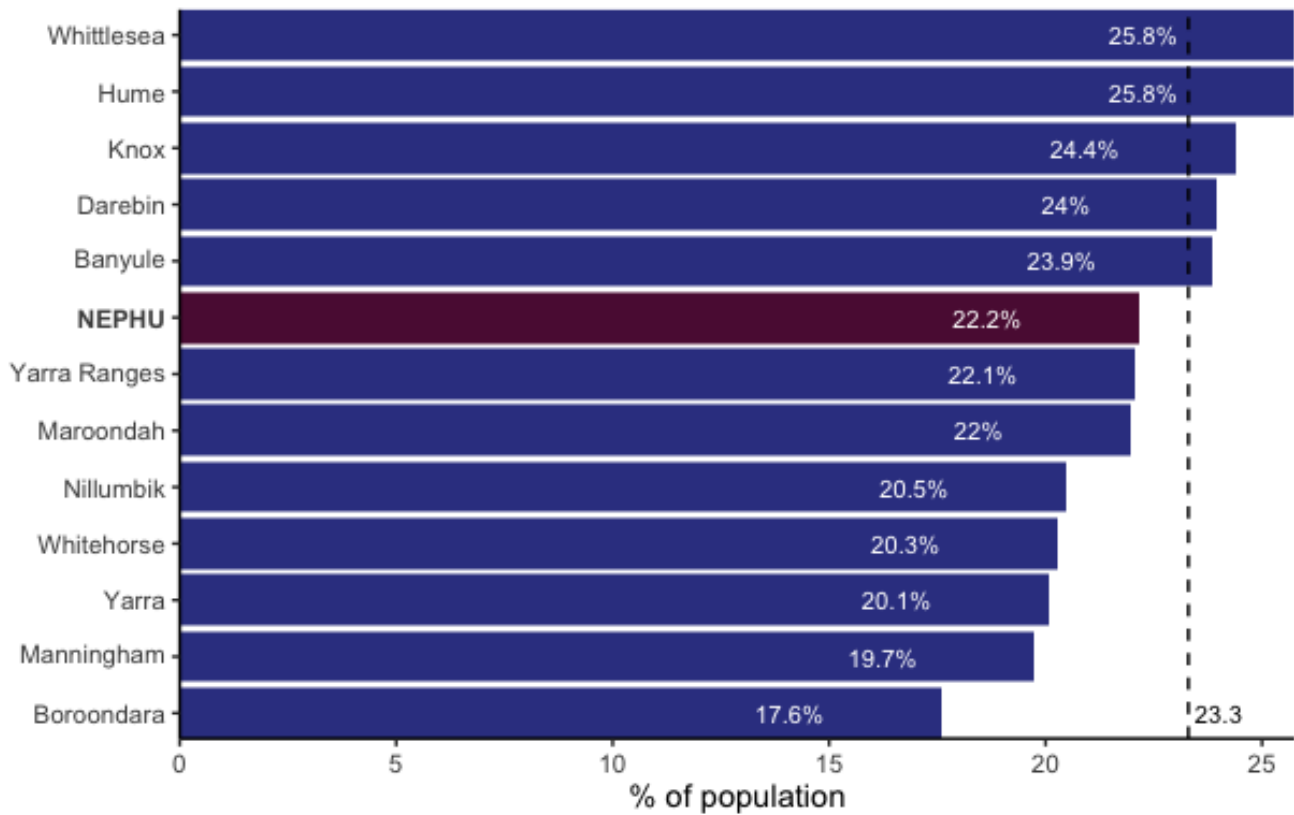
- Over 1 in 5 (22.2%) people across NEPHU had high loneliness scores (**Figure 50**), although most people (95.4%) reported they had close friends and family they talked to regularly (**Figure 47**).
- Group membership varied across the catchment (**Figure 49**), however the LGAs with the lowest group membership (Knox, Darebin, Whittlesea and Hume) were also the populations with the largest proportion of people experiencing loneliness (**Figure 50**).

Figure 49: Proportion of population aged 18 and over belonging to a community or action group by LGA, 2017



Data source: [VPHS 2017](#)

Data notes: Community or action groups included sports groups, religious groups, school groups, professional groups or other groups. Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A40**

Figure 50: Proportion of the NEPHU population who experience loneliness by LGA

Data source: [VPHS 2023](#)

Data notes: Scores of 6-9 on the 3-item UCLA Loneliness Scale indicated experiencing loneliness. Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A41**

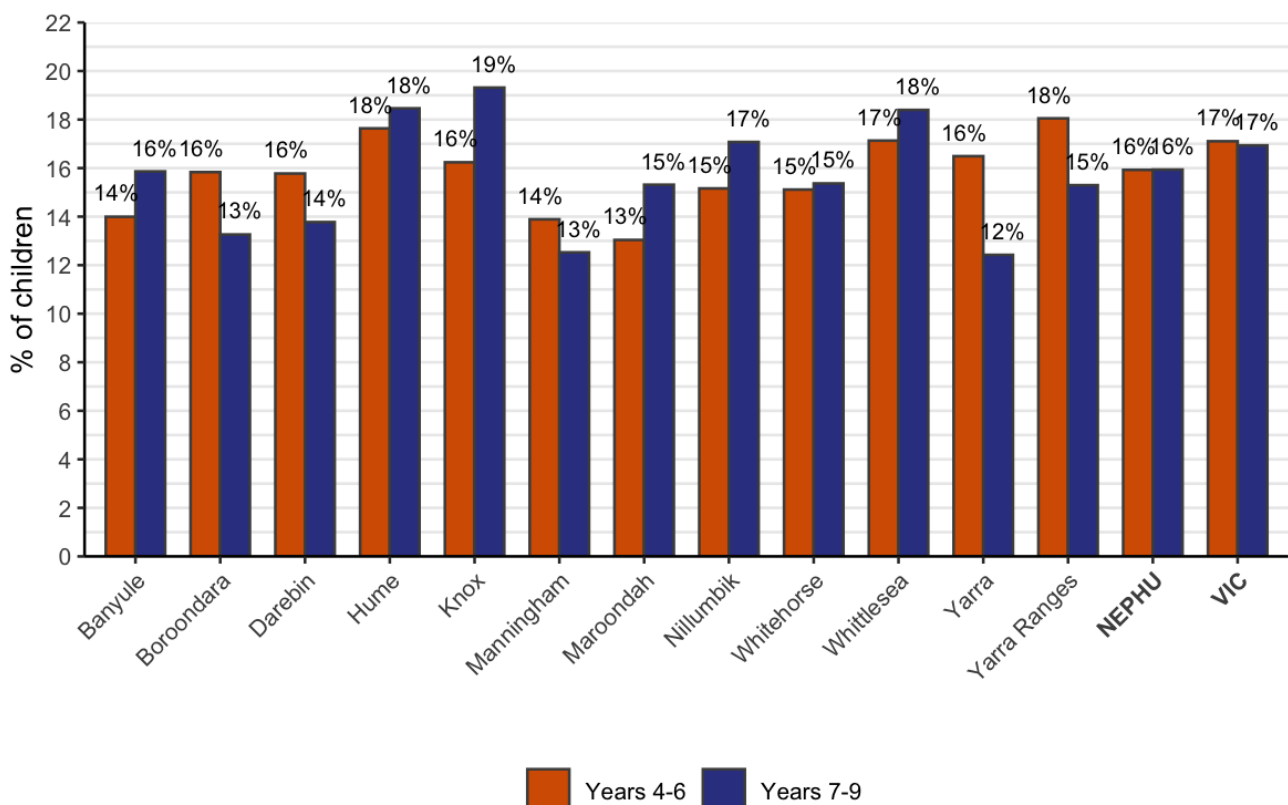
9.4. Bullying in Children

Bullying refers to any intentional and repeated behaviour which causes physical, emotional or social harm to a person who has, or is perceived to have, less power than the person who bullies. Bullying is a complex issue and can affect many different population groups in various settings and forms. Bullying can have substantial impacts on victims, perpetrators and witnesses, as well as the broader social environment.

Data sourced from the Department of Education's Attitudes to School survey 2023 and records the proportion of children (Years 4-6, 7-9) who were bullied.

- Childhood bullying was prevalent across the NEPHU catchment, reported by approximately 16% of children in years 4-6 and years 7-9 (**Figure 51**).
- In Banyule, Hume, Knox, Maroondah, Nillumbik and Whittlesea LGAs, bullying was reported in higher proportions by the Year 7-9 cohort, compared to the year 4-6 cohort.
- In Boroondara, Darebin, Manningham and Yarra, bullying was reported in higher proportions in the Year 4-6 cohorts, compared to the Year 7-9 cohorts.

Figure 51: Proportion of children (Years 4-9) who were bullied by LGA, 2023



Data source: [Attitudes to school survey 2023](#)

Data notes: This indicator could not be further broken down by Australian-born status or sex. Data tables for this figure in **Appendix 2: Table A42**

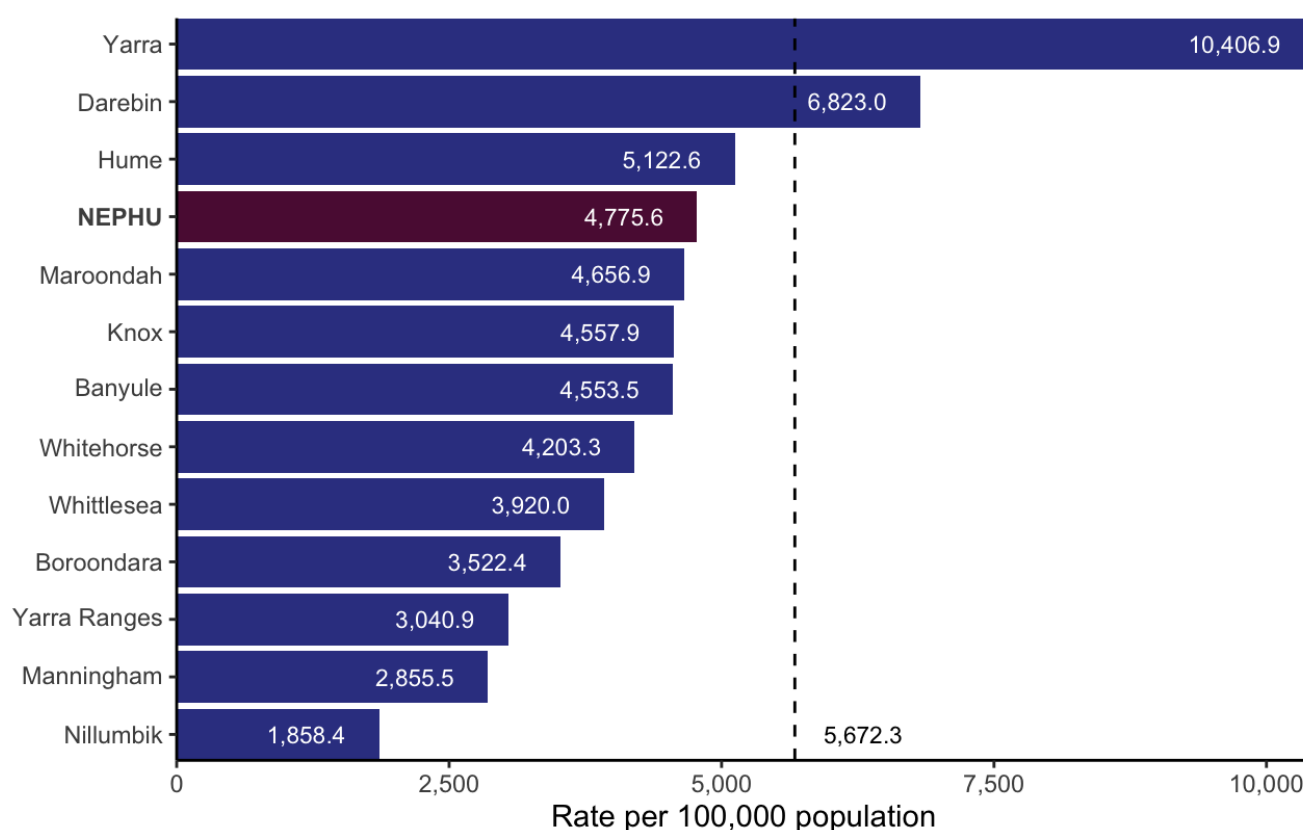
9.5. Crime

There is increasing recognition of the population health impacts of crime, including injuries, disruption to childhood development, reduced economic development, reduced feelings of safety and widening of health disparities (30,31).

Data on crime was sourced from the Crime Statistics Agency (CSA) and records the total number of criminal incidents in 2023. Offence categories include: crimes against the person, property and deception offences, drug offences, public order and security offences, justice procedure offences and other offences.

- The rate of criminal incidents was below the Victorian rate in the majority of LGAs across the NEPHU catchment (**Figure 52**).
- The LGA of Yarra had a notably higher rate of criminal incidents (10,406 per 100,000 population), nearly double the Victorian average (5,672 per 100,000 population).

Figure 52: Rate of reported criminal incidents by LGA, 2023



Data source: Crime Statistics Agency – [Crime data by LGA](#)

Data notes: A criminal incident that may include multiple offences, alleged offenders and/or victims is recorded on a single date and as occurring at one location. Rate is calculated as incidents per 100,000 population. LGA location is based on where the offence occurred. Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A43**

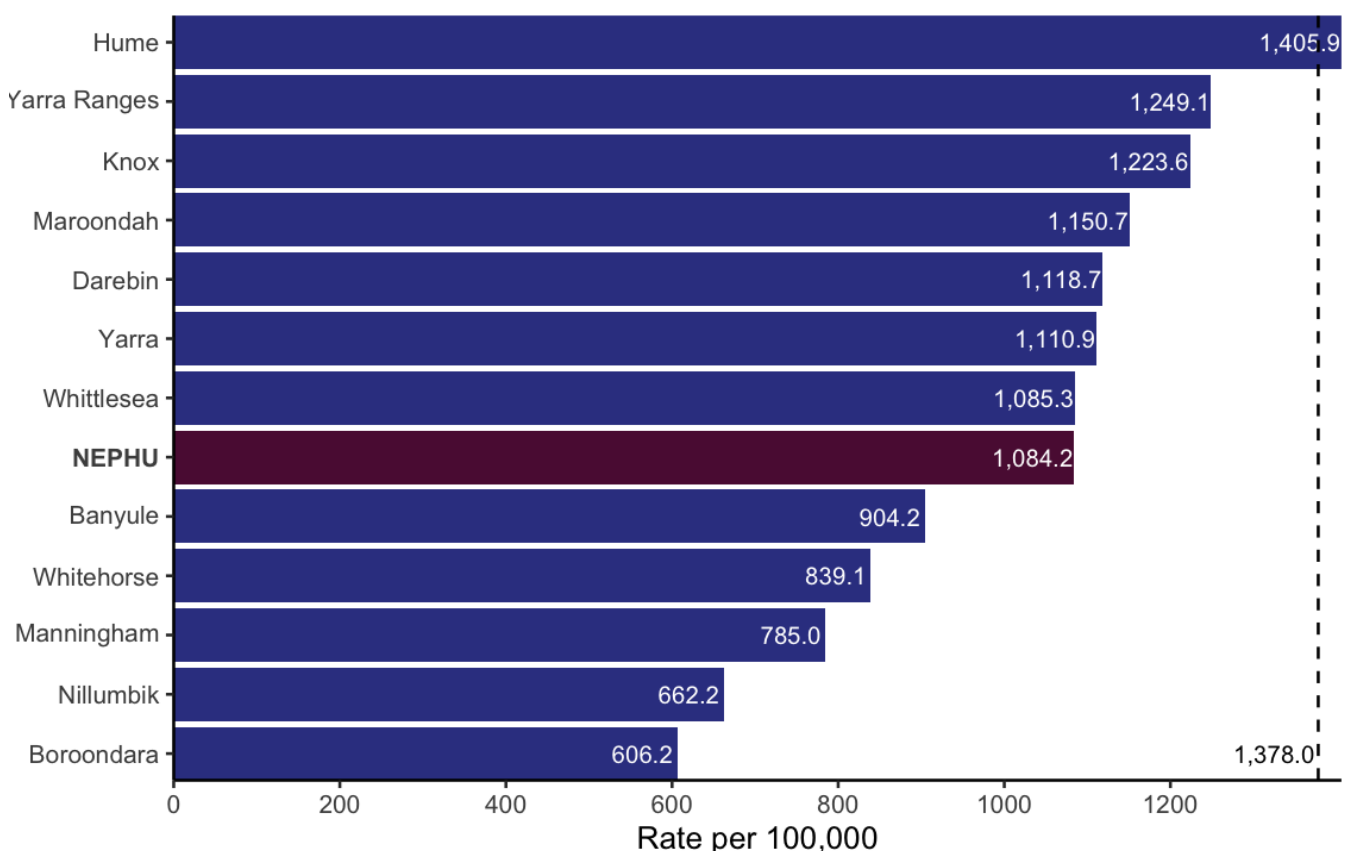
9.6. Family Violence

Family, domestic and sexual violence is recognised as a major health and welfare issue in Australia, predominantly affecting women and children. Family, domestic and sexual violence may result in physical injury, emotional distress and psychological trauma and can occur across all socioeconomic and demographic groups. These types of violence can have a serious impact on individuals, families and communities and effects can be long-lasting across generations (66).

The [National Plan to End Gender Based Violence 2022-2032](#) outlines action plans to end gender-based violence in one generation. Data was sourced from the Crime Statistics Agency (CSA) and records the rate of family violence incidents per 100,000 population by LGA from 1 July 2022 - 30 June 2023. Offences relating to a family incident are flagged within crime statistics data when Victoria Police complete a mandatory Risk Assessment and Risk Management Report form (also known as an L17 form). Data was only available at LGA and Victoria levels.

- Rates of family violence incidents across the NEPHU catchment (1,084/100,000) were below the Victorian (1,378/100,000) average for the majority of LGAs, with the LGA of Hume sitting approximately equal to the Victorian rate (**Figure 53**).

Figure 53: Rate of family violence incidents per 100,000 population by LGA, 2022-2023



Data source: Crime Statistics Agency- [Family violence dashboard](#)

Data notes: Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A44**



More data resources for family violence

- **Crime Statistics, Family Violence Dashboard: LGA snapshots**
<https://www.crimestatistics.vic.gov.au/family-violence-data/family-violence-dashboard>
- **AIHW: Family, domestic and sexual violence**
<https://www.aihw.gov.au/family-domestic-and-sexual-violence/types-of-violence/family-domestic-violence>
- **ABS: Personal Safety Survey (PSS)**
<https://www.aihw.gov.au/australias-disability-strategy/technical-resources/data-sources/australian-bureau-of-statistics-pss>
- **AIFS: National Elder Abuse Prevalence Study: Summary Report**
<https://aifs.gov.au/research/research-snapshots/national-elder-abuse-prevalence-study-summary-report>

For information, support and counselling contact **1800RESPECT** on **1800 737 732** or visit the [1800RESPECT website- external site opens in new window](#). See also [Find support](#) for a list of support services.

Box 11: More data resources for family violence



10. Mental Health and Wellbeing

Data in this section may relate to sensitive topics. If you are experiencing distress or require support, please [CLICK HERE](#) for a list of support services available.

Section Summary

What is the state of mental health and wellbeing in the NEPHU population?

Wellbeing is not just absence of disease or illness. It is a complex combination of a person's physical, mental, emotional and social health. There are several indicators that can quantify a person's wellbeing, including objective indicators (e.g. life expectancy) and subjective indicators (e.g. psychological distress) (67).

Approximately 1 in 5 adults and 1 in 5 children reported high levels of psychological distress across the catchment, consistent with state averages, although proportions reporting psychological distress were higher in Yarra Ranges (1 in 4) (see **Section 10.2**). Life satisfaction was generally maintained, with only 6% of the NEPHU population reporting low life satisfaction (see **Section 10.1**). Approximately 1 in 5 adults (21.3%) had sought professional help for their mental health in the past 12 months, consistent

with the rates of reported psychological distress (see **Section 10.3**). A potential inverse correlation was observed, where LGAs with high proportions seeking professional help had low proportions reporting psychological distress (e.g. Yarra) and LGAs with low proportions seeking professional help had larger proportions reporting psychological distress (e.g. Whittlesea). This may reflect the beneficial effect of seeking professional mental health support.

People may face numerous barriers to accessing mental health help, including logistical, financial, cultural, social and gender drivers. Following the Royal Commission into Victoria's Mental Health System, the [National Mental Health Strategy](#) seeks to build a better mental health and wellbeing system for all Victorians.



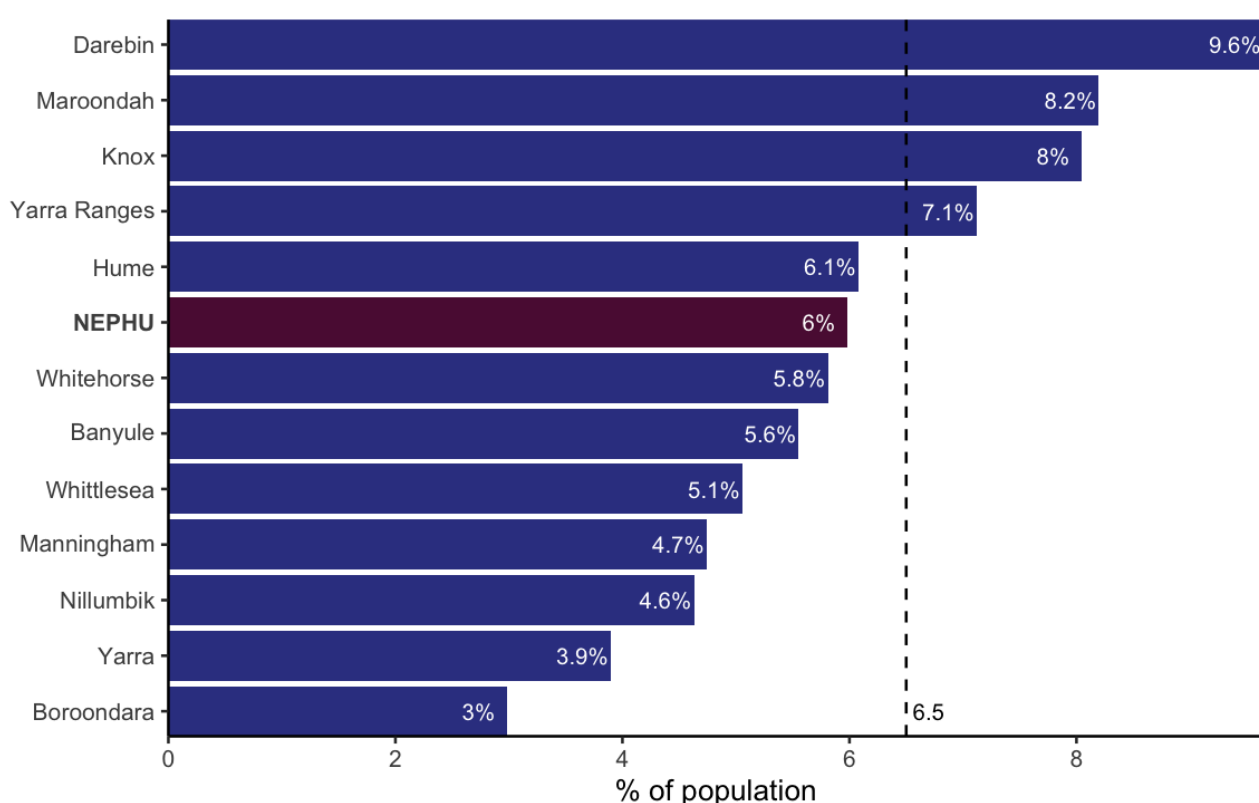
Mental Health and Wellbeing

10.1.Life Satisfaction

Life satisfaction is a measure of subjective wellbeing. Data on life satisfaction was sourced from the VPHS 2023 where respondents were asked “How satisfied are you with your life overall, on a scale from 0 to 10, where 0 is not satisfied at all and 10 is completely satisfied?”. Low levels of life satisfaction were classified as scores 0 – 4 out of 10.

- Life satisfaction varied across the catchment, with proportions of the population reporting low levels of life satisfaction ranging between 3% and 9.6% (**Figure 54**).
- The proportion of people reporting low life satisfaction was greater than the Victorian average (6.5%) in Yarra Ranges (7.1%), Knox (8%), Maroondah (8.2%) and Darebin (9.6%)

Figure 54: Proportion of the population reporting a low level of life satisfaction (score 0-4) by LGA



Data source: [VPHS 2023](#)

Data notes: Data reported here on proportion of population with low level of life satisfaction (score 0-4). Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A45**

10.2. Psychological Distress – Adults and Children

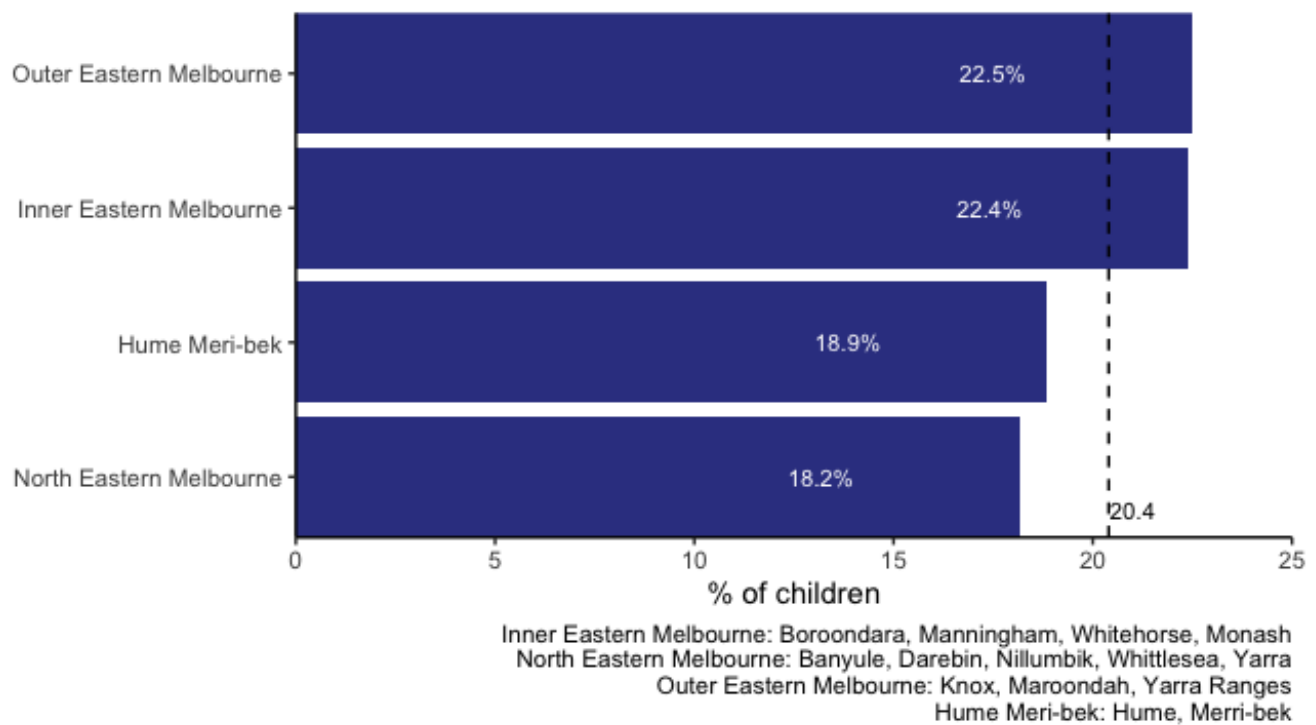
Psychological distress is an independent primary or secondary risk factor for ill health, including conditions such as fatigue, migraine, depression, anxiety, obesity, cardiovascular disease, chronic obstructive pulmonary disease (COPD), and injury. It is also a risk factor for mortality (67).

Data for children were sourced from the Department of Education [VSHAWS survey](#) 2018, which records those with high scores on the [International Youth Development Study Short Version Moods and Feelings scale](#).

Data for adults was sourced from the VPHS 2023 and psychological distress was measured according to the Kessler Psychological Distress Scale (K10). Psychological distress was considered 'high or very high' for scores of ≥ 22 on the K10 scale.

- *Psychological distress was more commonly reported than low life satisfaction for adults in NEPHU, with the average proportion of adults reporting psychological distress (18.1%) three times the proportion reporting low life satisfaction (6%) (**Figure 54** and **Figure 56**).*
- *Approximately 1 in 5 students reported high psychological distress (range 18.2% – 22.5%) with relatively higher proportions in inner and outer eastern areas (**Figure 55**).*
- *There was variation across the catchment for adults as well, with the proportion of people reporting high or very high psychological distress in Yarra Ranges (25.7%) over double that in Boroondara (12.7%) (**Figure 56**).*

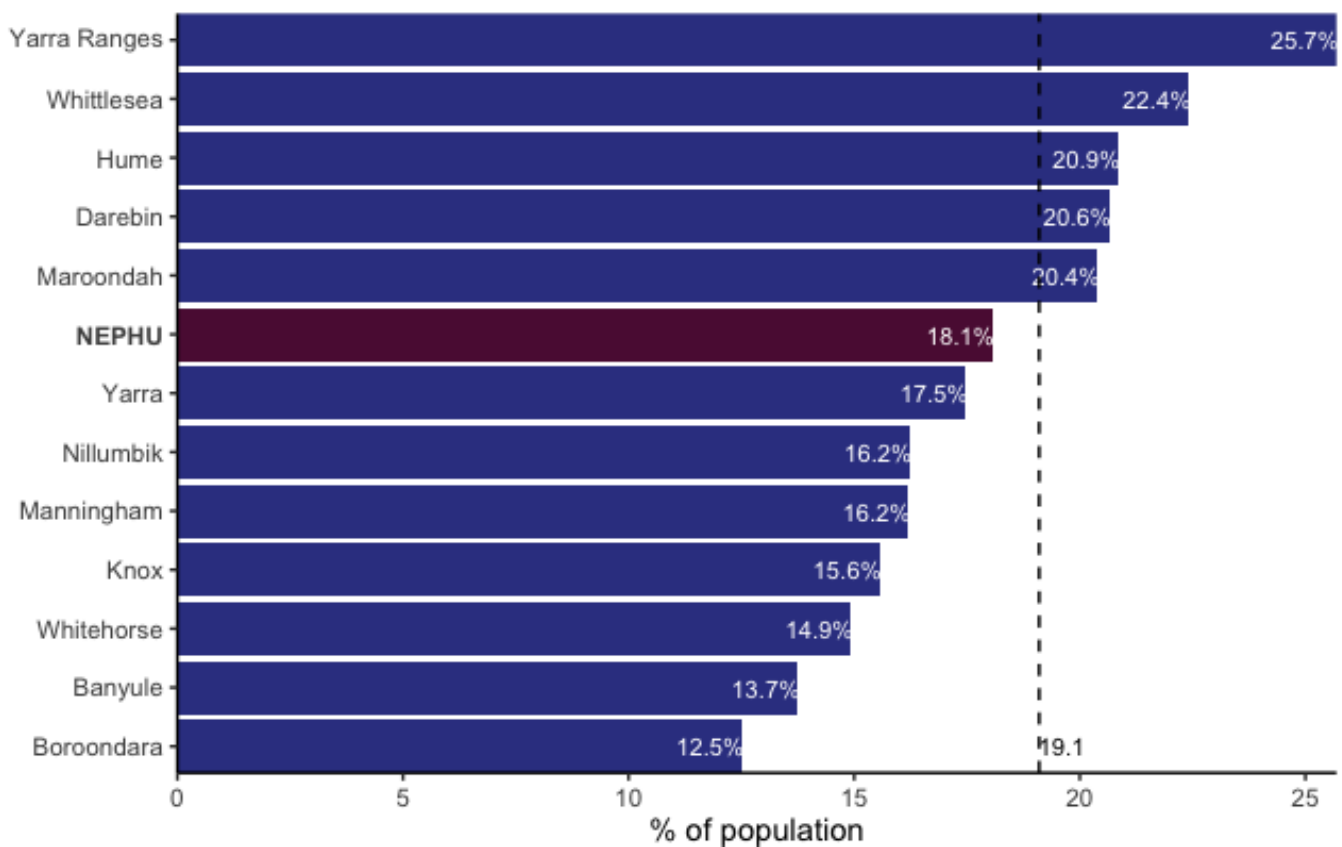
Figure 55: Proportion of students in Years 5, 8 and 11 who showed a high level of psychological distress (depressive symptoms) by Department of Education areas



Data source: [VSHAWS 2018](#)

Data notes: Data records the proportion of students in Years 5, 8 and 11 who showed a high level of depressive symptoms on the International Youth Development Study Short Version Moods and Feelings scale. Dashed line represents Victorian average. Note that Monash and Merri-bek LGAs are not part of NEPHU. Data tables for this figure in **Appendix 2: Table A46**

Figure 56: Proportion of population reporting high or very high psychological distress (K10 score ≥ 22 on the Kessler Psychological Distress Scale) by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: Respondents answered a series of 10 questions and psychological distress was measured using the Kessler Psychological Distress Scale (K10). Scores less than 16 are considered low, scores 16-21 are considered moderate and scores of 22 or more are considered as 'high or very high' psychological distress level. Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A47**

10.3. Seeking Professional Help for Mental Health

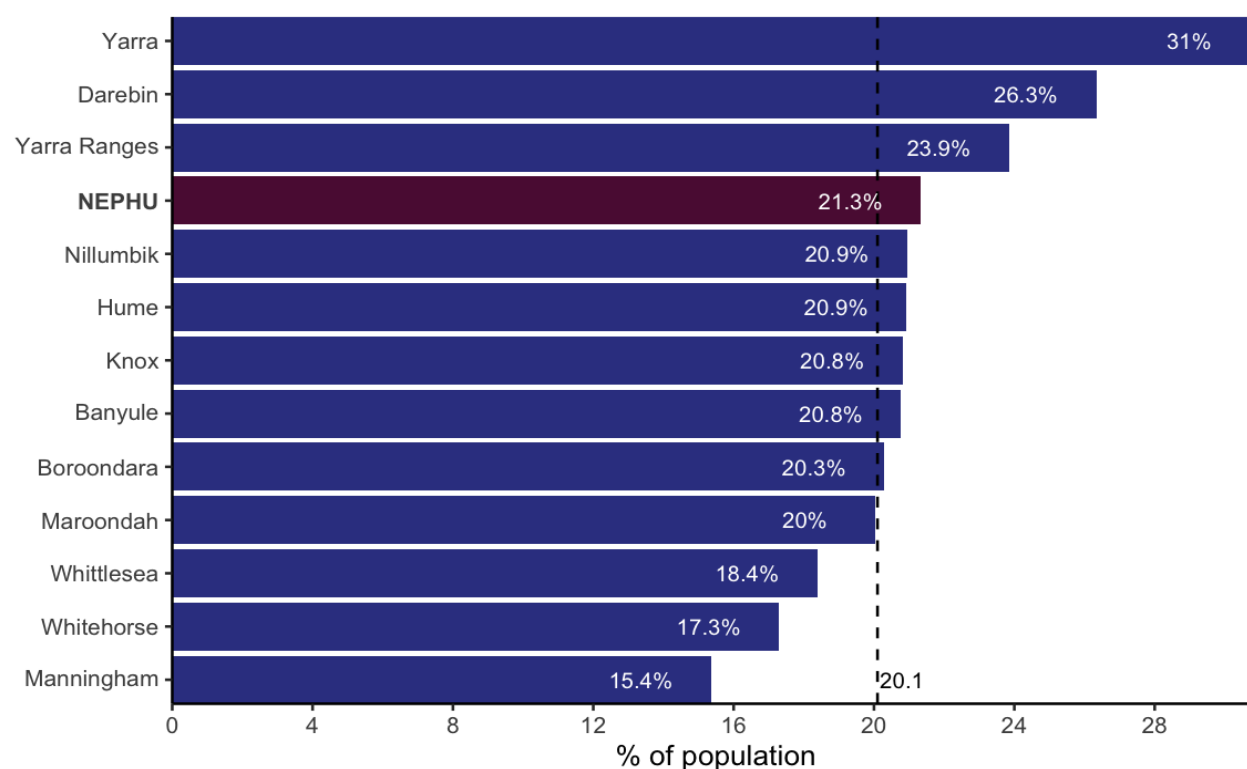
The use of professional services to address mental health problems can be a protective factor, mitigating the negative effects on mental and physical health.

Data was sourced from the VPHS 2023 and records the proportion of adults who sought professional help for a mental health problem in the last 12 months.

The question asked was "In the last year, have you sought professional help for a mental health-related problem?" 'Professional help' included services from a GP, psychologist, psychiatrist, counsellor, mental health nurse, social worker or naturopath.

- Across most LGAs, the proportion of people reporting high psychological distress was generally aligned with the proportion of people seeking professional help for their mental health problems. For example, approximately one quarter (25.7%) of the Yarra Ranges population reported high levels of psychological distress and 23.9% reported seeking professional help (**Figure 57** and **Figure 56**).
- However, there were LGAs that did not align, for example Whittlesea had high proportions with psychological distress, but below average usage of professional mental health help. Conversely, Yarra had low levels of dissatisfaction and low distress, and had the highest proportion accessing mental health help.

Figure 57: Proportion of population who sought professional help for mental health problem by LGA



Data source: [VPHS 2023](#)

Data notes: Dashed line represents Victorian average. Data tables for this figure in **Appendix 2: Table A48**

10.4. Further Resources – Resilience, Self harm, Suicide



More mental health data resources

- **Resilience**

Data on adolescent resilience is not available at LGA or LPHU level. The “Growing Up in Australia Study: [The Longitudinal Study of Australian Children \(LSAC\) 2018](#)” does report on resilience in adolescents, but only at national level.

- **Self-harm hospitalisations**

The [Victorian Women’s Health Atlas](#) presents hospitalisations for self-harm at LGA level.

- **Suicide data**

The AIHW collates and presents data on Deaths by suicide, by local areas (SA3 and SA4).

<https://www.aihw.gov.au/suicide-self-harm-monitoring/data/geography/suicide-by-local-areas>

Box 12: Further mental health data resources

11. Health-Seeking Behaviours

Section Summary

What health-seeking behaviours are the NEPHU population demonstrating?

Health-seeking behaviours encompass the actions individuals take to maintain, attain, or restore good health and prevent illness. Health-seeking behaviours are dynamic, varying over the lifespan, and reflect a complex interplay between a multitude of factors including individual agency, societal structures, beliefs and contexts (62).

The Australian Government sets a childhood immunisation target of 95%, which is the level of herd immunity required to protect against measles and is considered 'aspirational' for all other vaccine preventable disease. Across the NEPHU catchment, childhood immunisation coverage was close to this aspirational target at each assessment milestone. Despite high aggregate coverage, individual pockets of low coverage were noted at the postcode level in all LGAs and could represent opportunities for targeted actions (see **Section 11.1**). Adolescent vaccination coverage was generally lower than childhood coverage, consistent with Victorian patterns (see **Section 11.1**). This, in part, reflects the challenges of school-based immunisation program delivery.

Participation in national cancer screening programs across NEPHU varied by cancer type (see **Section 11.2**). All LGAs had achieved the 64% participation target for cervical screening laid out in the National Preventive Health Strategy 2021 – 2030, and 10 out of 12 LGAs had achieved the 70% coverage target for elimination of cervical cancer. Participation rates were below national targets for bowel cancer (participation 47.6%, target 53% by 2025) and breast cancer (participation 52.7%, target 65% by 2025).

Each screening program is distinct and participation and coverage for any program may be influenced by several variables. Examples include varied target populations, availability and access to screening, screening occurring outside of national programs and acceptability of the screening test.



The proportion of the population achieving the recommended vegetable intake (5 serves per day) was very low across the catchment, reported by 6% of adults and 3% of children (see **Section 11.3**). Fruit intake (2 serves per day) was higher than vegetable intake for adults (37%) and children (71%). Physical activity recommendations were met by a higher proportion of children across NEPHU (range 42.9% - 51.9%) compared to adults (34.2%). Approximately one in seven adults within NEPHU (14.9%) reported no physical activity (see **Section 11.4**). Only 2.4% of the NEPHU population used active transport (walking or cycling) as their main mode of transportation to work (see **Section 11.5**). This is well below the 25% target set by the Victorian Climate Change Strategy for 2030.

A minority of women used long-acting reversible contraception (LARC) across the catchment, consistent with Victorian patterns (see **Section 11.7**). Safe sex practices were low among sexually active young people. The proportions of Year 8 and Year 11 students who reported always using a condom were below the Victorian average (25.5%) in most regions within the NEPHU catchment (see **Section 11.6**).

Further exploration of how these indicators may relate to rates of sexually transmissible infections (see **Section 15.2**), medical abortion (see **Section 15.8.2**) and adolescent births (see **Section 15.8.2**) would provide further insights into the sexual and reproductive health of the catchment.

Health-Seeking Behaviour

11.1. Immunisation Coverage

Measuring childhood immunisation coverage helps track how protected the community is against vaccine-preventable diseases. Childhood immunisation coverage is defined as the percentage of children in Australia who have had all the vaccines recommended for their age, according to the [National Immunisation Schedule](#). Coverage is assessed at set milestones:

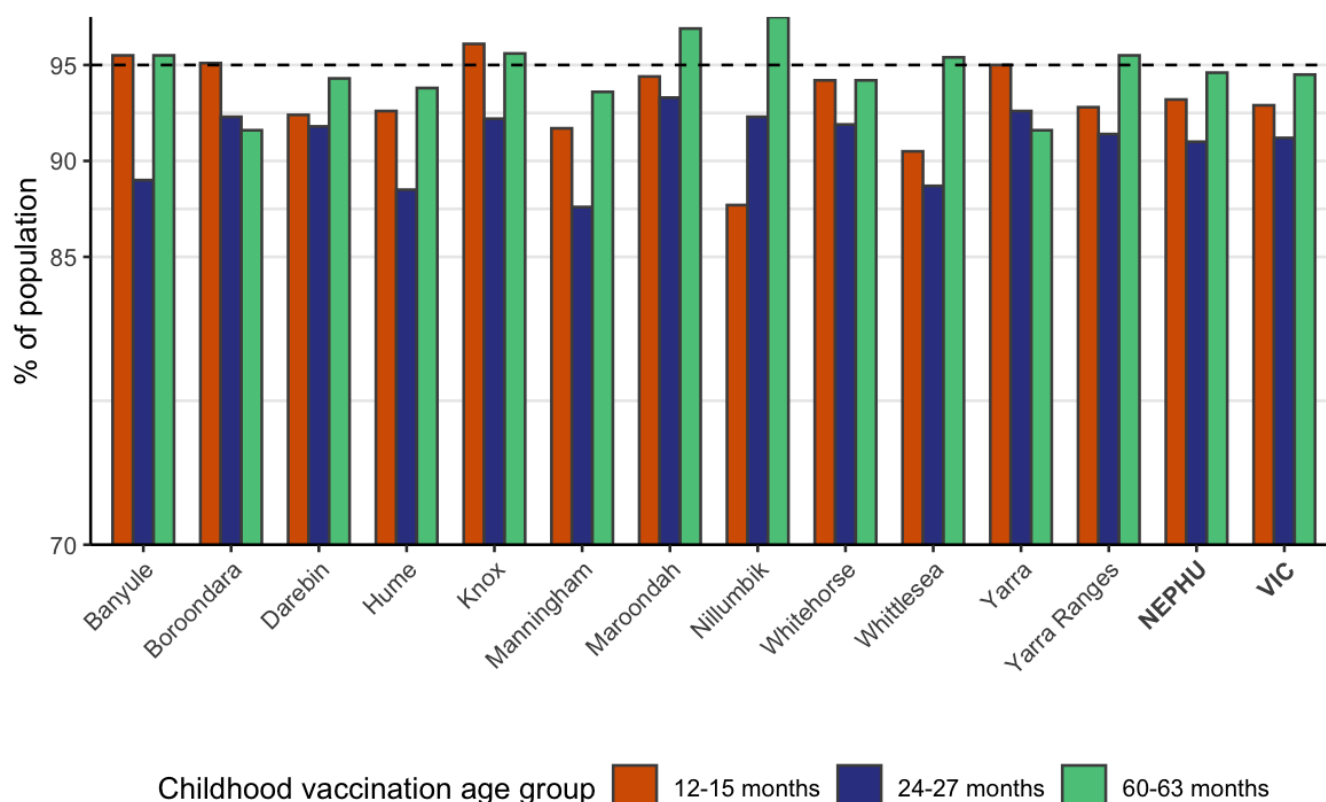
- 12- 15 months (for vaccines due at 6 months)
- 24- 27 months (for vaccines due at 12 and 18 months)
- 60- 63 months (for vaccines due at 4 years).

Due to a higher level of immunisation coverage needed to protect the community against measles (92%-94% coverage), Australia's childhood coverage target has been set at 95% to achieve herd immunity against measles and is considered 'aspiration' for all other vaccine-preventable diseases (63).

Data is from the Australian Immunisation Register (AIR) as at 30 June 2024 and obtained via the Victorian Department of Health. Data are presented for the various age groups in young children and by vaccine type for adolescents.

Childhood vaccination

- *At the 12-15 month milestone, one third (4/12) of NEPHU LGAs had achieved the aspirational 95% national target of 'fully vaccinated for age', including Banyule, Boroondara, Knox and Yarra (**Figure 58**). Under-immunisation in this age group may pose greater risks to health as young infants are more vulnerable to infection and more likely to develop severe disease.*
- *At the 24-27 month milestone, coverage was below 95% across all LGAs, and notably lower than coverage at other milestones, consistent with Victorian patterns. This phenomenon has been studied in depth since 2014 and reflects, in part, that more vaccinations are included in the criteria to be fully immunised at this milestone (e.g. both 12 and 18 month vaccines). The higher number of vaccines and a shorter time period between the 18 month doses and the assessment milestone at 24 months reduces the likelihood of achieving full vaccination by the assessment milestone (64).*
- *At the 60-63 month milestone, half of the LGAs (6/12) in the NEPHU catchment had achieved the aspirational national target of 95% fully vaccinated. These included Banyule, Knox, Maroondah, Nillumbik, Whittlesea and Yarra Ranges. (Note: children who have had catch-up immunisations are included as 'fully immunised' even if they were not fully immunised when they were aged one or two years.)*

Figure 58: Proportion of fully vaccinated children by age group and LGA

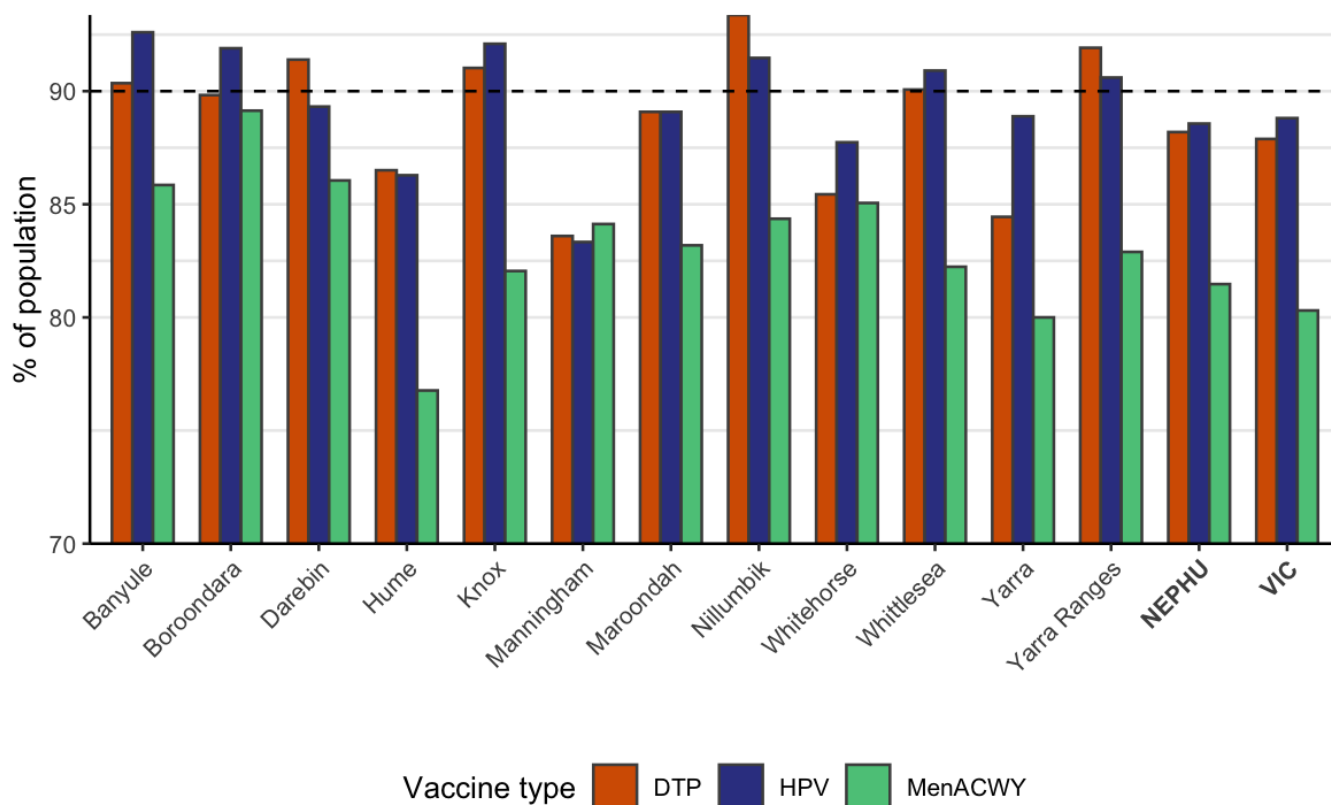
Data source: AIR as at June 30, 2024

Data notes: Dotted line represents national aspirational target coverage of 95%. Data tables for this figure in **Appendix 2: Table A49**

Adolescent vaccination

- Adolescent vaccinations are typically administered via school immunisation programs, requiring signed consent forms from parents, and have much lower rates of coverage than childhood immunisations. The human papillomavirus (HPV) vaccine and the diphtheria, tetanus and acellular pertussis-containing (dTpa) booster are offered at age 12-13 (year 7) and the meningococcal ACWY (menACWY) is offered at age 14-16 years (Year 10).
- Half the LGAs in NEPHU had achieved the 2030 target set in the [Australian National Strategy for the Elimination of Cervical Cancer](#), for 90% of boys and girls to have received at least one HPV dose by age 15 (**Figure 59**).
- The dTpa booster coverage was below 90% (88.2%) across NEPHU. The menACWY booster is offered in Year 10 and has the lowest vaccine uptake across the catchment, at 81.5%. **Figure 60** and **Figure 61** show that despite high average vaccination coverage at the aggregate LGA level, there are individual postcodes with notably lower coverage which may benefit from targeted exploration and/or immunisation promotion.

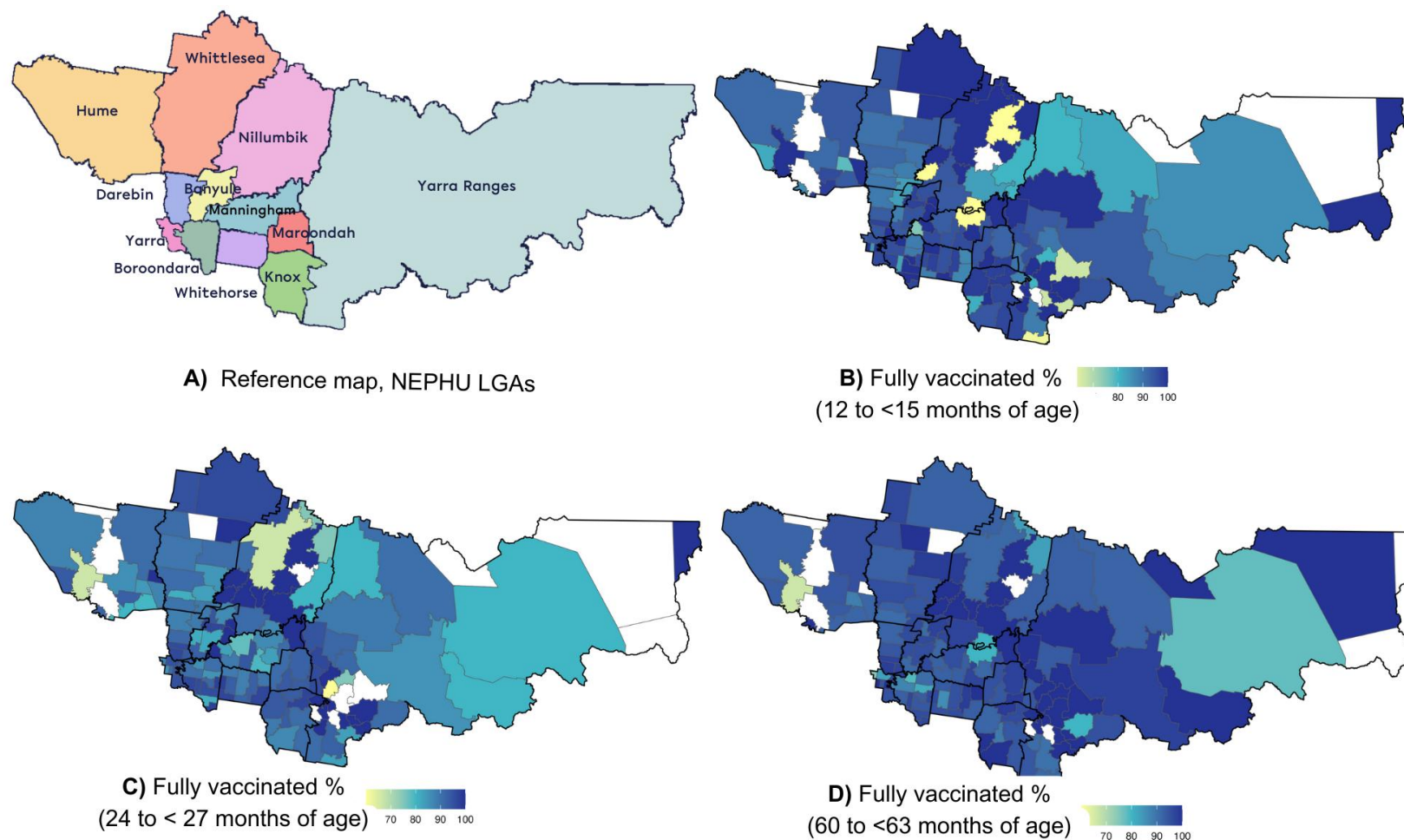
Figure 59: Proportion of adolescents who had DTP, HPV (at least 1 dose) and MenACWY vaccines by age 20 years by LGA, 2024



Data source: AIR (data as at 30 June 2024)

Data notes: Dotted line represents the 90% target for 1 dose of HPV vaccine for boys and girls by 2030. Data tables for this figure in **Appendix 2: Table A50**

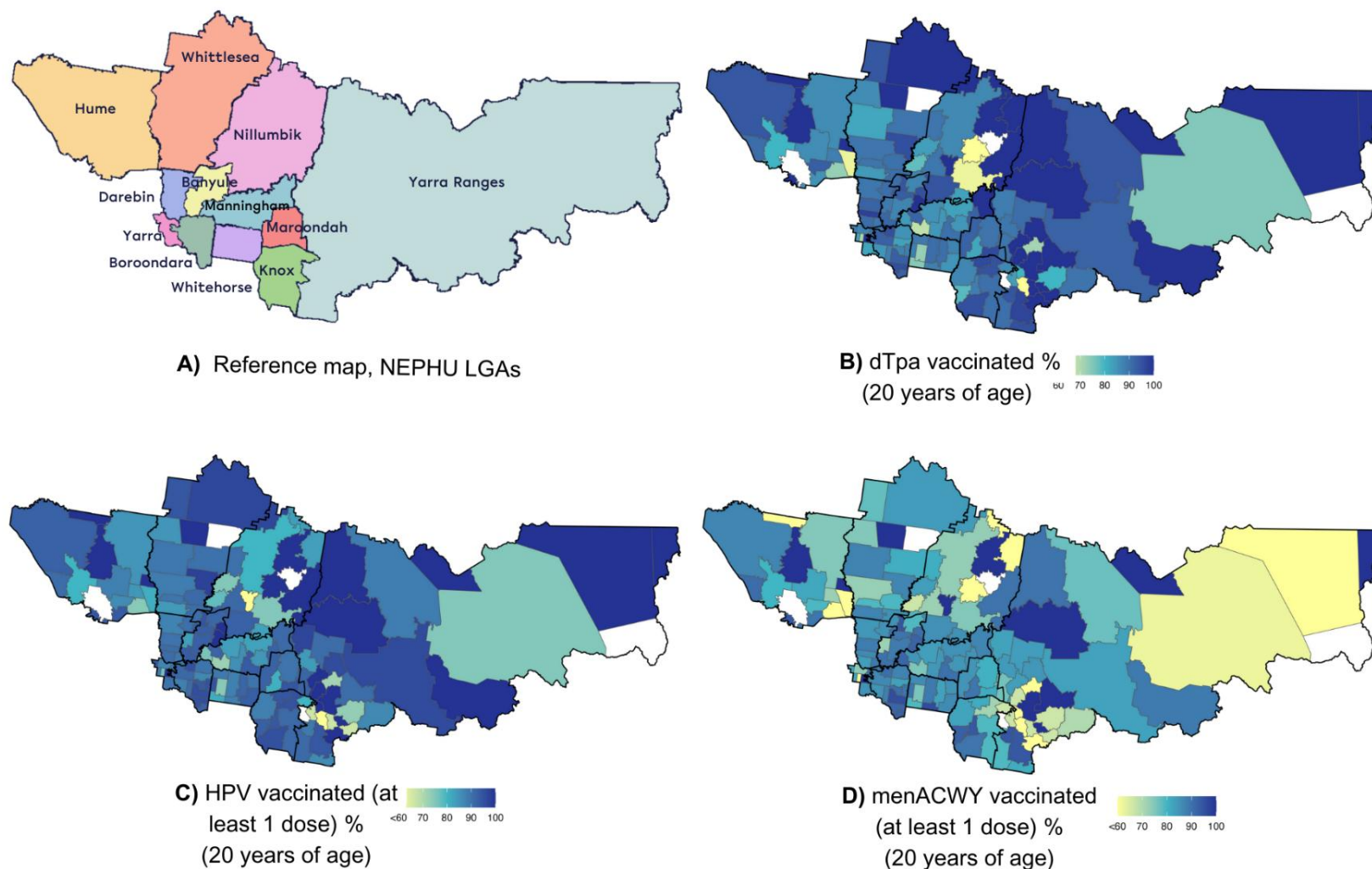
Figure 60: Map of vaccine coverage by postcode for childhood immunisations, by age milestones, 2024



Data source: AIR (data as at June 2024)

Data notes: Areas in white indicate data was not available

Figure 61: Map of vaccine coverage by postcode for adolescent immunisations, by vaccine type, 2024



Data source: AIR (data as at June 2024)

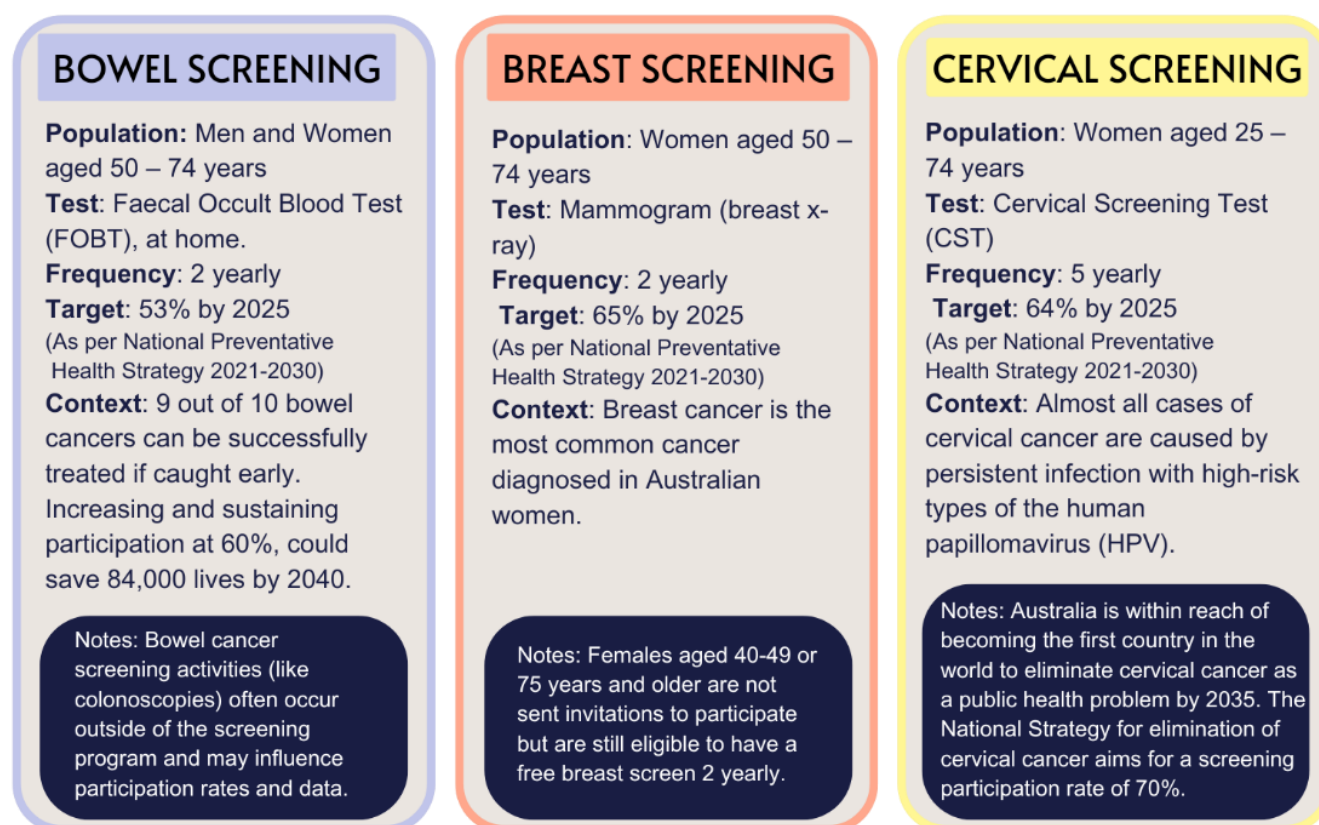
Data notes: Areas in white indicate data was not available

11.2. Cancer Screening Rates

Cancer screening programs aim to reduce illness and death from certain cancers by allowing for early detection, intervention, and treatment. Not all cancers are suitable for screening programs and the criteria required to establish a screening program are laid out in the [Population Based Screening Framework 2018](#). The National Population Based Screening Program offers screening for breast, bowel and cervical cancers, see **Figure 62** for program details and national targets. The National Lung Cancer Screening Program is due to commence from July 2025 (see **Box 13**).

Data for **Table 17** and **Figure 63** was sourced from the Victorian Department of Health, Cancer Screening Framework.

Figure 62: Program detail overview of National Population Based Screening for bowel cancer, breast cancer and cervical cancer



Bowel cancer participation

- *Less than half the age-eligible NEPHU population (47.6%) participated in the National Bowel Cancer Screening Program in the period 2018-2019. The National Preventive Health Strategy 2021-2030 outlines a target to increase participation to 53% by 2025.*
- *There was notable variation in uptake of bowel cancer screening between LGAs with a 12-percentage point difference between the lowest proportion in Hume (42.0%) and the highest proportion in Nillumbik (54.3%).*
- *Uptake of screening was lowest in the younger eligible age groups (50 – 59 years) and increased with increasing age.*
- *It is important to note that bowel cancer screening activities such as colonoscopy frequently occur outside of the national screening program and this may influence participation and data.*

Breast cancer screening

- *Participation in breast screening across NEPHU (52.7%) was slightly above the Victorian average (51.3%) in the period July 2021 to June 2023. The National Preventive Health Strategy 2021-2030 outlines a target for 65% participation by 2025 and all LGAs were below this target.*
- *Participation in breast cancer screening varied across the catchment, with an 8-percentage point difference between the lowest proportion in Whittlesea (47.9%) and the higher proportion in Maroondah (56.1%).*
- *Participation of screening was lowest in the younger eligible age groups (50 – 59 years) and increased with increasing age to 70 years before decreasing again.*
- *Participation of breast screening outside the National BreastScreen Australia program is relatively low. This has previously been shown to equate to about 3.5% of BreastScreen Australia activity (65).*

Cervical cancer screening

- *Cervical cancer screening coverage was high across the NEPHU catchment (74.4%).*
- *All LGAs are achieving the 64% participation target set in the National Preventive Health Strategy 2021-2030, and the majority of LGAs (10/12) are also achieving the 70% target set in the National Strategy for Elimination of Cervical Cancer in Australia. Opportunities remain in Hume (62.9%) and Whittlesea (66.4%) to achieve elimination target levels.*
- *The cervical cancer screening program data record reports on 'coverage' instead of 'participation'.*
- *Coverage refers to the "number of participants aged 25-74 who had at least one HPV test or cytology test for any reason (which may include diagnostic testing) in Victoria in the five-year reporting periods." This is broader than participation rates which were defined as the "Number of participants aged 25-74 who had at least one primary screening or follow-up HPV test in Victoria in the five-year reporting periods".*

Table 17: Cancer screening participation rate of eligible population (by age ad sex) by LGA

Cancer screening participation/coverage			
LGA / NEPHU / VIC	Bowel	Breast	Cervical
Banyule	51.7	52.3	79.4
Boroondara	49.3	55.2	83.1
Darebin	44.7	49.0	76.7
Hume	42.0	50.1	62.9
Knox	47.8	55.2	73.0
Manningham	48.8	54.1	76.1
Maroondah	49.8	56.1	74.9
Nillumbik	54.3	53.3	84.9
Whitehorse	49.8	54.5	72.9
Whittlesea	43.4	47.9	66.4
Yarra	45.7	52.3	88.9
Yarra Ranges	48.9	54.0	74.1
NEPHU	47.6	52.7	74.4
VIC	47.1	51.3	71.9

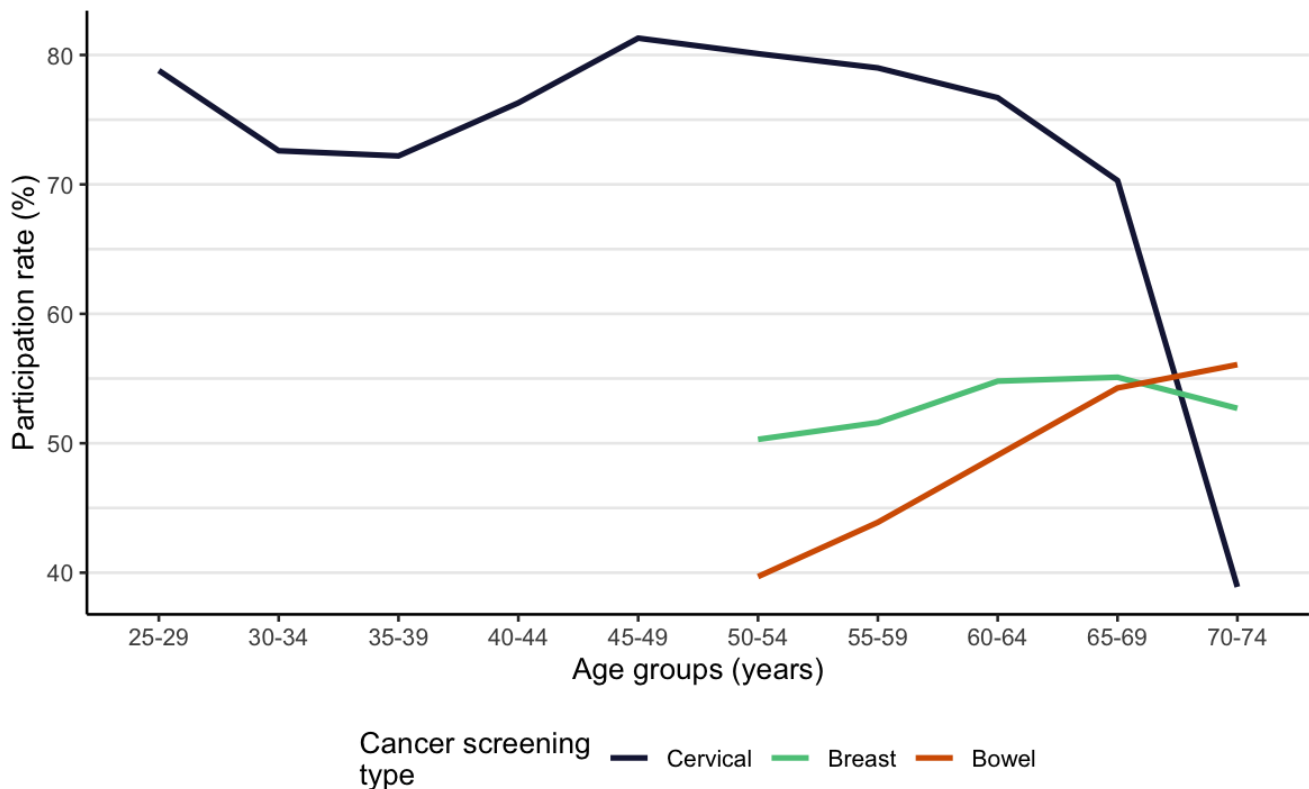
Data source: Victorian Department of Health as part of the Victorian Cancer Screening Program

Data notes: Bowel cancer screening data presented here covers the number of FOBT kit returned within 30 months of receiving an invitation to screen in the period 2018-2019. The denominator used is total number of invites sent to male and females aged 50-74 years in the period 2018 to 2019.

Breast cancer screening data presented here covers the number of women aged 50-74 years screened by BreastScreen Victoria from July 2021 to June 2023. The denominator used is the ABS estimated resident population.

Cervical cancer coverage data presented here covers the number of participants aged 25-74 years who had at least one HPV test or cytology test for any reason in Victoria in the 5-year period (2017-2021). The denominator used is the ABS estimated resident population over the 5-year period, adjusted for hysterectomy fractions and active Compass trial participants in Victoria. Coverage is defined as number of participants aged 25-74 who had at least one HPV test or cytology test for any reason (which may include diagnostic testing) in Victoria in the five-year reporting periods.

It is strongly advised against comparing participation/coverage rates between screening programs since (i) the period used are different, (ii) there are multiple factors which impact differently on participation and (iii) the population denominators used to calculate participation rates are different for each program.

Figure 63: Cancer screening participation rate by age group in NEPHU catchment

Data source: Victorian Department of Health as part of the Victorian Cancer Screening Framework

Data notes: Data shown here is limited to the age range corresponding to the invited age-groups for the relevant screening programs. Of note, females aged 40-49 or 75 years and older are not sent invitations to participate in the breast screening but are still eligible to have a free breast screen with BreastScreen Victoria every two years, data is not shown here. Data table for this figure in **Appendix 2: Table A54**



National Lung Cancer Screening Program (NLCSP)

The new NLCSP is a screening program that will use low-dose computed tomography (CT) scans to look for lung cancer in high-risk people without any symptoms. It aims to find lung cancer early and to reduce deaths from lung cancer. Screening services will begin for eligible people from July 2025.

<https://www.health.gov.au/our-work/nlcsp>

Box 13: National Lung Cancer Screening Program information

11.3.Fruit and Vegetable Consumption

The [Australian Dietary Guidelines \(2013\)](#) recommend 5 serves of vegetables and 2 serves of fruit every day. Fruit and vegetables can help lower risk of heart disease, stroke, type 2 diabetes and some cancers. Eating fruit and vegetables can also help manage cholesterol levels and weight (34). Nonetheless, dietary intakes have remained below the recommended levels for years in Australia, reflecting the complex and multifaceted drivers of the population's dietary patterns and eating behaviours. A coordinated, whole of system approach is required to achieve change (35). Updated national dietary guidelines are currently under development (see **Box 14**).

Data for adults is sourced from the VPHS 2023 and is shown in **Figure 64**. Data for children aged 4-12 is from VCAMS and is shown in **Figure 65**.

- *Across NEPHU, and Victoria, the proportion of adults achieving the recommended daily dietary guidelines is very low, with just over one third (37%) meeting the recommended fruit intake and 6% meeting the recommended vegetable intake.*
- *The proportion of children eating the recommended fruit intake is higher than adults, at 71%, however the proportion meeting the recommended vegetable intake is lower than adults at 3%.*

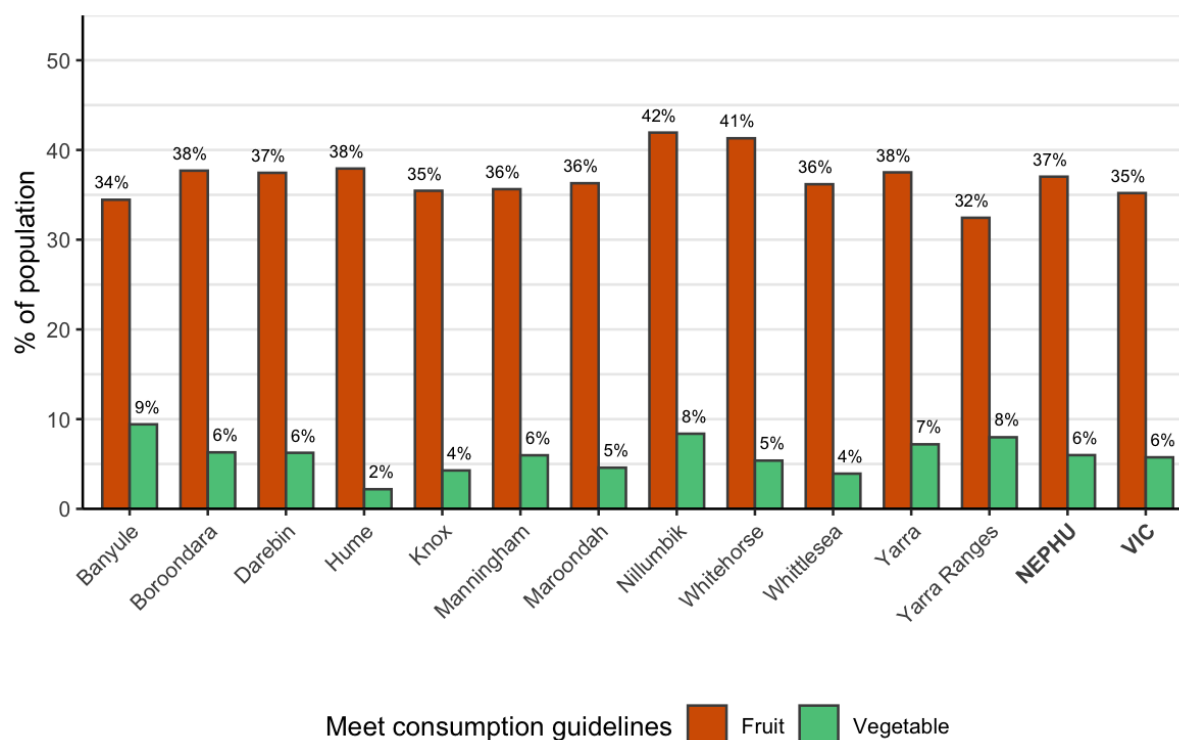


Australian Dietary Guideline update due in 2026

The Australian Government has provided the NHMRC with funding to undertake a comprehensive [review of the Australian Dietary Guidelines \(2013\)](#). Updated guidelines are expected to be released in 2026. The new guidelines will have a greater focus on sustainability as well as recommendations for older Australians.

Box 14: Australian Dietary Guideline update due in 2026

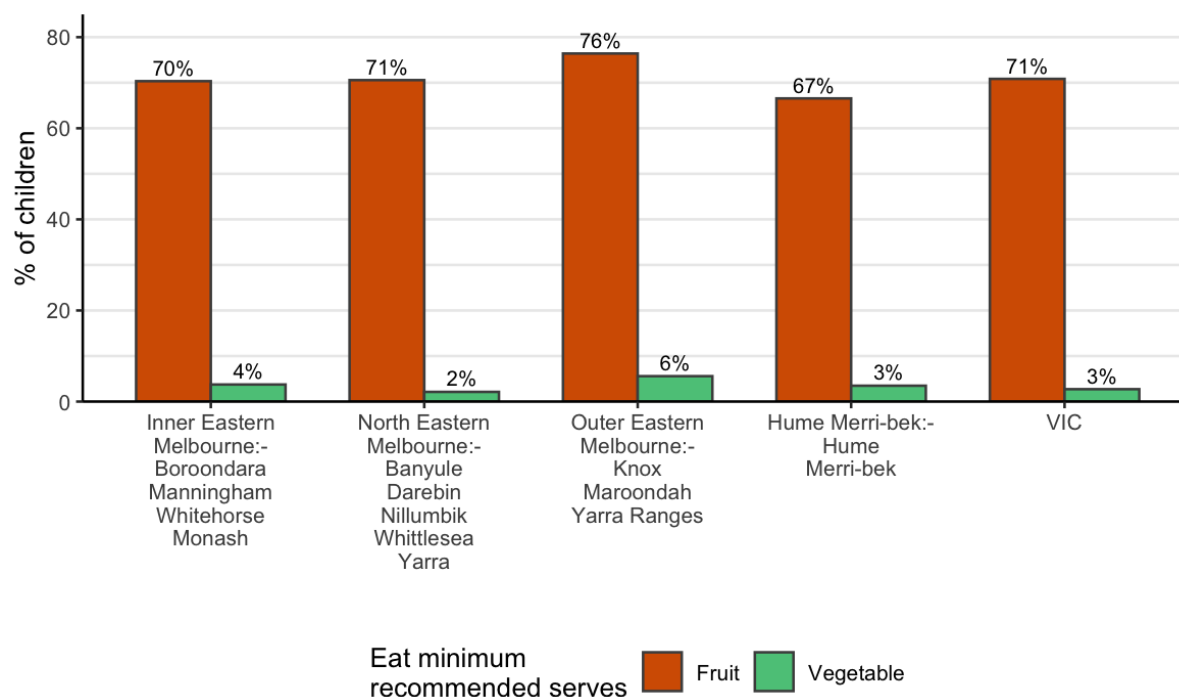
Figure 64: Proportion of adult population who met fruit and vegetable recommended consumption by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: The VPHS records the proportion of the adult population (aged 18 years and over) who met the fruit and vegetable recommended consumption guidelines as per the Australian Dietary Guidelines 2013. Data table for this figure in **Appendix 2: Table A55**

Figure 65: Proportion of children (aged 4-12 years) who consumed the minimum recommended serves of fruit and vegetables daily, by Department of Education area, 2023



Data source: VCAMS 2023 – indicator 2.1a and 2.1b

Data notes: Minimum recommended serves of vegetables daily (4.5 serves for children aged 4 to 8 years; 5 serves for boys aged 9 to 11 years and girls aged 9 to 12 years; 5.5 serves for boys aged 12 years). Minimum recommended serves of fruit daily (1.5 serves for children aged 4 to 8 years; 2 serves for children aged 9 to 12 years).

LGAs listed under each Department of Education area. Monash and Merri-bek LGAs are not part of NEPHU.

Data table for this figure in **Appendix 2: Table A56**

11.4. Physical Activity Levels

'Physical activity' is any bodily movement produced by skeletal muscles that requires energy expenditure. Being physically active is important for health across all ages and contributes to growth and development in children and adolescents. Physical activity can also improve symptoms, and delay or halt the progression of a number of conditions, or the onset of associated diseases and complications (36). Australian guidelines for recommended physical activity are described in **Box 15**.

Data was sourced from the VPHS 2023 and records the self-reported level of physical activity for respondents aged 18 and over.

- *One third (34.2%) of the NEPHU adult population reported meeting the minimum recommended physical activity levels, participating in at least 150 minutes of physical activity per week (Figure 66).*
- *Approximately 1 in 7 adults within NEPHU reported no physical activity (14.9%).*
- *A higher proportion of children met the recommended physical activity levels than adults, with a Victorian average at 51.2% reporting at least 1 hour of physical activity per day (Figure 67). The North Eastern Melbourne region had the lowest proportion of children meeting physical activity guidelines (42.9%).*

Australian physical activity and sedentary behaviour guidelines:



Adults should be active on most (preferably all) days, to weekly total of:

- 2.5 to 5 hours (150 minutes – 300 minutes) of moderate activity or
- 1.25 to 2.5 hours (75 minutes – 150 minutes) of vigorous activity or an equivalent combination of both.

Children aged 5- 17 should have:

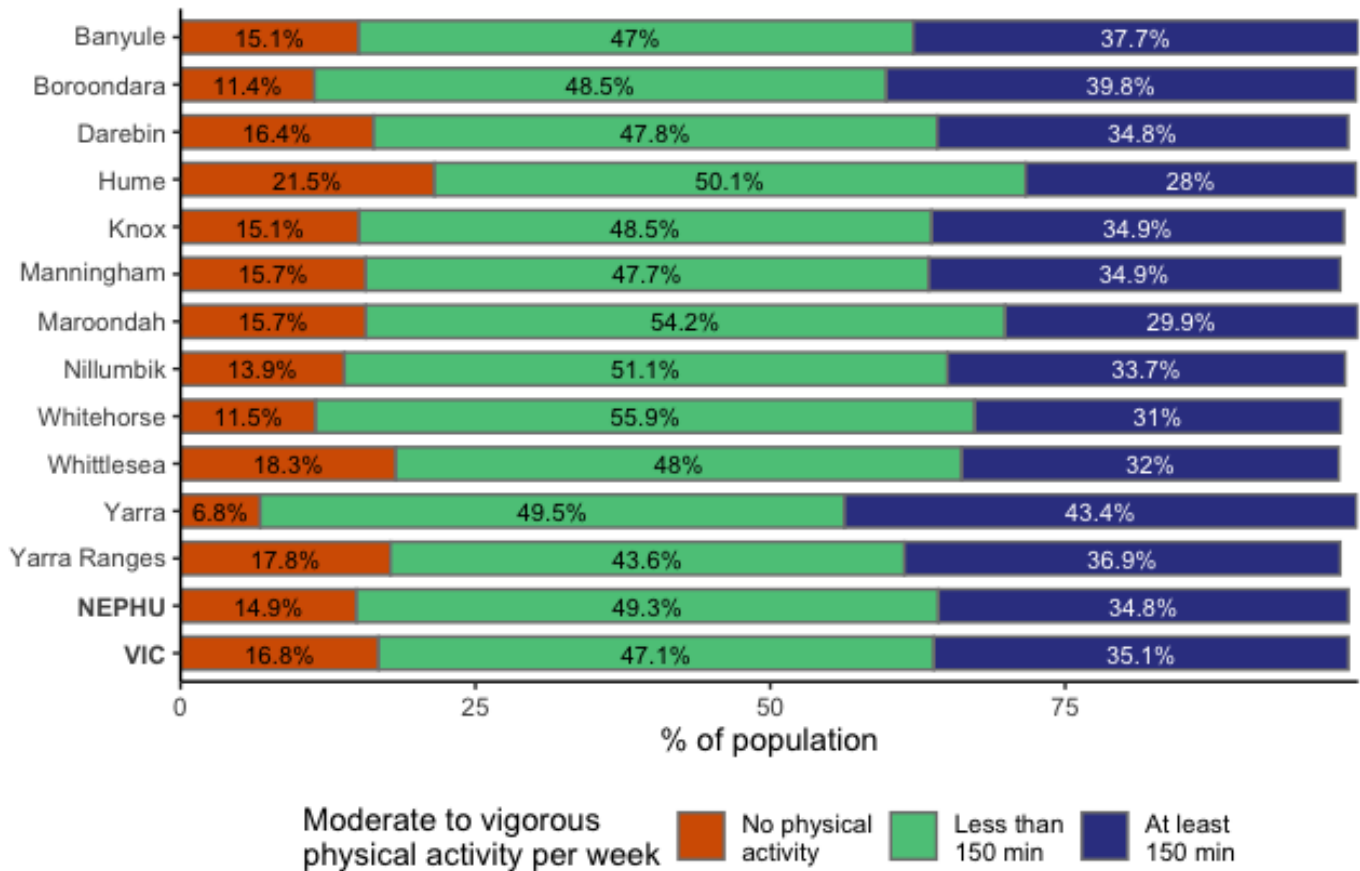
- At least 1 hour of moderate to vigorous activity involving mainly aerobic activities per day.
- Muscle-strengthening activities should be incorporated at least 3 days per week.
- Several hours of light activities per day is also recommended.

**There are individual recommendations for pregnancy and older Australians 65 years and over.*

Box 15: Australian physical activity and sedentary behaviour guidelines



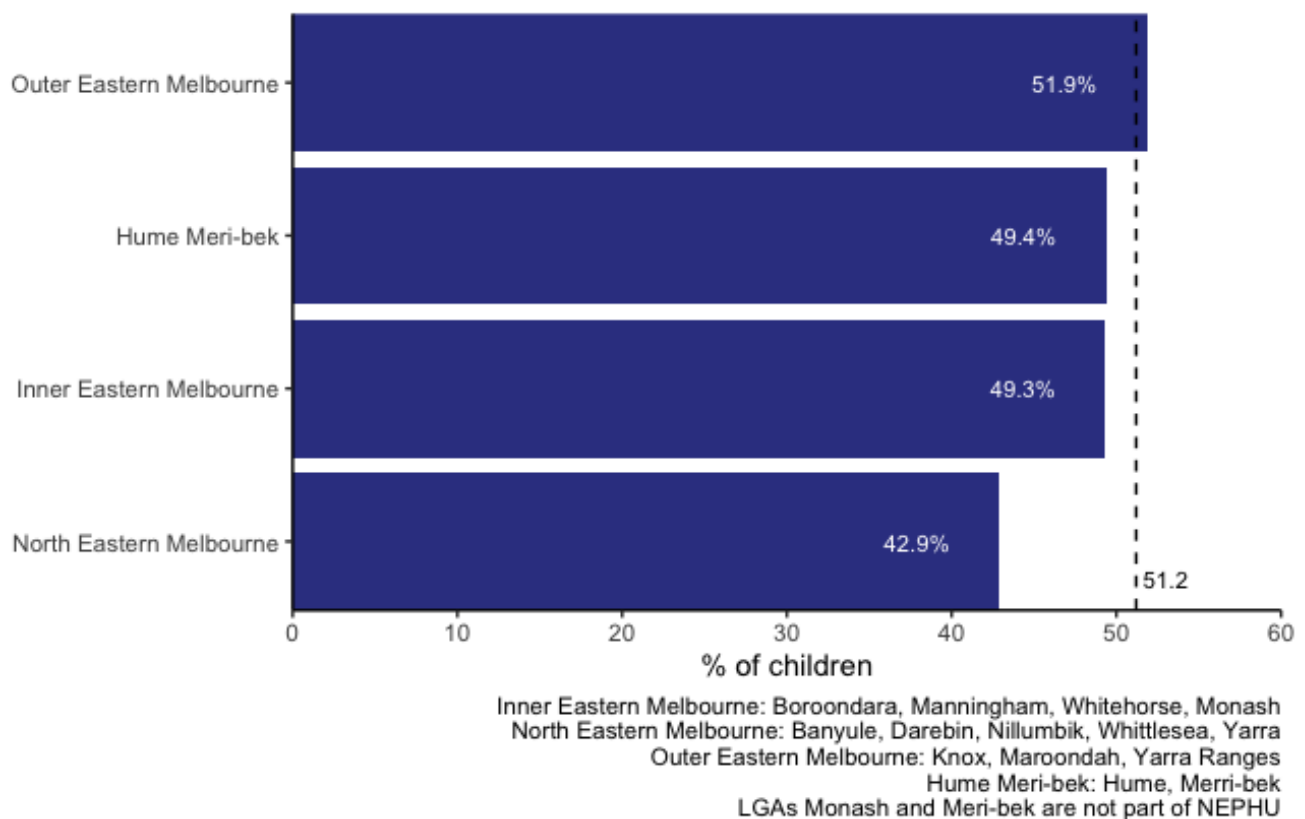
Figure 66: Level of weekly physical activity (proportion of adult population) by LGA, 2023



Data Source: [VPHS 2023](#)

Data Notes: Respondents (adults aged 18 years and over) were asked to determine their level of physical activity with the question "In the past week, on how many days have you done a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? This may include sport, exercise, and brisk walking or cycling for recreation or to get to and from places but should not include housework or physical activity that may be part of your job." Data shown here in three categories - did not do any moderate to vigorous physical activity, less than 150 min moderate to vigorous physical activity per week, at least 150 min moderate or vigorous physical activity per week. Data table for this figure in **Appendix 2: Table A57**

Figure 67: Proportion of children (aged 5-13 years) who met the recommended level of physical activity every day



Data Source: [VSHAWS 2023](#)

Data Notes: Data sourced from VSHAWS survey in 2023 and records the proportion of children aged 5-13 who do the recommended level of physical activity (>60min) every day. Dashed line represents Victorian average.

Data table for this figure is in **Appendix 2: Table A58**

11.5.Active Transport

Active transport refers to the use of physical activity (walking or cycling) for transportation and does not include physical activity that is purely a form of recreation. Active transport has cross-cutting benefits for both improvements in health as well as climate sustainability.

- Use of active transport was low across the catchment, with approximately 2.4% of the NEPHU population reporting active transport as their main mode of transportation to work. This is well below the 25% target set by the [Victorian Climate Change Strategy for 2030](#) (see **Box 16**).
- Yarra (10.4%) had the highest proportion of residents using active transport, followed by Darebin (4.1%) and Boroondara (3.4%), correlating with relatively high walkability scores in these LGAs. This reflects the impact that our environments have on our health-related behaviours (**Figure 68**).



Active transport targets

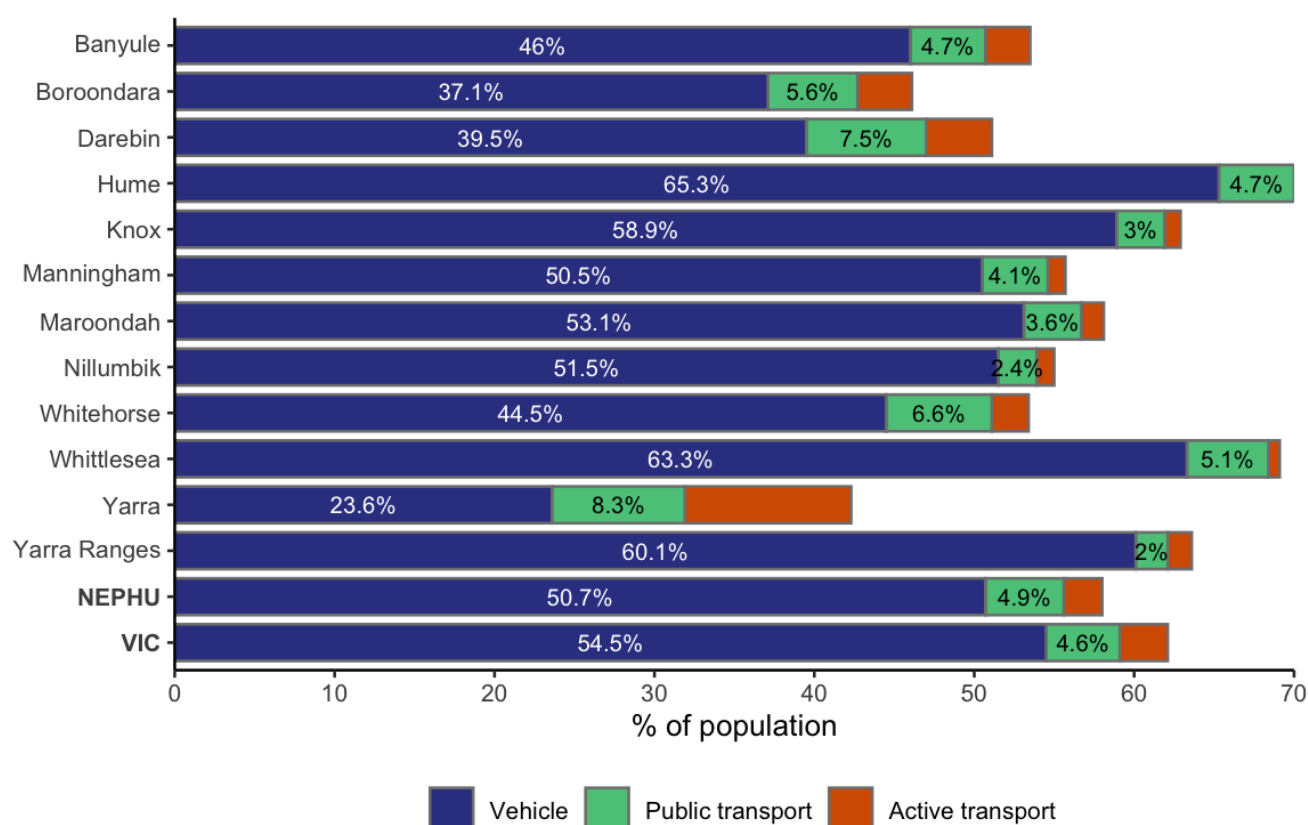
The Victorian Climate Change Strategy sets the target for 25% of trips to be by foot or cycle by 2030.

By participating in 15 minutes of walking a day, 5 days a week, the disease burden from physical inactivity would reduce by about 13%. If this is increased to 30 minutes, the burden can be reduced by 26%.

[20 minute neighbourhoods](#)

Box 16: Active Transport targets

Figure 68: Proportion of population and their mode of transport to work by LGA, 2021



Data source: [ABS census 2021](#)

Data notes: Data are presented here as proportion of persons aged 15 years and over who were employed during the week before the Census and their main mode of transportation to work. This includes active transport (biking or walking for transportation), public transport and vehicle. Data presented here does not show the remaining proportion working from home. Note that this information may be influenced by the COVID-19 lockdowns were occurring in Melbourne at the time of this census. Data table for this figure in **Appendix 2: Table A59**

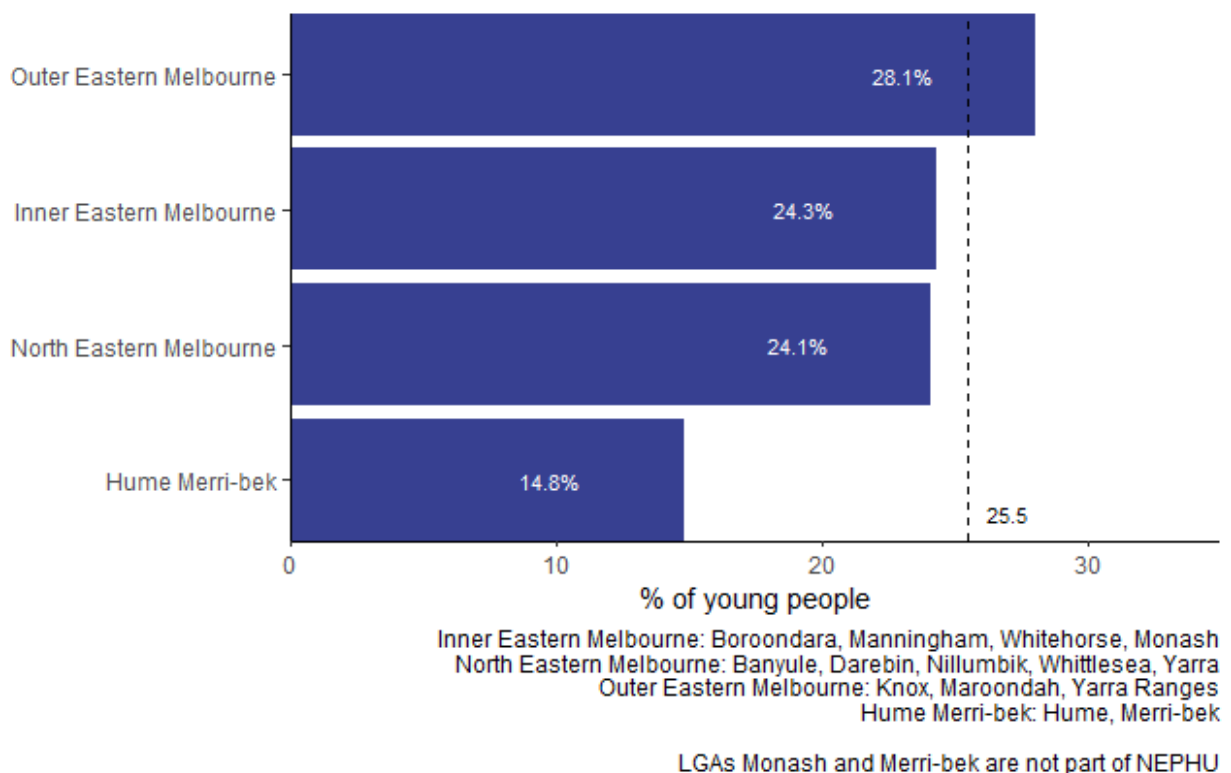
11.6. Condom Use by Young People

Safe sex (sometimes called safer sex) is when consenting partners engage in sexual contact whilst protecting themselves against sexually transmissible infections (STIs) and unplanned pregnancies. Condoms are the only contraceptive method that protect against both unplanned pregnancies and STIs and are recommended to always be used even when other contraceptives are in place. The ability to engage in sexual experiences without the risk of STIs and pregnancy is an important component of optimal sexual and reproductive health.

Data was sourced from VCAMS, collected in the Victorian Student Health and Wellbeing Survey 2023 and describes the proportion of sexually active students who reported always using a condom during sexual intercourse.

- Condom use was low among young people in Years 8 and 11 who were sexually active. The proportions who reported always using a condom were below the Victorian average (25.5%) in most regions within the NEPHU catchment (**Figure 69**).
- Within the Hume Merri-bek region, 14.8% of young people reported always using a condom during sex.

Figure 69: Proportion of young people (Years 8 and 11) who always used a condom during sex by Department of Education areas, 2018



Data source: [VSHAWS 2023](#)

Data notes: Denominator is number of students in Years 8 and 11 in government and independent schools, who have had sexual intercourse. Question items can be found [here](#). Question phrasing “When you have sex, do you or your partner use condoms?”. Dashed line represents Victorian average.

11.7. Women's Contraceptive Use

While oral contraception is the most commonly used contraceptive method in Australia, many health professionals regard LARC (Long-Acting Reversible Contraception) as best practice (75). LARC methods are more effective at preventing unintended pregnancy, have high continuation rates, and require minimal upkeep by the patient compared to other methods. The Victorian Women's Sexual and Reproductive Health Plan 2022-2030 continues a priority focus on increasing awareness of, access to, and uptake of LARC (37).

- *Within NEPHU, contraceptive intrauterine devices (IUDs) were more frequently used than contraceptive implants (6.5/1000 compared 5.8/1000) (Table 18).*
- *Contraceptive IUD rates were higher than the Victorian average (6.7/1000) in half of the LGAs in NEPHU including Nillumbik (7.1/1000), Banyule (7.2/1000), Darebin (7.7/1000), Whitehorse (8.0/1000), Boroondara (9.1/1000) and Yarra (11.1/1000).*
- *Rates of contraceptive implant use were lower than the Victorian average (7.5/1000) in all LGAs except Nillumbik (8.1/1000).*

Table 18: MBS claims for contraceptive implant and IUD insertion by LGA, 2022

LGA / NEPHU / VIC	Contraceptive Implant (MBS 14206)		Contraceptive IUD (MBS 35503)	
	Number of claims	Rate (per 1,000)	Number of claims	Rate (per 1,000)
Banyule	462	7.1	468	7.2
Boroondara	393	4.5	796	9.1
Darebin	456	6.0	590	7.7
Hume	722	5.9	625	5.1
Knox	485	6.0	405	5.0
Manningham	268	4.2	305	4.7
Maroondah	418	7.0	334	5.6
Nillumbik	257	8.1	227	7.1
Whitehorse	450	5.2	691	8.0
Whittlesea	632	5.5	587	5.1
Yarra	281	6.1	513	11.1
Yarra Ranges	480	6.1	433	5.5
NEPHU	5,304	5.8	5,974	6.5
VIC	22,673	7.5	20,542	6.7

Data source: [Victorian Women's Health Atlas, 2022](#)

Data notes: Number and rate of women who have made a MBS claim for using the two forms of long acting reversible contraception (LARC) methods - implant (MBS14206) or the intrauterine device (IUD) (MBS35503) in 2022. Rate is recorded as per 1,000 females, based on patient location.

12. Health Risk Behaviours

Data in this section may relate to sensitive topics. If you are experiencing distress or require support, please [CLICK HERE](#) for a list of support services available.

Section Summary

What health-risk behaviours are the NEPHU population demonstrating?

A person's health is influenced by behaviours that are part of their individual lifestyle (70). These health behaviours are dynamic over the lifespan and reflect a complex interplay between a multitude of factors including individual agency, societal structures, beliefs and contexts (62). In this chapter health behaviours that are known to negatively impact health outcomes are described for the NEPHU population.

The proportion of adults reporting daily tobacco smoking across the NEPHU catchment (8.3%) was lower than the Victorian average (10.1%) (see **Section 12.1**). There was variation across the catchment however (range 3.7% to 14.2%), suggesting ongoing opportunities for intervention. Rates of adult tobacco smoking can impact children, with nearly 1 in 4 children in the Hume-Merri Bek (24.4%) region exposed to tobacco smoke in the home, which was higher than the Victorian average of 14.7% of children exposed to tobacco smoke in the home (see **Section 12.3**). E-cigarette use (vaping) was relatively high across the NEPHU catchment (range 2.6% - 7%), with six out of twelve LGAs reporting daily vaping in proportions higher than the Victorian average (4.5%) (see **Section 12.2**). The LGAs with high proportions of daily e-cigarette use were not necessarily the same as those with high proportions of daily tobacco smoking. These findings suggest there may be different drivers to e-cigarette use than for smoking.

The majority of adults (67%) in the NEPHU catchment consumed alcohol at levels within the NHMRC 2020 alcohol guidelines. Just over one in 10 adults (12%) were consuming alcohol at harmful levels, increasing their risk of alcohol-related disease or injury (see **Section 12.4**). Alcohol consumption has been recognised to follow an inverse or atypical socioeconomic gradient in Australia, whereby areas with higher median incomes tend to have higher levels of harmful drinking behaviour. LGA-level data on self-reported illicit drug use was not available (see **Section 12.5**). Based on Victorian level, data from the National Drug Strategy Household Survey, the age of first use of illicit drugs was 19.6 years and 17.6% of people reported using an illicit drug within the past 12 months. Cannabis (10.2%) and cocaine (5.3%) remain the top two most commonly used illicit drugs in Victoria.

One third (33.4%) of the NEPHU population consumed sugar sweetened beverages daily or several times per week. Approximately one in seven people (14.5%) reported consuming take-away food at least weekly (see **Section 12.5**). Sedentary behaviour was common across the catchment, with 30.1% reporting sitting for eight hours or more on an average weekday (see **Section 12.6**). In

the LGA of Yarra, 45.3% of sedentary adults reported achieving at least 150 minutes of physical activity per week, thereby meeting physical activity recommendations. It would be valuable to explore this observation further as studies suggest physical activity can mitigate some of the harmful impacts of sedentary behaviour.

There is increasing recognition of the variety of harms that can arise from gambling for individuals, families, communities and society at large. The recently published Lancet Public Health Commission on gambling (71) positions

gambling as a public health issue and calls for stronger regulatory controls to prevent harms. Gambling behaviours were present in all LGAs in the catchment and annual spends per adult were higher in LGAs with more electronic gaming machines (EGMs) per capita (see **Section 12.7**). The LGAs with higher-than-average annual adult spends on EGMs were also the LGAs with the relatively lower median household incomes in the NEPHU catchment. While EGMs are only one form of gambling, this is an important example of the influence of commercial actors on health-related behaviours.



Health Risk Behaviours

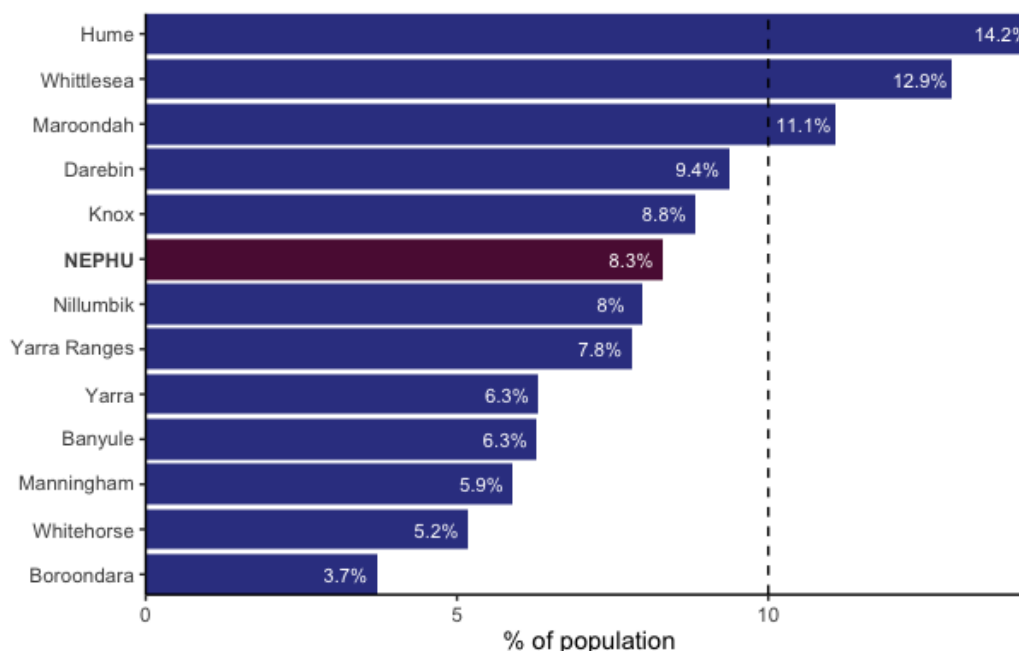
12.1. Tobacco Smoking

Despite an overall decreasing trend, tobacco smoking remains a leading cause of preventable death and disability in Australia (72). [The National Tobacco Strategy 2023-2030](#) seeks to improve the health of all Australians by reducing the prevalence of tobacco use and its associated health, social, environmental and economic costs, and the inequalities it causes.

Tobacco smoking data was sourced from the VPHS 2023 and records the proportion of the population who smoke tobacco daily.

- For the majority of LGAs in NEPHU, the proportions of adults (18 years or older) who smoked tobacco daily were below the Victorian average (10.1%), with the average proportion across the NEPHU catchment at 8.3% (**Figure 70**).
- The proportion of people reporting daily tobacco smoking was higher than the Victorian average in the LGAs of Maroondah (11.1%), Whittlesea (12.9%) and Hume (14.2%).
- The proportion of people reporting daily tobacco smoking was four times lower in Boroondara (3.7%) than in Hume (14.2%), and likely reflects the social gradient of health, whereby lower education and income levels are associated with higher rates of smoking (see **Section 6** for data on social determinants of health).

Figure 70: Proportion of population who smoke tobacco daily by LGA, 2023



Data source: [VPHS 2023](#)

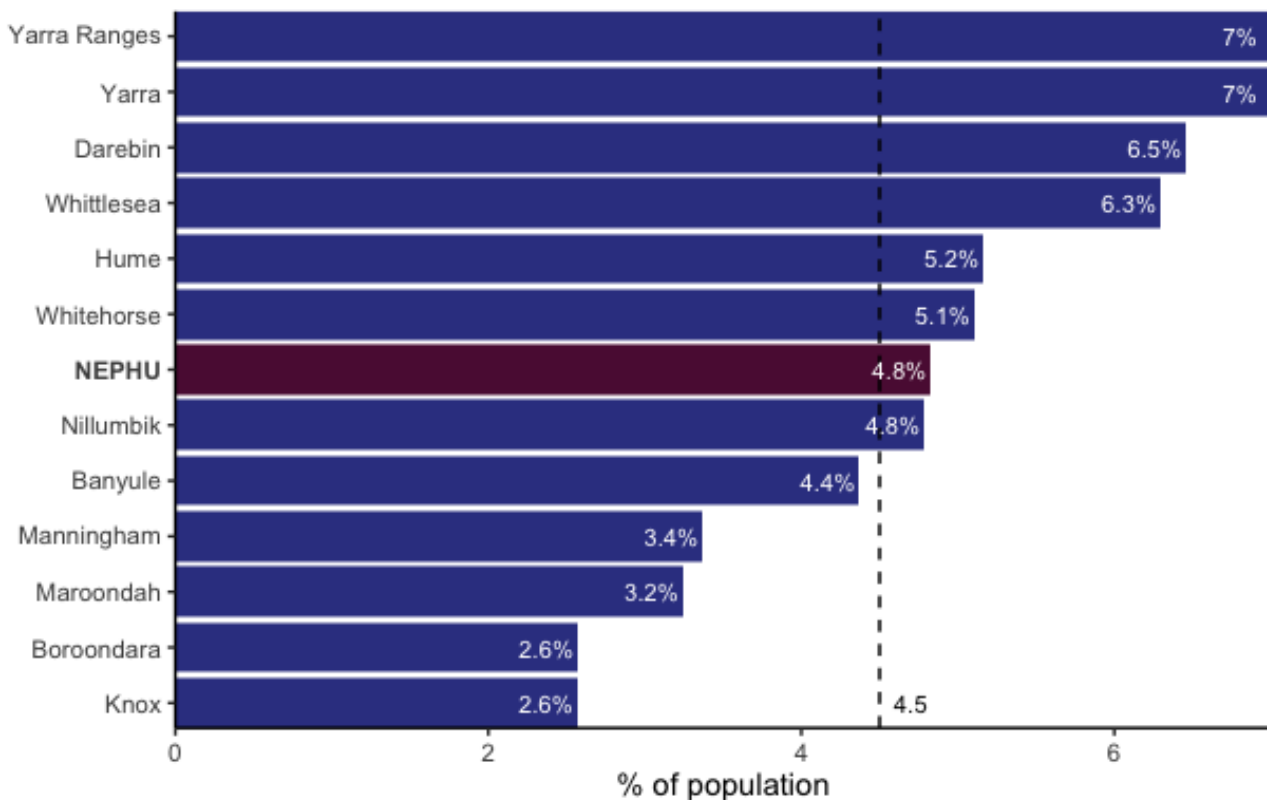
Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A61**

12.2.E-cigarettes (Vaping)

Rates of e-cigarette use are increasing in Australia. According to the [National Drug Strategy and Household Survey \(NDSHS\)](#), 1 in 5 (19.8%) people aged 14 years and over reported having used e-cigarettes in their lifetime. A recent study in Australian teenagers showed people who vape but have never smoked are at least five times as likely to take up smoking (80). [The National Tobacco Strategy 2023-2030](#) and associated campaign has been expanded in 2024 to include the risks and harms of vaping.

Vaping data at the LGA level is sourced from the VPHS 2023 and records the proportion of the population (18 years and older) who use e-cigarettes daily. This survey was conducted prior to the implementation of stronger regulatory controls on e-cigarettes by the Australian Government in 2024.

- *In six of the 12 LGAs in the NEPHU catchment, the proportion of adults reporting daily vaping was higher than the Victorian average of 4.5% (**Figure 71**). Across the NEPHU catchment, the average proportion of adults who reported daily vaping was 4.8%.*
- *Yarra Ranges (7%) and Yarra (7%) had the highest proportion of adults reporting daily vaping. Knox had the lowest (2.6%) proportion of adults reporting daily vaping, despite having a higher proportion of adults reporting daily tobacco smoking than the NEPHU average. These findings suggest there are different drivers to e-cigarette use than for smoking.*

Figure 71: Proportion of population who vape daily by LGA

Data source: [VPHS 2023](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A62**

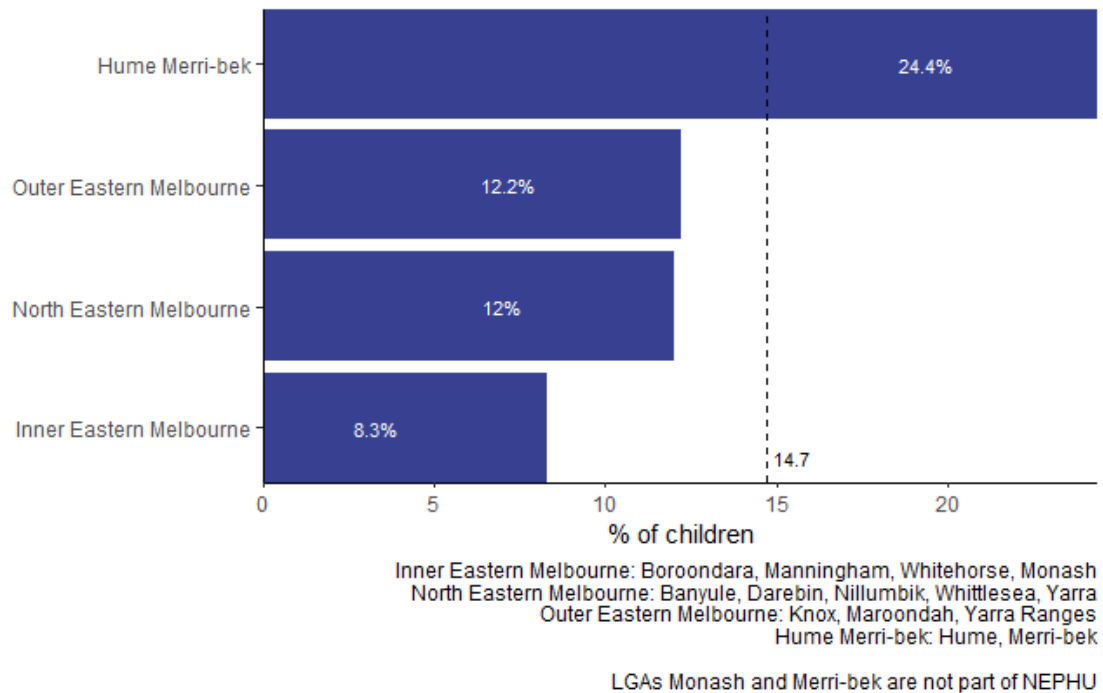
12.3.Secondary Smoke Exposure to Children

Children are particularly sensitive to respiratory irritants. Exposure to secondary smoke in the home is a recognised cause of sudden unexpected death in infants (SUDI) and increases the risk of middle ear infections and respiratory illnesses for children, including asthma, bronchitis and pneumonia. There is also increasing evidence and recognition that the residual tobacco smoke constituents that remain on surfaces and in dust after tobacco has been smoked (known as third-hand smoke) exposes children to harmful chemicals long after adults have finished smoking or vaping (73,74) (see **Figure 73**).

Data is sourced from the [Victorian Child Health and Wellbeing Survey](#) (VCHWS 2023) and records the proportion of children under 13 years of age who were exposed to tobacco smoke in the home.

- Nearly 1 in 4 children in the Hume Merri-bek (24.4%) region were exposed to tobacco smoke in the home (**Figure 72**), which may correspond to the relatively higher proportion of adults reporting daily tobacco smoking in Hume LGA (14.2%, see **Figure 70**).
- Children across the other regions had lower reported exposure to tobacco smoke in the home (range 8.3% – 12.2%) and were all below the Victorian average of 14.7%.

Figure 72: Proportion of children (under 13 years) who were exposed to tobacco smoke in the home in 2023, by Department of Education areas



Data source: [VCHWS 2023](#)

Data notes: Indicator represents the number of children aged under 13 years of age who live in a household where one or more regular smokers reside and smoke inside the home. Denominator is number of children aged under 13 years of age in sample. Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A63**

Figure 73: Pathways of second and third-hand smoke exposure to children



Figure 73 Reference: [Raising Children's Network](#) (109)

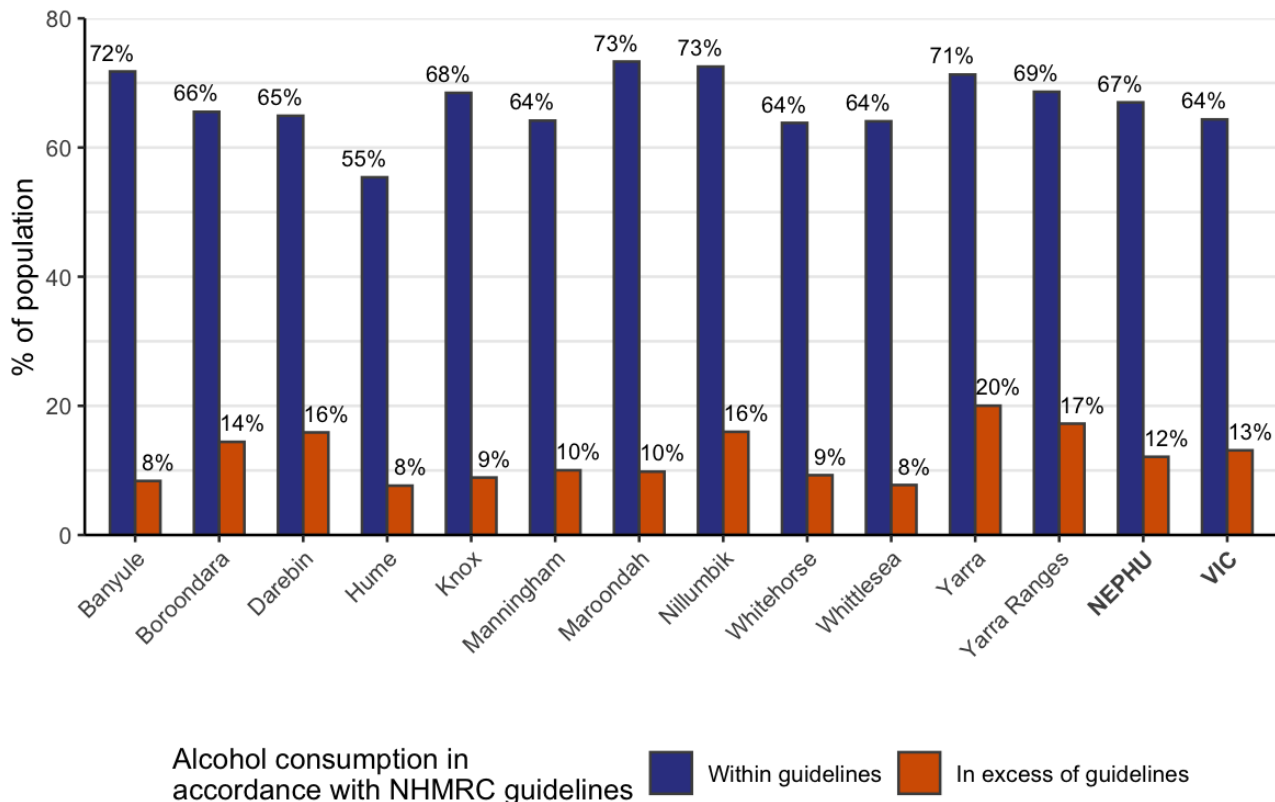
12.4. Alcohol Consumption

Alcohol consumption is common and is associated with many Australian social and cultural activities. However, harmful levels of consumption are a major health issue, associated with increased risk of chronic disease, injury and premature death. In 2020, the National Health and Medical Research Council (NHMRC) updated the [Australian guidelines to reduce health risks from drinking alcohol](#) (see **Box 17**).

Data for **Figure 74** is sourced from VPHS 2023 and describes the proportion of adults who consumed alcohol at harmful levels, in excess of the revised NHMRC guidelines. Data for **Figure 75** is compiled by [PHIDU](#) using modelled estimates based on responses from the 2017-2018 National Health Survey and describes the aged standardised rate of adults drinking more than two standard drinks per day.

- *Two thirds of adults reported alcohol consumption at levels within the recommended guidelines (67%, range 55%-73%) (**Figure 74**). (Note, data for abstainers is not included here).*
- *Over 1 in 10 people across the catchment (12%) reported alcohol consumption at harmful levels in excess of the guidelines, similar to the Victorian average (13%).*
- *Yarra (20%), Yarra Ranges (17%), Nillumbik (16%), Darebin (16%) and Boroondara (14%) had people reporting harmful alcohol use in greater proportions than the NEPHU and Victorian averages. Many of these areas have higher than average median incomes (see **Section 6.5**), reflecting the inverse (atypical) social gradient often observed with harmful alcohol use.*
- *When disaggregated by sex, males were consuming more than two standard drinks per day at higher rates than females in all LGAs (**Figure 75**).*

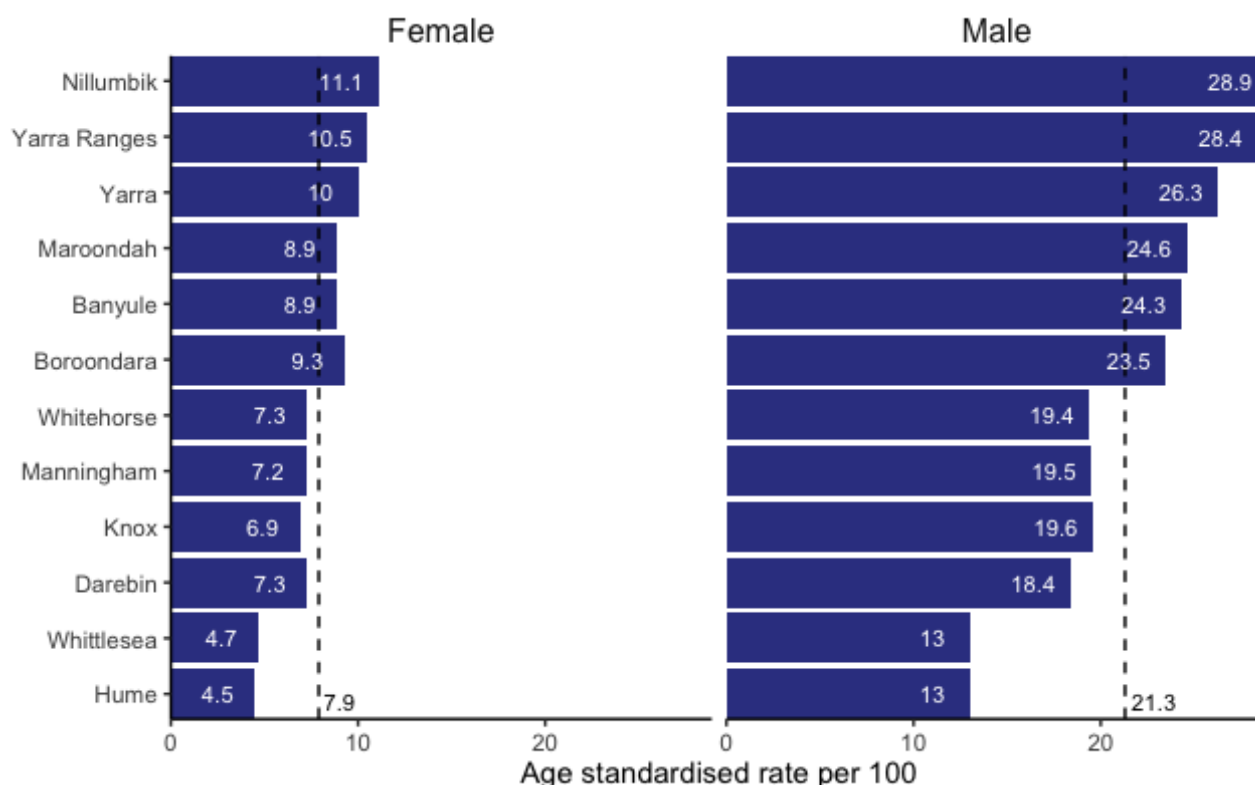
Figure 74: Proportion of adults consuming alcohol within or in excess of the revised NHMRC guidelines by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: Two survey questions were included: 1) In the last 12 months, how often did you have an alcohol drink of any kind (never, daily, weekly (number of days/week), monthly (number of days/month). 2) On a day that you have an alcohol drink, how many standard drinks do you usually have? (number). The proportion exceeding the revised NHMRC guidelines from 2020 is calculated and reported by the VPHS based on Recommendation 1) No more than 10 standard drinks a week and Recommendation 2) No more than 4 standard drinks on any single day. Data for abstainers is not shown here so percentages do not equal one hundred.

Figure 75: Age-standardised rate of people drinking more than two standard alcoholic drinks daily by LGA, 2017-2018



Data source: PHIDU

Data notes: Data are based on modelled estimates from 2017-2018 National Health Survey and measures the age-standardised rate (per 100) of persons aged 18 years and over who consumed more than two standard alcoholic drinks per day. Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A65**



NHMRC Alcohol Guidelines – updated 2020

<https://www.health.gov.au/news/australian-alcohol-guidelines-revised>

The revised Australian guidelines to reduce health risks from drinking alcohol were released in December 2020. The Guidelines advise that to reduce the risk of harm from alcohol-related disease or injury:

- Healthy adults should drink no more than 10 standard drinks* a week AND no more than 4 standard drinks* on any one day
- Children and people under 18 years of age should not drink alcohol
- Women who are pregnant or breastfeeding should not drink alcohol

Following these Guidelines keeps the risk of harm from alcohol low, but it does not remove all risk.

For healthy adults, drinking within these Guidelines keeps the lifetime risk of dying from an alcohol-related disease or injury below 1 in 100.

*A standard drink is always equal to 10g of pure alcohol. See [here](#) for further details.

Box 17: NHMRC Alcohol Guidelines - updated 2020



12.5. Illicit and Other Substance Use – Victoria

LGA level data on reported illicit and other substance use was not available. Victorian summary statistics are instead reported here for people aged 14 years and over, based on the [National Drug Strategy Household Survey 2022- 2023](#).

The data presented here are directly transposed from the [AIHW - State and Territory summaries of alcohol, tobacco, e-cigarette and other drug use](#) summary page. Further data sources regarding illicit drugs are referenced in **Box 18**.

- *In Victoria, 17.6% of people reported using an illicit drug within the past 12 months.*
- *The average age at which people first tried an illicit drug was 19.6 years (this excludes non-medical use of pharmaceuticals, for which the age of first use was 25.0 years).*
- *While cannabis and cocaine have remained the top two most commonly used illicit drugs in Victoria, the relative rates of use of other commonly used illicit drugs has changed since 2019 (**Table 19**).*

Table 19: Top 5 illicit drugs used in the previous 12 months in Victoria, people aged 14 and over, 2019 and 2022-2023

No.	2019	2022-2023
1	Cannabis (11.5%)	Cannabis (10.2%)
2	Cocaine (5.2%)	Cocaine (5.3%)
3	Ecstasy ^a (3.7%)	Hallucinogens (3.2%)
4	Pain-relievers and opioids ^b (2.6%)	Ecstasy ^a (2.9%)
5	Tranquillisers/sleeping pills ^b (2.4%)	Ketamine (2.6%)

Data source: NDSHS 2022-2023, data tables [here](#) and summarised by AIHW [here](#)

Data notes: (a) Declines in ecstasy are likely to be temporary due to disruptions in supply chain during COVID pandemic – [see here for further details](#). (b) For non-medical purposes. Results exclude methamphetamine and amphetamine (1.4% in 2022–2023) and non-medical use of pharmaceutical stimulants (2.4% in 2022–2023), as use of these drugs was not collected in 2019.



More information on illicit drug use

- **National Drug and Alcohol Research Centre– The Drug Trends program**
Has state based data visualisations on overdose and drug-induced deaths, drug-related hospitalisations and cryptomarket drug listings.
- **ASSAD 2022-2023:** Australian Secondary School Students' use of alcohol and other substances
- **AODStats** - interactive statistics and mapping webpage that provides information on the harms related to alcohol, illicit and pharmaceutical drug use in Victoria.
<https://aodstats.org.au/explore-data/>
- Pennington Institute <https://www.pennington.org.au/>

Box 18: Additional resources for data about illicit drugs

12.6. Take-Away Food and Sugar Sweetened Beverage Consumption

Dietary practices play an important role in health and wellbeing. Discretionary foods (often available as take-away foods or sugar sweetened beverages) are energy dense, nutrient poor and high in sugar, salt and saturated fats. They are not recommended within the Australian Dietary Guidelines. Reducing the proportion of children and adults' total energy intake from discretionary foods from >30% to <20% by 2030 is a target within the [National Obesity Strategy](#).

Data was sourced from two waves of the VPHS survey in 2017 (take-away foods) and 2023 (sugar sweetened beverages).

- *14.5% of the NEPHU population reported consuming take-away food at least once a week and this is on par with the Victorian average of 15.3% (**Table 20**)*
- *33.4% of the NEPHU population reported consuming sugar sweetened beverages daily or several times per week.*
- *LGAs with frequent take-away use were not necessarily the same LGAs with high sugar sweetened beverage consumption, suggesting there may be different drivers for these behaviours.*

Table 20: Proportion of the population reporting take-away food and sugar sweetened beverage consumption by LGA

LGA / NEPHU / VIC	Take-away food at least once a week	Sugar sweetened beverage daily or several times per week
Banyule	18.2	29.3
Boroondara	12.8	28.1
Darebin	11.5	30.6
Hume	8.8	45.5
Knox	15.8	36.0
Manningham	17.0	30.8
Maroondah	17.1	34.2
Nillumbik	12.6	35.1
Whitehorse	17.3	30.3
Whittlesea	15.9	36.5
Yarra	16.3	28.2
Yarra Ranges	10.4	37.0
NEPHU	14.5	33.4
VIC	15.3	34.4

Data source: *VPHS 2017 (take-away food), VPHS 2023 (sugar sweetened beverage)*

Data notes: Light blue: estimate is less than both NEPHU and VIC estimates;

Medium blue: estimate is greater than either NEPHU or VIC estimate;

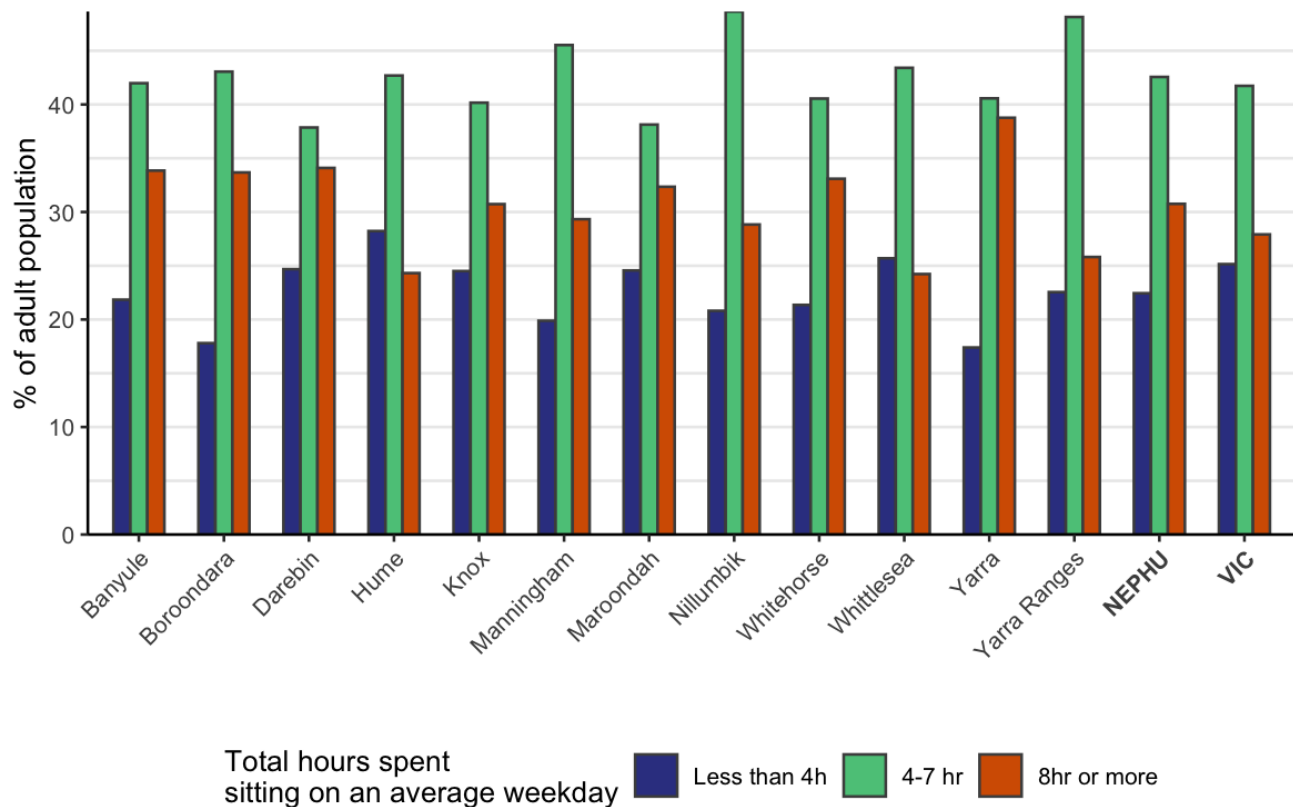
Blue: estimate is greater than both NEPHU and VIC estimate.

12.7. Physical Inactivity and Sedentary Behaviour

Physical inactivity significantly increases the risk of developing cardiovascular disease, diabetes, breast and colon cancer, mental health issues, experiencing falls and musculoskeletal conditions.

Data is sourced from the [VPHS 2023](#) and measures the total time (hours) that adults spent sitting on an average day. Those who spent seven hours or more sitting were categorised as sedentary. For sedentary adults, the minutes per week spent on physical activity (enough to raise breathing rate) were also recorded.

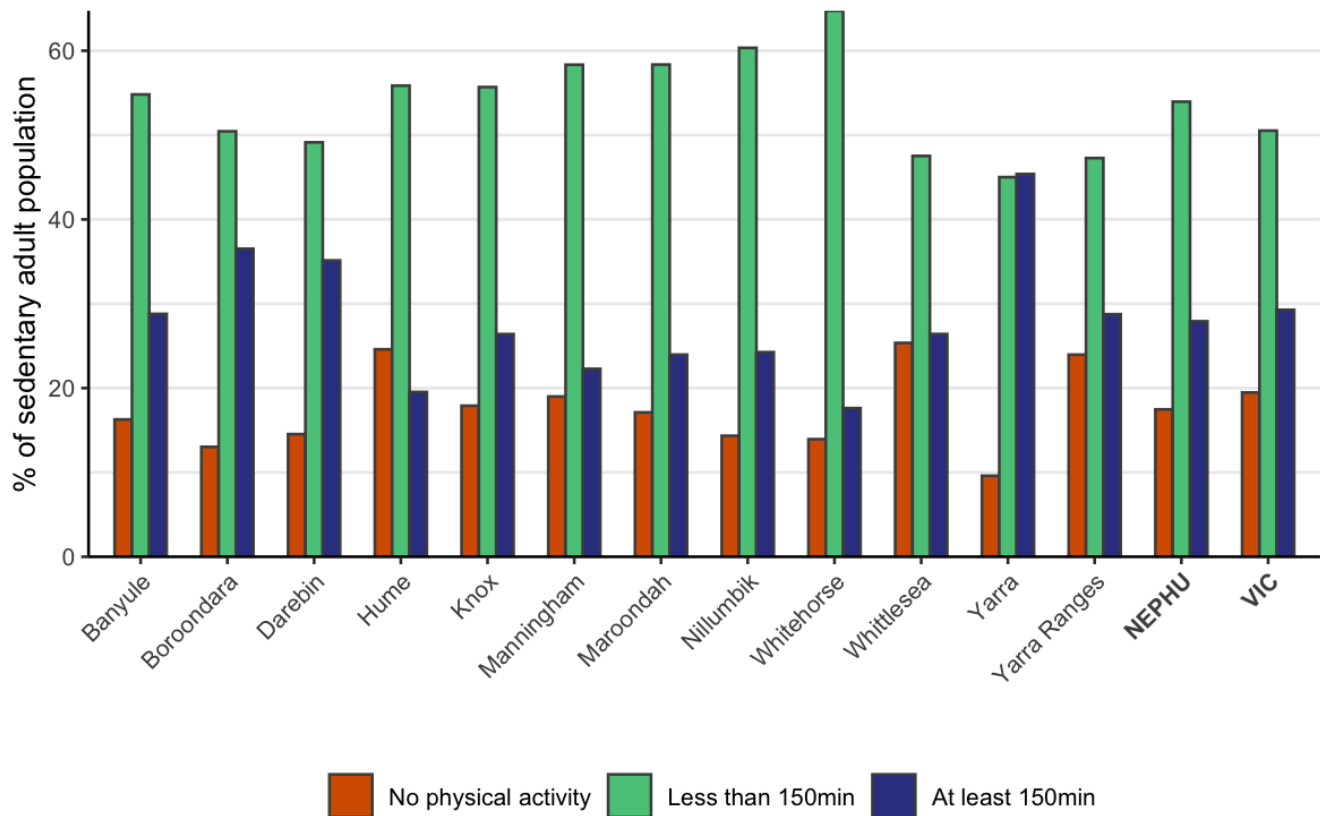
- *Nearly one third (30.1%) of the NEPHU population reported sitting for eight hours or more on an average weekday, which is considered sedentary behaviour (**Figure 76**).*
- *The LGAs of Hume (24.3%), Whittlesea (24.2%) and Yarra Ranges (25.9%) had the lowest proportion reporting sedentary behaviour, however within the sedentary group, there were high proportions reporting no physical activity at all (**Figure 77**).*
- *Yarra (38.8%) had the highest proportion reporting at least eight hours of sitting per day, however of this sedentary group, nearly half (45.3%) met the minimum physical activity guidelines of at least 150 minutes of activity per week. This may relate to the high walkability of Yarra and the high proportion of the population using active transport.*

Figure 76: Total hours spent sitting on an average weekday among adults by LGA

Data source: [VPHS 2023](#)

Data notes: The Victorian Population Health Survey defined sedentary as sitting for seven hours or more during an average weekday. Data were grouped by VPHS into time bands <2 hours, 2-3hours, 4-5hours, 6-7hours, 8 or more hours. Groupings have been collapsed together here for ease of interpretation. Data table for this figure in Appendix 2: Table A66

Figure 77: Total minutes spent on physical activity per week among sedentary adults by LGA



Data source: [VPHS 2023](#).

Data notes: Data table for this figure in **Appendix 2: Table A67**

12.8. Gambling

There is increasing recognition of the variety of harms that can arise from gambling, including financial hardship, relationship conflict or breakdown, underperformance in work or study, emotional or psychological distress, cultural harm, criminal activity and reduced health (75).

Data was sourced from the Victorian Gambling and Casino Control Commission (VGCCC) via the Victorian Responsible Gambling Foundation [website](#). Data records the total number of electronic gaming machines (EGM) and annual spend by the population playing on the EGMs in 2022/2023 financial year. Additional gambling related data sources are listed in **Box 19**.

- *Gambling behaviours using electronic gaming machines (EGMs) were present in all LGAs (**Table 21**).*
- *The annual spend per adult was higher in LGAs with more EGMs.*
- *The LGAs of Hume, Whittlesea, Maroondah, Darebin, Knox and Manningham had higher average spend per adult compared to the Victorian average. These LGAs all have median incomes below the NEPHU average and relatively greater disadvantage compared to other LGAs in NEPHU (see **Section 6.5** for median incomes).*

Table 21: Gambling summary statistics in 2022/2023 financial year by LGA

LGA / NEPHU / VIC	Total venues with EGMs	Total number of EGMs	EGMs per 1000 population	Annual spend (\$)	Annual spend per adult (\$)
Banyule	9	634	6	57,169,939	540
Boroondara	4	162	1	18,797,009	125
Darebin	12	744	5	85,837,107	604
Hume	14	833	4	139,030,852	713
Knox	11	767	6	78,302,497	586
Manningham	6	460	4	60,358,351	563
Maroondah	8	640	7	62,283,768	645
Nillumbik	2	90	2	9,600,842	189
Whitehorse	6	431	3	56,114,551	373
Whittlesea	10	690	4	137,846,028	711
Yarra	7	288	3	30,411,152	320
Yarra Ranges	9	452	4	30,291,016	239
NEPHU	98	6,191	4	766,043,113	543
VIC	485	26,284	5	3,021,664,869	543

Data source: VGCCC – [Expenditure data by LGA](#)

Data notes: LGAs are based on the location of the machine location. This data only represents EGMs but gambling is more pervasive in communities with other forms including wagering in casinos, interactive gaming, minor gaming (such as bingo, raffles etc), KENO, racing and sports betting. Links to further information is provided below.



Further data sources for gambling

LGA level data:

- <https://www.vgccc.vic.gov.au/i-want/information-and-data>
- <https://www.vgccc.vic.gov.au/resources/information-and-data/expenditure-data>

Australian gambling statistic is a comprehensive set of statistics related to gambling in Australia, covering the entire range of legalised Australian gambling products. Released in December 2019, the latest set of statistics covers 2017–2018 and looks at products like pokies, casino games, race betting, sports betting and lotteries.

<https://www.qgso.qld.gov.au/statistics/theme/society/gambling/australian-gambling-statistics#current-release-australian-gambling-statistics>

Box 19: Further data sources for gambling



13. Biomedical Risk Factors

Section Summary

What is the distribution of biomedical risk factors across the catchment?

Biomedical risk factors are bodily states that have an impact on a person's risk of disease (38). Biomedical risk factors outlined in the National Preventive Health Strategy 2021–2030 include:

- high or low blood pressure
- high blood glucose levels
- overweight or obesity, and underweight
- high blood cholesterol
- genetics, epigenetics, and telomere biology

This handful of factors account for a significant proportion of Australia's 'burden of disease', which measures the total impact of disease in terms of morbidity and premature mortality. The latest AIHW Burden of Disease Study released in December 2024 revealed that at 8.3%, overweight and obesity overtook tobacco smoking (7.6%), dietary risks (4.8%), high blood pressure (4.4%), and high blood glucose (4.2%) as the leading modifiable risk factor contributing to the total burden of disease in Australians. Population level interventions to reduce these risk factors will have dramatic benefits on both the health of individuals and the health of the population.

This report section focuses on overweight and obesity in adults as well as high blood pressure, as there was contemporary local level data available for these two indicators. Blood glucose and blood cholesterol data was only available at national level, although updated data collection is pending in 2025 (see **Section 13.3**).

Just over one in five adults in the NEPHU catchment had high blood pressure (defined as blood pressure of greater than 140/90mmHg), based on modelled estimates from the 2014 National Health Survey (see **Section 13.2**). Studies suggest that over half of adults screened are unaware that they have high blood pressure and therefore cannot access appropriate management.

In 2023, over half (52%) the NEPHU adult population was living with overweight or obesity (defined as Body Mass Index ≥ 25 kg/m²) (see **Section 13.2**). There were high proportions of people living with overweight and obesity across numerous LGAs with varying socioeconomic profiles, age structures and cultural compositions, reflecting the complex and multifaceted drivers of obesity. Local level data on childhood obesity was last collected in 2014 and showed that the proportion of children with overweight and obesity was higher in the Hume Merri-bek region (44.2%) than the Victorian average (26.7%). Further information on childhood obesity can be found [here](#).



There is an evolving body of literature about the public health impact of genetics, epigenetics and telomere biology as it pertains to health outcomes such as cancer, alcohol dependence, dementia, diabetes and inflammatory bowel disease (77).

Studies suggest that environmental exposures, psychosocial stressors and nutrition can influence epigenetics (78–80). However, locally relevant data is not available, and a literature review of this topic was beyond the scope of this report.



Biomedical Risk Factor

13.1. Overweight and Obesity

The [National Preventive Health Strategy 2021-2030](#) and [National Obesity Strategy 2022-2032](#) recognise the contribution of overweight and obesity to the Australian burden of disease, and set targets to:

- 1) halt the rise and reverse the trend in the prevalence of obesity in adults by 2030 and;
- 2) reduce overweight and obesity in children and adolescents aged 2-17 years by at least 5% by 2030.

Overweight and obesity are indicators for measuring progress in [Australia's National Strategic Framework for Chronic Conditions](#).

Overweight and obesity is measured according to Body Mass Index (BMI) and defined as BMI ≥ 25 kg/m². Data for children with overweight or obesity were last collected by direct measurement in 2014 as part of the VSHAWS and are shown here by Department of Education areas (see **Table 22**). Data for adults were sourced from the VPHS 2023 and show the proportion of adults who are overweight or obese, based on Body Mass Index (BMI) calculated from self-reported height and weight (**Figure 78**).

- *In 2014, approximately one quarter of Victorian children (26.7%) had a BMI in the overweight or obese range for their age. Proportions varied across NEPHU, with a low proportion of 10.1% reported in the inner east and a high proportion of 44.2% reported in the Hume Merri-bek region (**Table 22**).*
- *Just over half of the adult NEPHU population (52.7%) were overweight or obese, which is slightly below the Victorian average of 54.4% (**Figure 78**).*
- *There was a wide range in the proportion of adults who were living with overweight or obesity across the catchment, with a 20% difference between the lowest proportion in Yarra (41.7%) compared to the highest proportions in Hume and Knox (61.3%).*
- *The proportions of adults living with overweight or obesity were higher than both the NEPHU and Victorian averages in Yarra Ranges, Maroondah, Nillumbik, Whittlesea, Knox and Hume (six out of twelve LGAs). These LGAs represent a broad mix of socioeconomic statuses, age structures and cultural backgrounds, reflecting the complex and multifaceted nature of the drivers of overweight and obesity.*

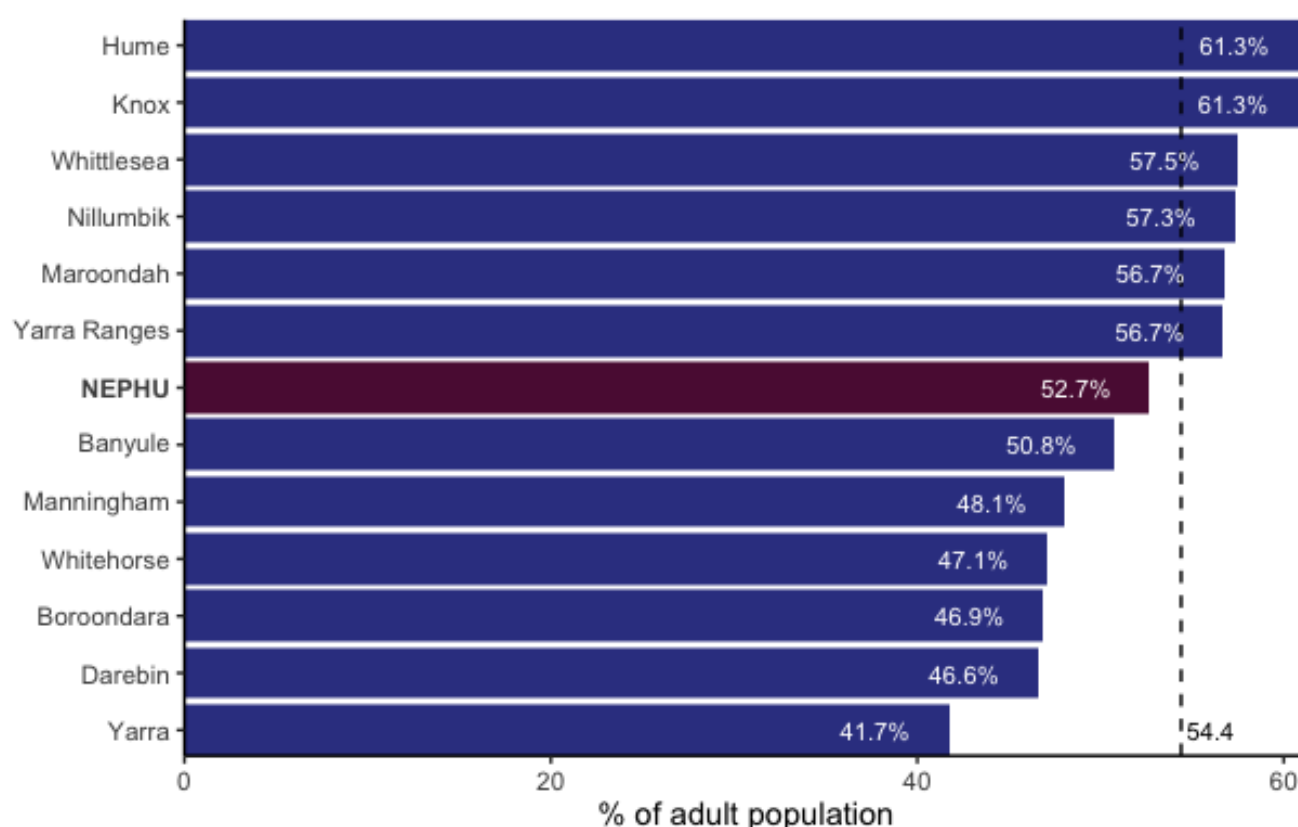
Table 22: Proportion of young people with a BMI in the overweight or obese range by Department of Education Area, 2014

Department of Education areas	% of children with BMI in overweight or obese range
Inner Eastern Melbourne	10.6
North Eastern Melbourne	28.0
Outer Eastern Melbourne	27.2
Hume / Merri-bek ^a	44.2
Victoria	26.7

Data Source: [VCAMS, VSHAWS 2014 \(indicator 6.1\)](#)

Data notes: Proportion of young people who have a Body Mass Index (BMI) in the overweight or obese range for their age and gender. Numerator Number of students in Years 5, 8 and 11 who have a Body Mass Index (BMI) in the overweight or obese range for their age and gender (direct measurement). Denominator: Number of students in Years 5, 8 and 11 in the sub-sample for whom height and weight were measured.

^a In 2014 this region was named Hume Moreland. The Department of Education areas [renamed Hume Moreland](#) region to Hume Merri-bek in 2022 but still covers the same region.

Figure 78: Proportion of the adult population who are overweight or obese based on self-reported BMI by LGA

Data source: [VPHS 2023](#)

Data notes: Data is sourced from the VPHS 2023 where respondents were asked to report their height and weight and this was used to calculate their Body Mass Index (BMI). Anyone who had a BMI of 25 kg/m² or less than 30 kg/m² was considered overweight. Anyone who had a BMI of 30 kg/m² or more was considered obese. Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A69**

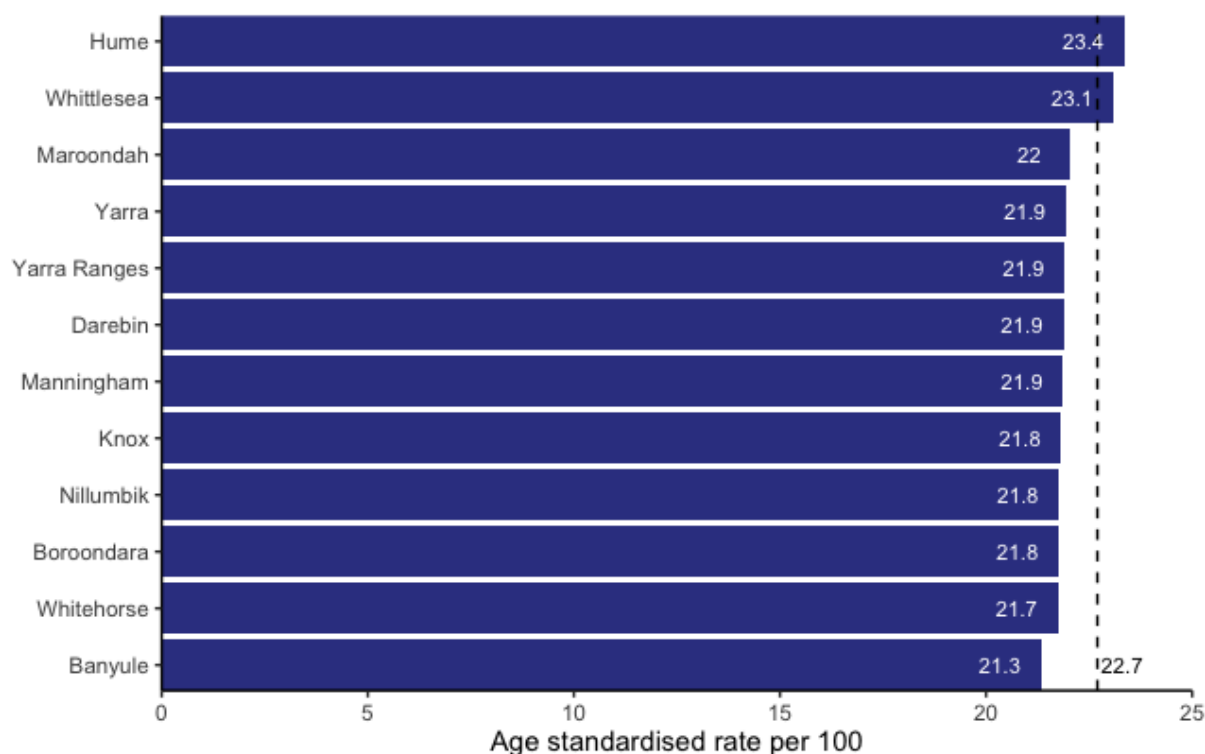
13.2.High Blood Pressure

High blood pressure (also known as hypertension and defined as a blood pressure of greater than 140/90mmHg) is a risk factor for many chronic conditions, including stroke, coronary heart disease, dementia and chronic kidney disease. High blood pressure is the fourth leading modifiable risk factor contributing to 5.1% of ill health and premature death (total burden of disease) in Australia in 2018 (39).

Reducing the burden of high blood pressure requires a system approach encompassing primary, secondary and tertiary prevention. A new national [Hypertension Taskforce](#) has been established in 2024 to improve the prevention, detection and effective treatment of high blood pressure in Australia (82). Their roadmap articulates steps to support full implementation of the National Preventive Health Strategy, harness systematic screening through primary care and promote healthy lifestyle counselling as first line treatment. The goal to increase the proportion of people with hypertension who have effective blood pressure control (defined as BP < 140/90mmHg) from 32% to at least 70% by 2030 is estimated to save millions of lives and AUD\$91.6 billion in GDP.

Data is compiled by PHIDU using modelled age-standardised rates based on blood pressure measured from participants in the 2014-2015 National Health Survey.

- *Rates of high blood pressure were relatively consistent across all LGAs in the NEPHU catchment (ranging from 21.3/100 people to 23.4/100 people) (**Figure 79**).*
- *Most LGAs in NEPHU, except Hume (23.4/100) and Whittlesea (23.1/100), were experiencing high blood pressure at rates below the Victorian average of 22.7/100.*

Figure 79: Age-standardised rate of hypertension by LGA, 2014

Data source: [PHIDU](#)

Data notes: Data measures the age-standardised rate (per 100) of persons aged 18 years and over who had high blood pressure (BP) defined as systolic BP of 140 mmHg or over or diastolic BP of 90 mmHg or over, irrespective of the use of BP medication. Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A70**

13.3. Blood Glucose and Blood Cholesterol – National Data

Data on blood cholesterol and blood glucose were last collected over a decade ago and at the national level in the [Australian Health Survey 2011-2012](#).

- In 2011-2012, 32.8% of Australian adults had measured high cholesterol.
- 3.1% of adults were at risk of diabetes based on measured impaired fasting glucose.
- New data collection for these biomedical risk factors is underway in the [Intergenerational Health and Mental Health Study; National Health Measures Survey](#) from 2022 to 2024 and is expected to be available in 2025 (39).

14. Health Service Utilisation

Section Summary

Is the NEPHU population able to access the health care they need?

This section provides a high-level snapshot of health service utilisation within the NEPHU catchment, based on publicly available data. The indicators selected include distribution and access to GP services, access to children's services, utilisation of aged care services and leading causes for Emergency Department (ED) presentation and hospital admissions. A more detailed analysis of health service utilisation based on relevant restricted-access datasets such as the Victorian Emergency Minimum Dataset (VEMD), the Victorian Admitted Episode Data (VAED), the MBS and PBS was beyond the scope of this report.

Timely access to quality health care is important in preventing, treating and managing diseases. The per capita number of GP clinics were relatively evenly distributed across postcode areas, with an average of 3.4 clinics per 10,000 people (see **Section 14.1**). The average distance to a GP clinic was 1050 metres, however there was broad variation in distance, both between and within LGAs (see **Section 14.1**). Nonetheless, transportation issues or distance were not cited as major barriers to accessing GP services. Of the one in five people who reported that they had not seen a GP in the last 12 months when they needed to, it was appointment availability (30.5%), cost (26.1%) and 'other reasons' (35.7%) that were frequently cited as barriers (see **Section 14.1**). Similarly, data from the Victorian Student Health and Wellbeing Survey in 2018 revealed that young people were able to access to mental health services less than half of the

time it was needed (range 26.3% – 41.9%) (see **Section 14.2**).

Among the older population aged 65 years and above, use of Home Support services for basic in-home assistance was common (19.3%) (see **Section 14.3**). Approximately 4.6% of the population aged 65 years and above were in residential aged care (range 2.43 – 5.9%). Approximately 60% (range 41.8% - 75.1%) of the NEPHU population held private health insurance, with the highest proportions in LGAs with the highest median incomes (see **Section 14.4**).

Females presented to public hospital EDs at a higher rate than males in all LGAs in 2020/2021 (see **Section 14.5**). Rates of presentations varied across LGAs. Boroondara had the lowest rate of presentations to EDs for both males and females, however it should be noted that the data do not include presentations to EDs within private hospitals, and 75% of adults in Boroondara have private health insurance hospital cover. The ICD-10 code: S00-T98 – Injury, Poisoning and Other External Causes was the top ranked cause of public ED presentations for all LGAs.

Hospital admission data included public and other (e.g. private) care episodes (see **Section 14.6**). Again, females required hospital admission at higher rates than males across all LGAs, predominantly due to conditions related to pregnancy, childbirth and the puerperium (ICD-10 codes O00-O99). Males in all LGAs within NEPHU were admitted to hospital at rates lower than the Victorian average. LGAs with higher socioeconomic status, such as Boroondara and Nillumbik, had lower use of public hospital services, however they had high rates of overall hospital admissions when including private and other hospital



Health Service Utilisation

14.1. Access to GP Services

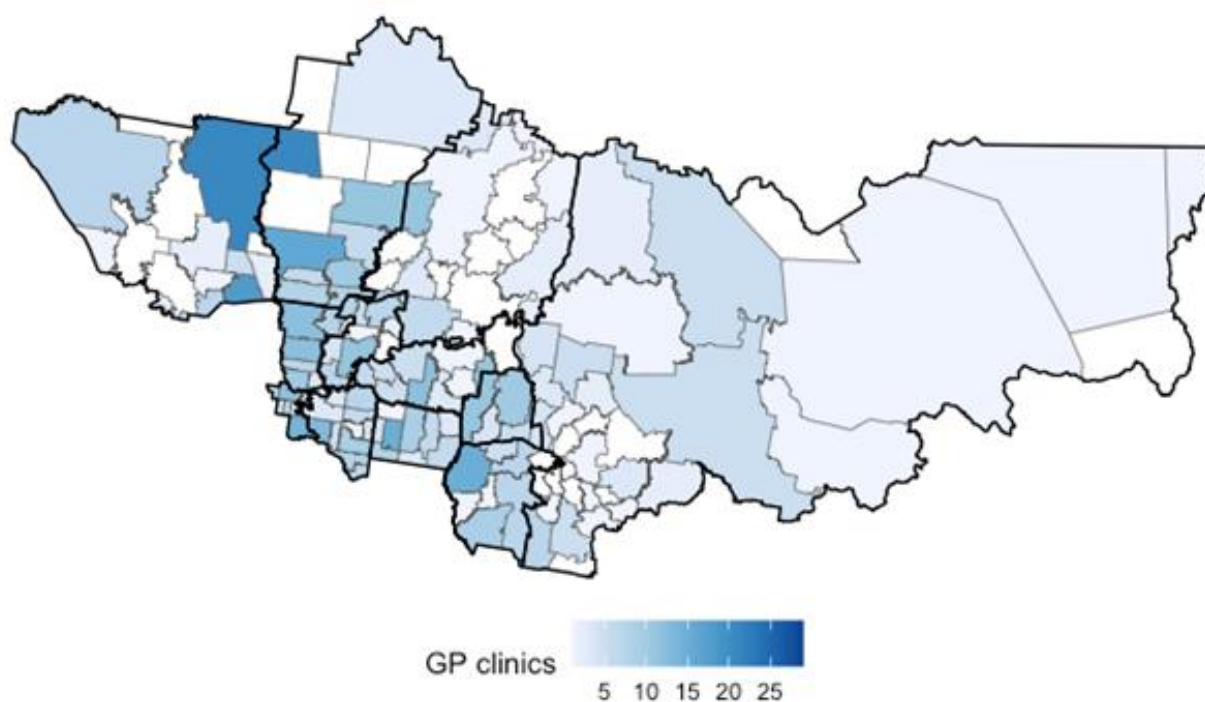
Primary care is the cornerstone of Australia's healthcare system and access to General Practitioners (GPs) are critical for advancing the health and wellbeing of populations. Access to GPs can be measured in a number of ways. Proximity to GP services is one measure of social infrastructure that can support physical and mental health outcomes. GP coverage based on postcodes and population sizes can identify workforce shortages or distribution priority areas. Consumer feedback about availability can also give insights into felt and expressed needs and service planning.

Data for GP coverage in **Figure 81** is sourced from HealthMap and counts the number of GP clinics and per capita (per 10,000) by postcode area.

Data for **Table 23** and **Figure 82** are sourced from AUO and measure the average distance to a GP clinic and a GP clinic with bulk billing.

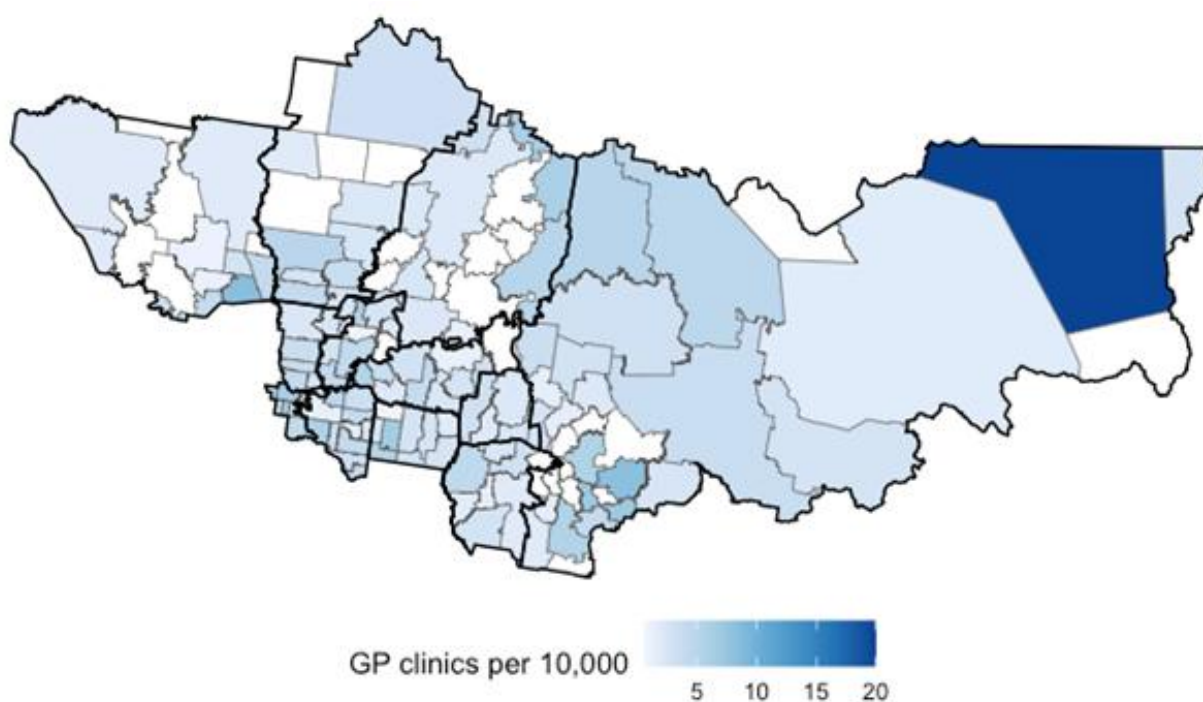
Hospital admission data included public and other (e.g. private) care episodes (see **Section 14.6**). Again, females required hospital admission at higher rates than males across all LGAs, predominantly due to conditions related to pregnancy, childbirth and the puerperium (ICD-10 codes O00-O99). Males in all LGAs within NEPHU were admitted to hospital at rates lower than the Victorian average. LGAs with higher socioeconomic status, such as Boroondara and Nillumbik, had lower use of public hospital services, however they had high rates of overall hospital admissions when including private and other hospital.

- While the absolute number of GP clinics appeared unequally distributed by postcode area (**Figure 80**), with increased density towards the inner and out east, the distribution is relatively even when accounting for population size, with an average of 3.4 GP clinics per 10,000 people (**Figure 81**).
- The average distance to a GP was 1050m across NEPHU and slightly higher for bulk billing GPs specifically at 1165.7m (**Table 23, Figure 82**). Nillumbik and Yarra Ranges had longer distances over 1.5 – 2km whereas Whitehorse (809m), Darebin (762m), Boroondara (698m) and Yarra (405m) all had GPs within the 800m range conducive to '20 minute neighbourhood' living.
- Alongside variation in average distance to GP clinics between LGAs, there was also notable range within LGAs. For example, the average distance to a bulk billing GP in Whittlesea was 1192.5m, with a range of 793.6m to 8432.5m (**Table 23**).
- Across NEPHU, one in five people (19%) reported they did not see a GP when needed within the last 12 months (data shown in **Appendix 2: Table A72**). Appointment availability, cost and 'other reasons' were the most frequently cited reasons, whereas transport issues or GP appropriateness were not significant barriers to GP attendance (**Figure 83**).

Figure 80: Number of GP clinics by postcode area

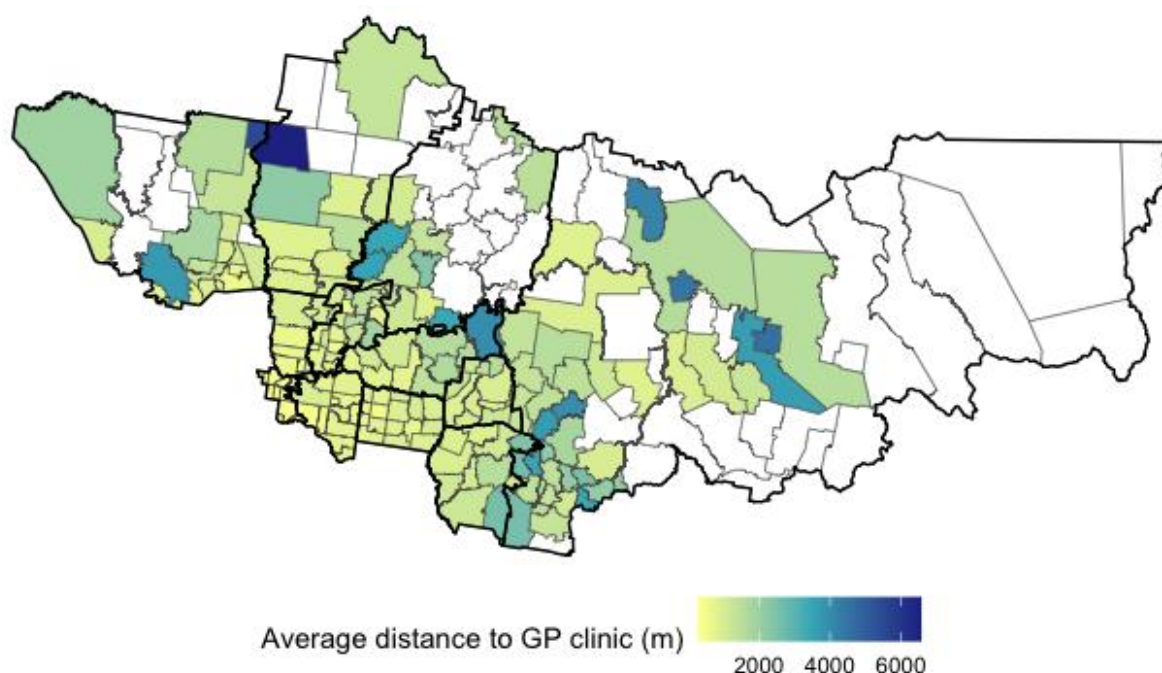
Data source: [HealthMap](#) (accessed in 2024)

Data notes: Areas in white indicate data was not available. Data table for this figure in **Appendix 2: Table A71**

Figure 81: Number of GP clinics per 10,000 population by postcode area

Data source: [HealthMap](#) (accessed in 2024)

Data notes: Areas in white indicate data was not available. Its due to small population. Deep blue region in this map reflects a postcode area in NEPHU with less than 1000 people, so per capita rate appears inflated. Data table for this figure in **Appendix 2: Table A71**

Figure 82: Average distance to closest GP by suburb, 2021

Data source: [AUO](#), 2021

Data notes: Areas in white indicate data was not available. Data table for this figure in **Appendix 2: Table A73**

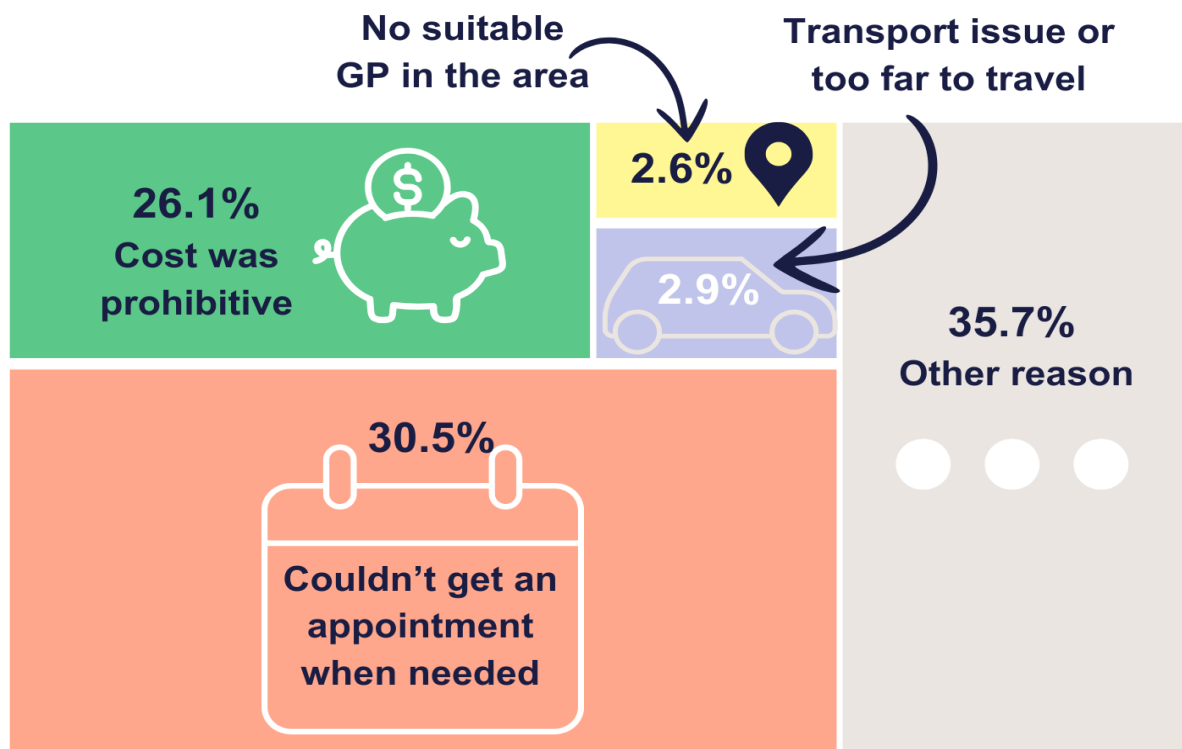
Table 23 Average distance (m) to GP, by billing type and LGA, 2021

LGA	Average distance to closest GP (m)	Average distance to closest GP that bulkbills (m)
Banyule	912.6 (552.7, 1840.4)	1149.1 (564.5, 2422.6)
Boroondara	698.7 (429.3, 914.2)	846.5 (577.8, 1644.5)
Darebin	762.1 (586.1, 1085.3)	784.6 (614.9, 1400.3)
Hume	1384.5 (555.4, 5524.9)	1452.6 (555.4, 7393)
Knox	1209.7 (837.5, 2432.7)	1212.4 (837.5, 2449.9)
Manningham	1020.9 (730, 3980.2)	1100.9 (786.4, 4126.4)
Maroondah	1054.5 (782.6, 1546.2)	1145.7 (782.6, 2139.1)
Nillumbik	1636.6 (859.2, 3526.5)	1648.5 (859.2, 3526.5)
Whitehorse	809.6 (475.7, 998)	933.4 (484.6, 1488.7)
Whittlesea	1174.8 (793.6, 6564.5)	1192.5 (793.6, 8432.5)
Yarra	405.1 (286.8, 1085.3)	504.9 (338.8, 1400.3)
Yarra Ranges	1531.8 (831.8, 4606.1)	2016.8 (836.7, 9835.1)

Data source: [AUO](#), 2021

Data notes: Values in parenthesis represent range of distance

Figure 83: Reasons cited by adults in NEPHU who did not see a GP when needed within the last 12 months, 2023



Data source: [VPHS 2023](#)

Data notes: Respondents were asked to select the main reason for not being able to access a GP when needed in the past year. Options provided included: Cost; Couldn't get an appointment; No suitable GP in my area; Transport issues or too far to travel; Other reason; Didn't know or refused to say Data table for this figure in **Appendix 2: Table A73**.

14.2. Access to Children's Health Services

The Victorian Student Health and Wellbeing Survey (VSHAWS) also known as 'About You' asked students in Years 5, 8 and 11 about their ability to access health care (physical, dental and mental health) when needed. Further LGA level data on children's access to public dental services are listed in **Box 20**.

- Across Victoria, the majority of students reported they could access physical healthcare (83.3%) or dental healthcare (86.9%) when needed. All areas within the NEPHU catchment were equivalent to or slightly above these Victorian averages (**Table 24**).
- Less than half the students reported they could access mental health care when needed, with Inner Eastern Melbourne region (35.4%) and Hume Merri-bek region (26.3%) below the Victorian average (37.8%) (**Table 24**).

Table 24: Proportion of young people in Years 5, 8 and 11 who can access physical, mental and dental health services when needed, by Department of Education areas, 2018

Proportion of young people (Years 5, 8 and 11) who can access services when needed (%)			
Department of Education areas	Physical health	Mental health	Dental health
Inner Eastern Melbourne	83.6	35.4	88.1
North Eastern Melbourne	86.2	41.9	88.3
Outer Eastern Melbourne	82.2	41.2	88.3
Hume Merri-bek	84.4	26.3	84.6
Victoria	83.3	37.8	86.9

Data source: [VCAMS](#) – VSHAWS, 2018

Data notes: Data records the proportion of young people (Years 5, 8 and 11) who can access physical health, dental health and mental health when needed.

LGA allocation within Department of Education areas:-

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek

LGAs Monash and Merri-bek are not part of NEPHU



Access to children's dental services and LGA data for oral health

Dental Health Services Victoria, in partnership with the Victorian Department of Health, has developed updated oral health profiles to provide local councils with population oral health data and risk factor indicators. <https://www.dhsv.org.au/research-insights-and-policy/LGA-oral-health-profiles>

Note, this data only pertains to use of public dental services. In Australia, dental services can be accessed, and are funded, in several ways. No national comprehensive dental data set currently exists. <https://www.aihw.gov.au/reports/australias-health/dental-data-landscape>

Box 20: Access to children's dental services and LGA data for oral health

14.3. Aged Care Services

The Australian Government provides a range of supports for eligible older people to help them with everyday living and other needs. The three main categories of [aged care services](#) include:

- 1) Home Support, for basic in-home supports for activities such as personal care, shopping, transport or cleaning assistance.
- 2) Home Care, for more complex care needs that require coordinated care but can still be provided at home.
- 3) Permanent residential aged care, for those who need ongoing daily help for everyday tasks and can no longer live at home.

The majority of people accessing these services are 65 years or older (50 years or older for Aboriginal and Torres Strait Islander populations), although assessment is often based on need. Understanding the care needs of the older members of our communities provides important insights into the health and wellbeing of our residents as well as valuable information for service commission and workforce planning as it relates to the ageing population.

Data was sourced from GEN Data which derives data from the National Aged Cared Data Clearinghouse. Counts and proportions (%) of the population aged 65 years and above who use the various aged care services are presented.

- Across NEPHU, Home Support services were used more frequently than Home Care or Residential Care (**Table 25**). Approximately one in five people aged 65 years or older (19.3%) were using Home Support, versus 4.6% in Residential Care.
- Home Care packages (7.2%) or Residential Aged Care (4.6%), which both reflect more complex needs, were used in proportions slightly higher than Victorian averages across NEPHU. LGAs that required high use of these complex care arrangements tended to have lower proportions of the population accessing the more basic Home Support programs.
- The older population in Darebin was accessing all three supports in proportions higher than both the NEPHU and Victorian average, i.e. Home Support (25.3%), Home Care (10.2%) and Residential Care (5.7%).
- Boroondara had the highest per capita usage of residential aged care, with 5.9% of the 65 years and over population in Residential care, however use of Home Support or Home Care were lower, which could reflect self-funding of support services, a relatively well older population or a higher number of aged care facilities in the area.
- The lowest use of residential aged care in the 65 years and over population was seen in Yarra Ranges (3.1%), Hume (2.9%) and Yarra (2.3%).

Table 25: Number and proportion of residents using home support, home care and residential care by LGA, 2023

LGA / NEPHU / VIC	Home Support (FY 2022-2023)		Home Care (as of 30 Jun 2023)		Residential Care (as of 30 Jun 2023)	
	Number	Proportion of 65yr+ population (%)	Number	Proportion of 65yr+ population (%)	Number	Proportion of 65yr+ population (%)
Banyule	5,064	21.3	1,350	5.7	1,039	4.4
Boroondara	4,404	14.3	1,897	6.2	1,799	5.9
Darebin	5,539	25.3	2,223	10.2	1,237	5.7
Hume	6,684	25.1	1,895	7.1	767	2.9
Knox	5,190	18.3	2,073	7.3	1,418	5.0
Manningham	5,176	18.6	2,056	7.4	1,447	5.2
Maroondah	3,330	16.5	1,643	8.1	1,157	5.7
Nillumbik	1,761	16.9	273	2.6	408	3.9
Whitehorse	5,724	18.3	2,635	8.4	1,568	5.0
Whittlesea	6,276	21.3	1,887	6.4	1,220	4.1
Yarra	2,683	25.2	1,055	9.9	249	2.3
Yarra Ranges	3,987	14.5	1,899	6.9	864	3.1
NEPHU	55,818	19.3	20,886	7.2	13,173	4.6
VIC	222,011	20.3	69,957	6.4	49,657	4.5

Data Source: [GEN Data 2023](#)

Data notes: Proportion calculated out of population aged 65 years and over

Light blue: estimate is less than both NEPHU and VIC estimates;

Medium blue: estimate is greater than either NEPHU or VIC estimate;

Blue: estimate is greater than both NEPHU and VIC estimate.

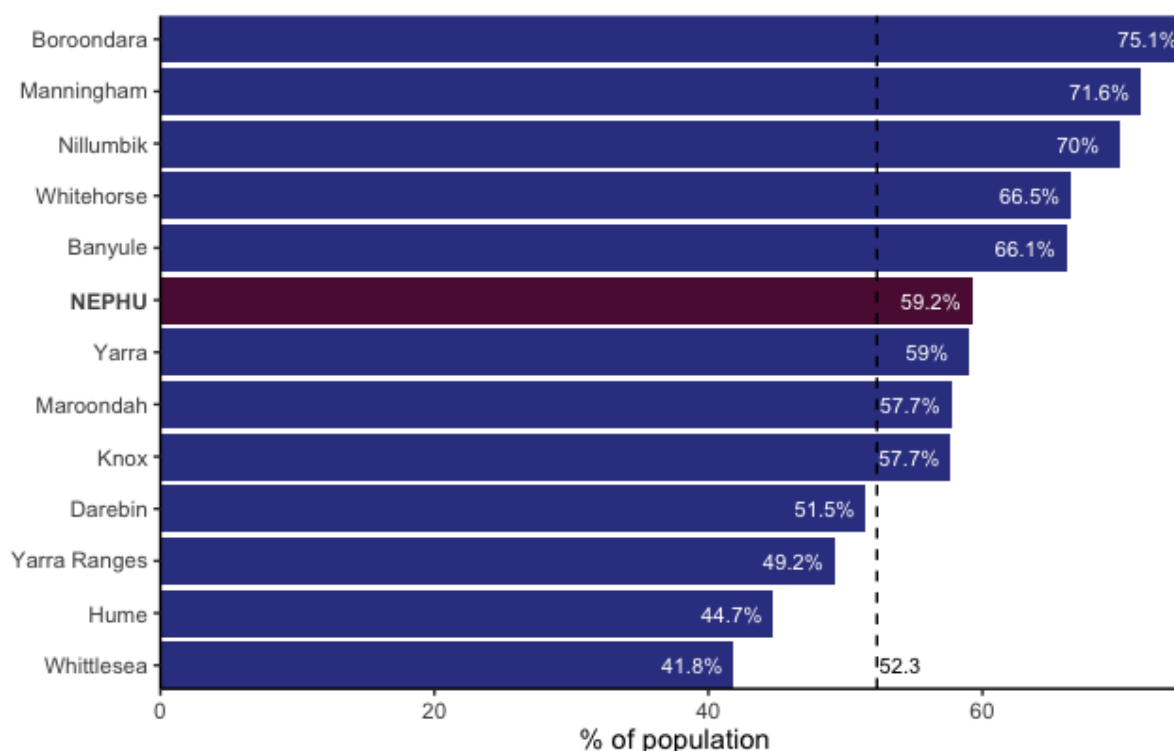
14.4. Private Health Insurance Cover

In Australia, [private health insurance](#) covers more healthcare options than is funded by Medicare, and can also facilitate faster access to some services, with increased choice. Private health insurance is optional but is [incentivised](#) for people who earn over a certain income level, to encourage use of private health services.

Data was sourced from VPHS 2023 and indicates the proportion of the population with private health insurance hospital cover.

- 59.2% of people in NEPHU had private health insurance hospital cover, which is higher than the Victorian average of 52.3% (**Figure 84**).
- There was large variation between LGAs however, with 75.1% of the population in Boroondara having private health insurance hospital cover compared to 41.8% of the population in the Whittlesea LGA.
- The LGAs of Darebin (51.5%), Yarra Ranges (49.2%), Hume (44.7%) and Whittlesea (41.8%) had lower proportions of people with private health insurance hospital cover when compared to NEPHU and Victorian averages (**Figure 84**). These LGAs also had median incomes that were below average for the catchment (see **Section 6.5** for median incomes).

Figure 84: Proportion of population with private insurance hospital cover by LGA, 2023



Data source: [VPHS 2023](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A74**

14.5. Emergency Department Presentations

What conditions are driving ED presentations and Hospital admissions across the catchment?

Emergency departments (EDs) are an essential component of Australia's health care system. Many of Australia's public hospitals and some private hospitals have purpose-built EDs, staffed 24 hours a day, providing care for patients who require urgent medical, surgical or other attention. While some conditions will almost always require an ED presentation, it is increasingly recognised that some ED presentations may be prevented by access to appropriate and timely pre-hospital and preventative care.

Data was sourced from PHIDU who compiled data from AIHW for the year 2020/2021. Data records the count of all public emergency department presentations by diagnosis based on [ICD-10 codes](#) and calculates the age-standardised rate (ASR) per 100,000.

- *Females presented to public Emergency Departments (EDs) at a higher rate than males across all LGAs in NEPHU, in keeping with Victorian patterns (females 28,624/100,000 compared to 27,738/100,000 for males) (Table 26).*
- *People residing in Banyule presented to public EDs at a higher rate than the Victorian average, at a rate of 28,520/100,000 males and 32,221/100,000 females.*
- *Within the NEPHU catchment, Boroondara and Whitehorse had the lowest rates of ED presentations to public hospitals for both males and females.*
- *The top ranked cause of ED presentation in all LGAs was from the ICD-10 code: S00-T98 – Injury, Poisoning and Other External Causes (Figure 85). This ICD-10 code represents a broad range of events (e.g. falls, fractures, overdoses, burns). Injury is discussed further in Health Consequences (see Section 15.10).*
- *There were eight ICD-10 chapters all together that were represented across the Top 5 reasons for ED presentation in all LGAs, as shown in Figure 85.*

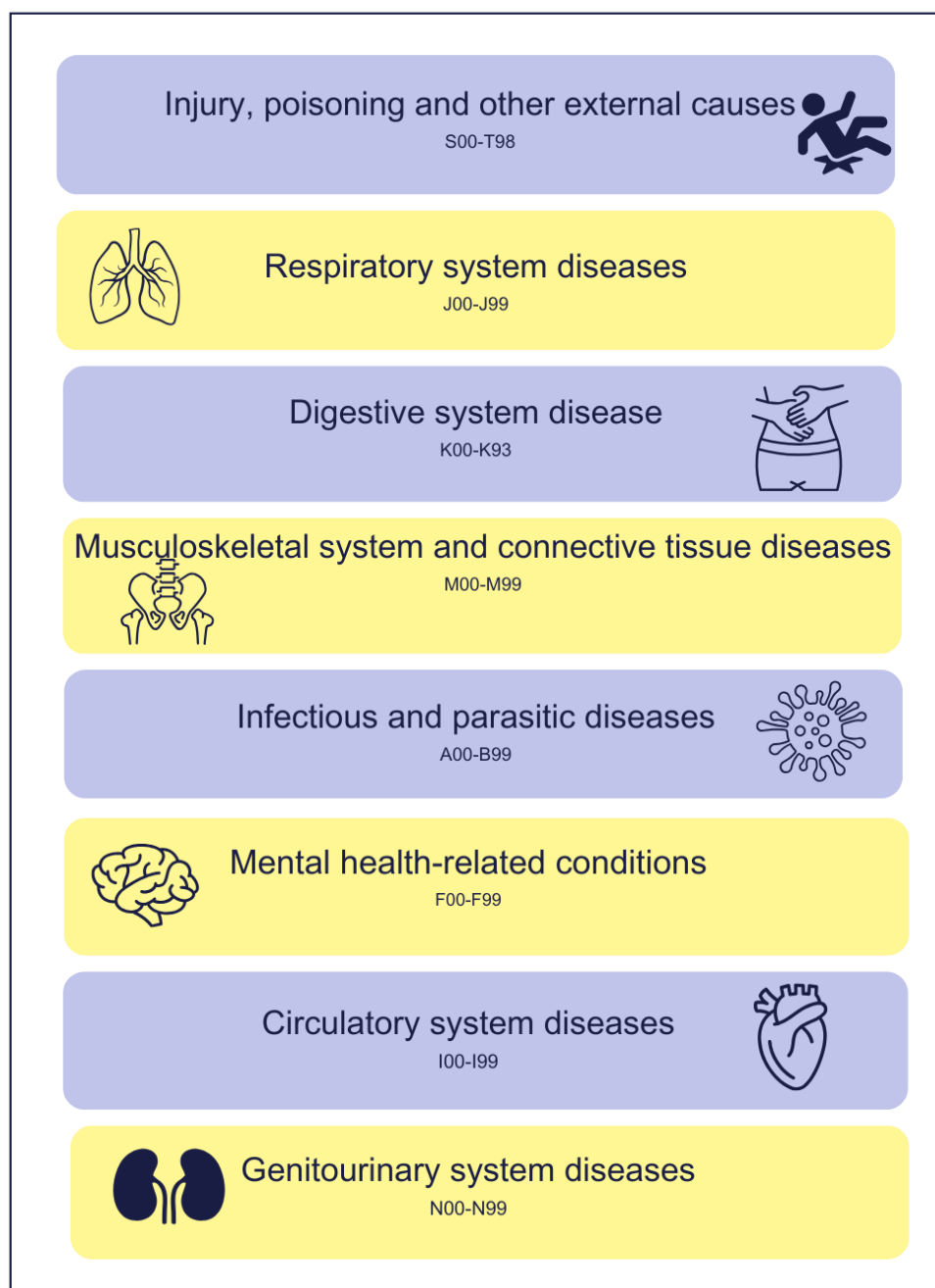
Table 26 Total public hospital Emergency Department presentations by sex and LGA in NEPHU, 2020-2021

LGA / VIC	ED presentations age-standardised rates	
	Males (per 100,000 males)	Females (per 100,000 females)
Banyule	28,520.0	32,221.2
Boroondara	16,976.4	17,763.7
Darebin	25,393.1	28,353.2
Hume	23,205.9	25,119.9
Knox	25,080.1	26,645.1
Manningham	20,837.6	22,437.2
Maroondah	23,362.5	24,740.6
Nillumbik	20,219.9	23,009.2
Whitehorse	19,151.2	20,214.8
Whittlesea	22,029.7	24,867.2
Yarra	24,138.7	26,331.1
Yarra Ranges	25,979.4	26,776.7
VIC	27,738.0	28,623.8

Data source: [PHIDU](#)

Data notes: Data relates to patients registered for non-admitted care in EDs in public hospitals. The collection does not include all emergency services provided in Australia; for example, emergency service activity provided by private hospitals are excluded. See [here](#) for details.

Figure 85 : Most frequent diagnostic categories (ICD-10) recorded for Emergency Department presentations across all 12 NEPHU LGAs, 2020-2021.



Data source: [PHIDU](#)

Data notes: Diagnostic categories have been listed here if they appeared within the top 5 reasons for ED presentation in any LGA. Diagnostic categories are presented in approximate order of frequency across the catchment, though precise overall NEPHU rates were not able to be calculated. Data could not be disaggregated by public/all hospitals or male/female for this indicator.

ICD-10 refers to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision and is the coding system used to classify diseases, injuries and related health problems. Browse the ICD-10 [here](#).

14.6. Hospital Admissions

Public and private hospitals within Victoria provide a range of medical services and types of care including surgical care, medical care, intensive care, newborn care, rehabilitation care, palliative care, and mental health care. With ongoing strain in the healthcare system, a range of conditions are monitored in Australia for quality standards, and they are considered '[potentially preventable hospitalisations](#)' where timely and adequate non-hospital care could have prevented either the condition or the need for hospital admission.

Data is sourced from PHIDU who compiled data from AIHW for the year 2020/2021. Data records the count of all public hospital admissions by diagnosis based on ICD-10 codes and calculates the age-standardised rate (ASR) per 100,000.

- *The top ranked cause of hospital admission for females across all LGAs was the diagnostic code related to Pregnancy, childbirth and the puerperium (O00-O99) (**Table 28**).*
- *Females required hospital admission at higher rates than males across all LGAs, in keeping with Victorian patterns. Across all hospitals in Victoria, females were admitted at a rate of 45,913/100,000 compared to males at a rate of 38,954/100,000.*
- *Males in all LGAs across NEPHU were admitted to hospital at rates below the Victorian average (38,954/100,000). Females in most LGAs across NEPHU were also admitted at rates below the Victorian average (45,913/100,000) apart from Boroondara (46,853/100,000) and Knox (46,474/100,000) (**Table 27**).*
- *The top ranked cause of hospital admissions for males was from the ICD-10 code: S00-T98 – Injury, Poisoning and Other External Causes (**Table 28**). This ICD-10 code represents a broad range of events (e.g. falls, fractures, overdoses, burns). Injury is discussed further in Health Consequences (see **Section 15.10**).*
- *The top ranked cause of hospital admissions for females was from the ICD-10 code: O00-O99 – Pregnancy, childbirth and the puerperium, females.*
- *Utilisation of public and private hospital services varied across LGAs. For example, males in Boroondara had one of the highest rates of all-hospital admission (38,011/100,000), however their rate of using public hospital services was the lowest (11,549/100,000), suggesting increased use of the private health system in this cohort. This pattern was also noted for females in Boroondara.*
- *Males in Hume had the lowest rates of all-hospital admissions (26,967/100,000) however when they were admitted, this was more likely to be at a public hospital than other hospitals.*
- *Females in the LGAs of Hume and Whittlesea had the lowest rates of admission to hospital at approximately 35,000/100,000, and approximately 70% of their admissions occurred within the public hospital system.*

Table 27: Total hospital admissions age standardised rate (ASR) in 2020/2021 by sex and LGA in NEPHU

LGA / VIC	Females total hospital admissions ASR (per 100,000 females)		Males total hospital admissions ASR (per 100,000 males)	
	Public hospitals	All hospitals	Public hospitals	All hospitals
Banyule	22,011.1	42,774.3	18,393.6	34,440.9
Boroondara	12,845.8	46,853.1	11,548.6	38,010.6
Darebin	24,794.2	41,041.0	21,914.4	32,493.6
Hume	24,768.9	34,522.3	20,014.5	26,966.5
Knox	22,727.8	46,473.9	19,002.8	36,114.3
Manningham	18,882.1	45,256.5	16,408.5	37,540.7
Maroondah	20,781.2	44,510.4	16,728.1	34,176.5
Nillumbik	20,382.4	44,412.1	18,481.6	38,036.9
Whitehorse	17,259.1	44,186.6	15,283.7	34,749.9
Whittlesea	24,041.2	35,207.3	19,364.8	27,094.5
Yarra	18,666.5	40,428.7	18,888.1	33,510.3
Yarra Ranges	23,711.2	43,978.1	19,213.0	34,893.9
VIC	26,189.6	45,913.3	23,365.9	38,953.9

Data source: [PHIDU](#)

Data notes: Includes both private and public hospitals. Excludes same day renal dialysis admissions.

Table 28: Most frequent diagnostic categories (ICD-10) recorded for female and male hospital admissions across all 12 NEPHU LGAs, 2020-2021

Females	Males
Pregnancy, childbirth and the puerperium, females (O00-O99)	Injury, poisoning and other external causes (S00-T98)
Injury, poisoning and other external causes (S00-T98)	Digestive system disease (K00-K93)
Digestive system disease (K00-K93)	All cancers (C00-D48)
Genitourinary system diseases (N00-N99)	Circulatory system diseases (I00-I99)
All cancers (C00-D48)	Mental health-related conditions (F00-F99)
Nervous system diseases (G00-G99)	Respiratory system diseases (J00-J99)
Circulatory system diseases (I00-I99)	Nervous system diseases (G00-G99)
Mental health-related conditions (F00-F99)	Genitourinary system diseases (N00-N99)
	Musculoskeletal system and connective tissue diseases (M00-M99)

Data source: [PHIDU](#)

Data notes: Diagnostic categories for female and male have been listed here if they appeared within the top 5 reasons for hospital admissions in any LGA. Diagnostic categories are presented in approximate order of frequency across the catchment, though precise overall NEPHU rates were not able to be calculated. ICD-10 refers to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision and is the coding system used to classify diseases, injuries and related health problems. Browse the ICD-10 [here](#)

15. Health Consequences

Section Summary

What health outcomes are the NEPHU population experiencing?

This section of the report focuses on health consequences including chronic and infectious diseases, women's health, injury, and hospitalisations from alcohol and other drugs.

Infectious diseases and illicit drug use

Rates of blood-borne viruses (BBVs) and sexually transmissible infections (STIs) varied across the NEPHU catchment reflecting population demographics and the prevalence of risk factors (**Sections 15.1 and 15.2**). Yarra LGA had the highest incidence rate of Hepatitis C infection and the highest STI rates in NEPHU, higher than the Victorian average. The most commonly reported risk factor for Hepatitis C infection in Victoria is injecting drug use. While LGA level data on the prevalence of illicit drug use is not available (see **Section 12.5**), the rates of hospitalisations due to overdose from alcohol and other drugs in Yarra was nearly double the Victorian rates (**Section 15.11**). Nillumbik also had high rates of hospitalisations due to overdose from alcohol and other drugs.

High rates of Hepatitis B infection in Manningham and Whitehorse LGA reflect the high prevalence of Hepatitis B in the countries of birth of residents in those LGAs (see **Section 4.5** for country of birth data).

Respiratory conditions were the mostly commonly reported vaccine preventable infections in NEPHU and across Victoria. COVID-19 had the highest number of reported cases in 2023 and was the third

leading cause of death among residents in NEPHU in 2022 (**Section 16**).

Chronic and non-communicable diseases

Age-standardised cancer rates among residents in NEPHU were similar to the Victorian population with no major differences by LGA (**Section 15.6**). Breast cancer had the highest rate among women (143 per 100,000 population in Victoria) and prostate cancer had the highest rate among men (160 per 100,000 men in Victoria). Breast cancer was the leading cause of death among females in NEPHU aged 30-64 years. Prostate cancer was one of the top 10 causes of death among males in NEPHU aged 50+ years.

For self-reported chronic diseases prevalence, there was some variation by LGA but, in general, the proportion of the population reporting chronic diseases was similar to the Victorian average. Self-reported data on chronic conditions should be interpreted with caution as diagnosis is influenced by access to health care and the age of the population and is subject to reporting-bias.

Women's health

Data presented in this section on health consequences affecting women include hospitalisations for endometriosis and hysterectomies, and medical abortion and adolescent birth rates. Hysterectomy rates did not vary significantly by LGA and all were similar to the Victorian rate. Some LGAs had higher rates of hospitalisations due to endometriosis compared to the Victorian average including Yarra, Yarra Ranges, and Maroondah.

The rate of medical abortion was lower across most LGAs in NEPHU compared to the Victorian average except for Hume and Whittlesea. Hume and Whittlesea had the highest adolescent birth rates among the LGAs in NEPHU although it was still lower than the Victorian average (**Section 15.8**).

Injury

Transport related injuries were low across the NEPHU catchment compared to the Victorian average (**Section 15.9**). Falls were the leading cause of injury admissions and emergency department presentations for older adults (65+) in Victoria for 2022-2023, accounting for more than 75% of hospital admissions. In NEPHU, the highest rate of falls was among those aged 65+ and the highest rates were in the LGAs with the oldest populations (**Section 15.10**).



Health Consequence

15.1. Blood-Borne Viruses

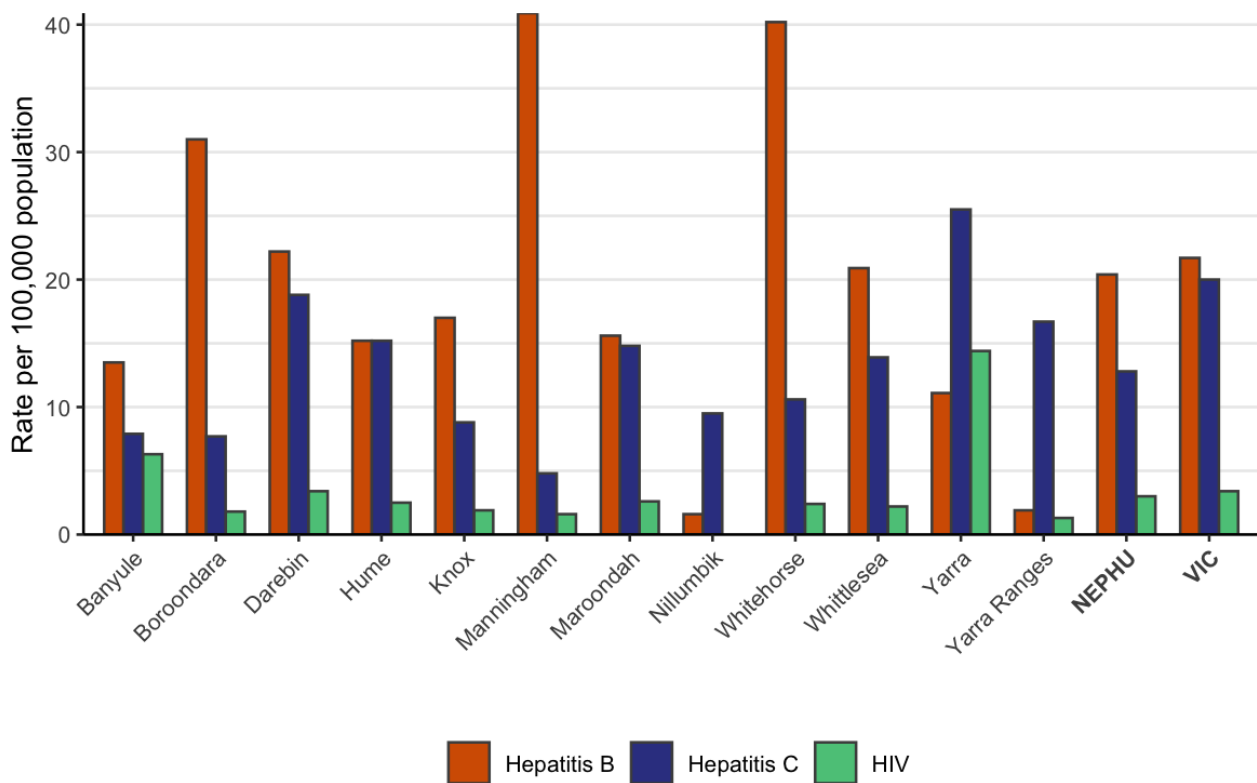
The [Victorian sexual and reproductive health and viral hepatitis strategy 2022-2024](#) comprises seven plans, three of which are specific to blood-borne viruses (BBVs); the hepatitis B, hepatitis C and HIV plans (83). The hepatitis B and C plans describe the vision and plan for the elimination of hepatitis B and hepatitis C as a public health concern by 2030.

Data on nationally notifiable blood-borne viruses in Victoria were obtained from the Victorian Public Health Event Surveillance System (PHESS). This data is presented on a publicly available [dashboard](#). Data described here is crude rate per 100,000 people for the year 2023. All infection rates include newly acquired and unspecified cases where applicable.

The data presented here likely underestimates the true prevalence of disease. Estimates from Victoria suggested that 27% of people with hepatitis B have not been diagnosed (84).

- *The infection rate of blood-borne viruses in NEPHU varies significantly by LGA reflecting the different risk factors, behaviours and demographics of the population (Figure 86).*
- *In NEPHU, even though the number and rate of notified hepatitis C infections has been declining over time (Figure 87), chronic hepatitis C infection is still a significant public health burden.*
- *The infection rate for hepatitis C varied from 5 per 100,000 in Manningham to 24 per 100,000 in Yarra.*
- *In Victoria, injecting drug use was identified as a risk factor for 73 per cent of newly acquired cases of hepatitis C reported between 2016 and 2021(85).*
- *A Victorian hepatitis B serosurvey found a strong association between the proportion of residents born overseas in any LGA and hepatitis B prevalence (86). People born in high-prevalence countries now living in Australia have the same rates of infection as in their countries of birth (87).*
- *The infection rate for hepatitis B varied from 2 per 100,000 in Nillumbik to 40 per 100,000 in Manningham and Whitehorse (Figure 86 and Appendix 2: Table A75). This likely reflects the high prevalence of hepatitis B in the countries of birth of the overseas-born population living in Manningham and Whitehorse LGAs.*
- *HIV infection rates were low across the catchment, but higher than the Victorian average (3.4 per 100,000) in Yarra (14 per 100,000) and Banyule (6 per 100,000) (Figure 86).*

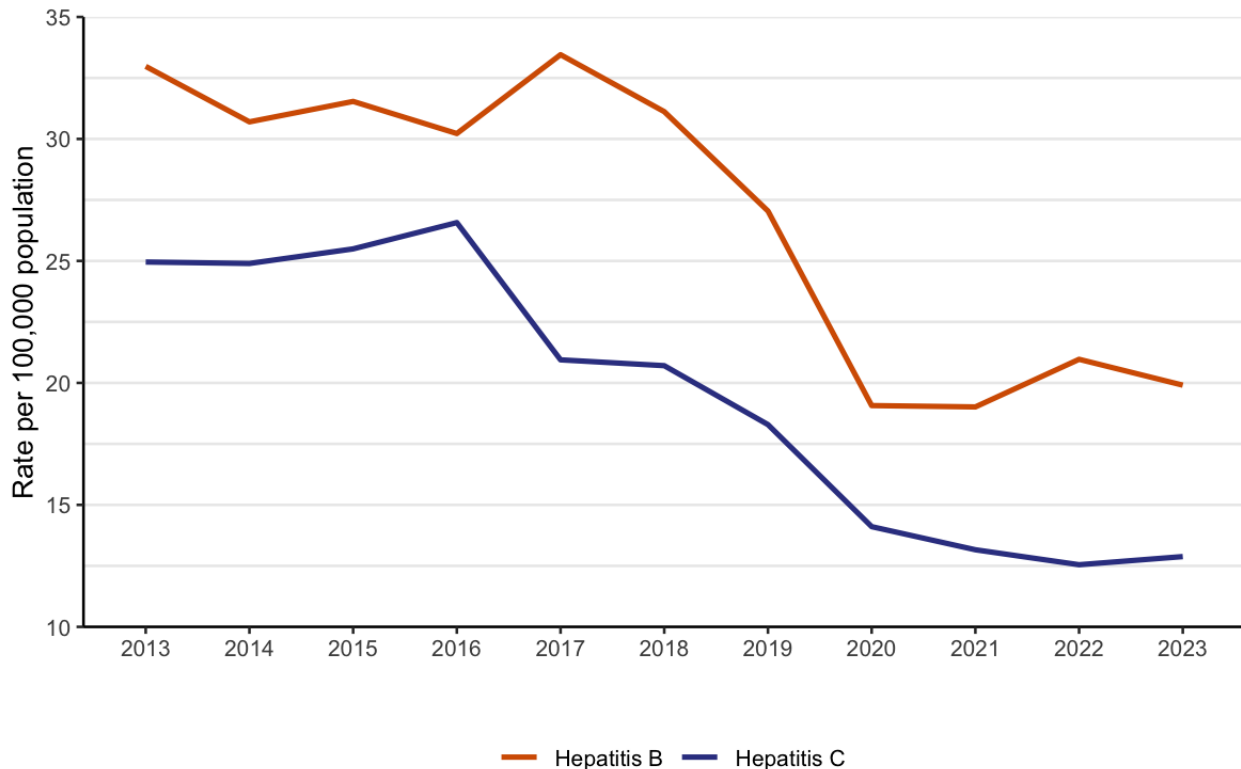
Figure 86: Hepatitis B, hepatitis C and HIV incidence rates by LGA for 2023



Data source: [PHESS, Victorian Department of Health](#)

Data notes: Data table for this figure in **Appendix 2: Table A75**

Figure 87: Hepatitis B and hepatitis C incidence rate in NEPHU, 2013-2023



Data source: [PHESS, Victorian Department of Health](#)

Data notes: Data table for this figure in **Appendix 2: Table A76**

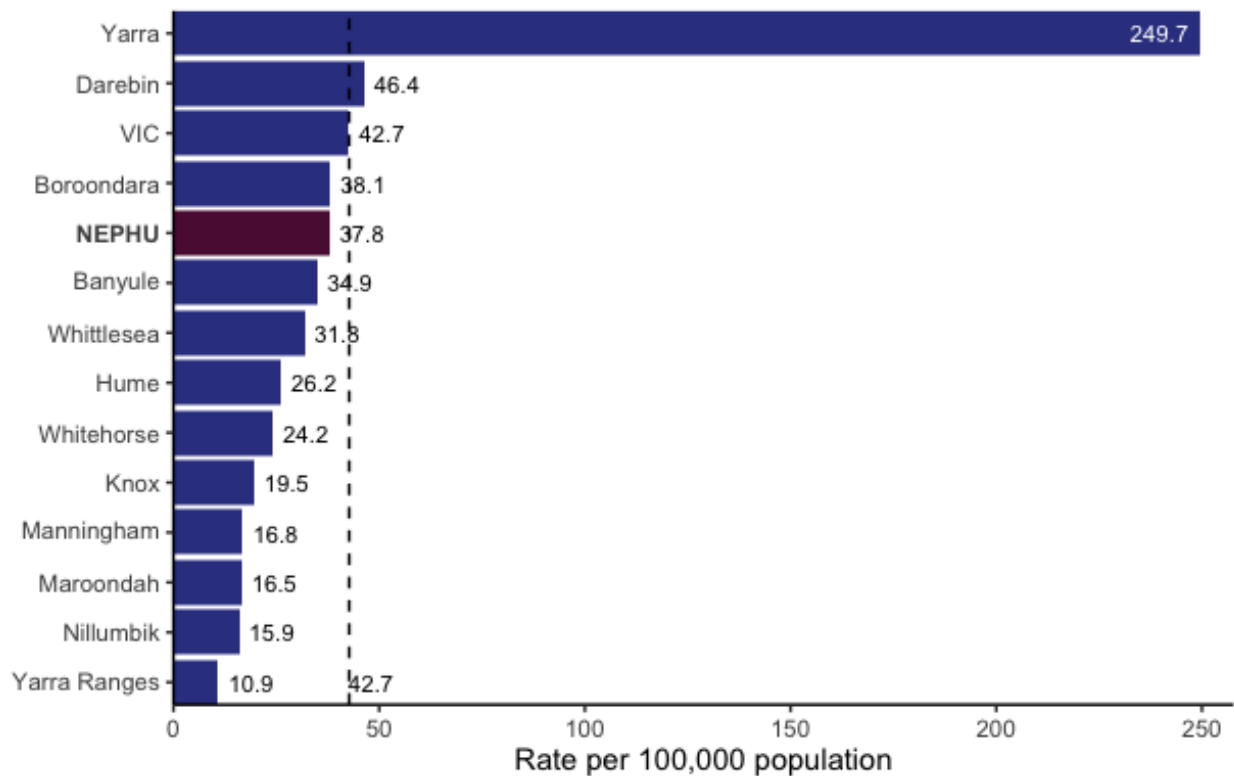
15.2. Sexually Transmissible Infections

Sexually transmissible infections (STIs) and HIV continue to present significant public health challenges, both globally and locally. The consequences of untreated STIs extend beyond the morbidity associated with acute infection, and may lead to infertility, adverse pregnancy outcomes, and increased susceptibility to other STIs and HIV (88). Undetected and untreated HIV infection also progresses to acquired immunodeficiency syndrome (AIDS) with resultant opportunistic infections, malignancies and premature mortality. The stigma and discrimination frequently associated with STIs and HIV compounds the health burden. Thus, STIs and HIV can have profound individual, societal, and economic impacts (88).

Data on nationally notifiable sexually transmissible infections in Victoria were obtained from the Victorian Public Health Event Surveillance System (PHESS). This data is presented on a publicly available [dashboard](#). Data described here is crude rate per 100,000 for the year 2023.

- *Syphilis notification rates were generally low across most LGAs in NEPHU except for Yarra and Darebin which have higher rates than the Victorian average (Figure 88).*
- *Chlamydia and gonorrhoea notification rates have been increasing in NEPHU and Victoria over the last 10 years with lower numbers seen during the COVID years of 2020 and 2021 (Figure 89).*
- *In 2023, the rate of chlamydia notification in NEPHU was lower than the Victorian average.*
- *Chlamydia notification rates vary by LGA; in 2023, Yarra had the highest rate of chlamydia in NEPHU (1919 per 100,000) and the lowest rate was in Manningham (210 per 100,000).*
- *Gonorrhoea notification rates also varied by LGA with the highest rate in Yarra (1272 per 100,000) and lowest rate in Manningham (53 per 100,000) (Table 29).*
- *Darebin had higher rates of chlamydia and gonorrhoea compared to Victoria overall in 2023 (Table 29).*

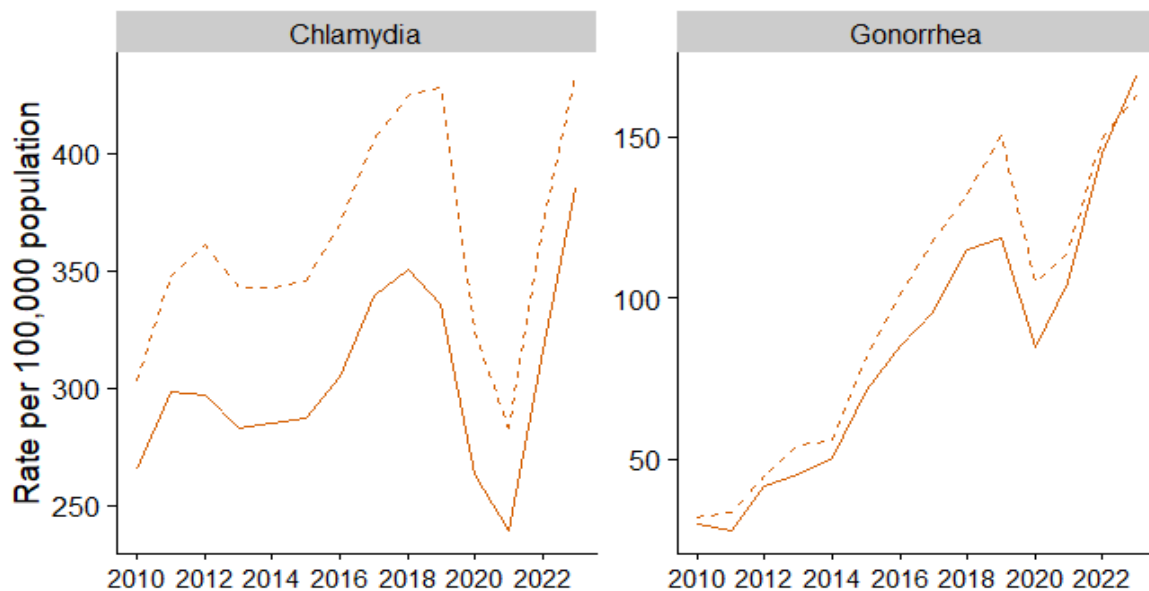
Figure 88: Syphilis notification rates in NEPHU by LGA, 2023



Data source: [PHESS, Victorian Department of Health](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A77**

Figure 89: Chlamydia and gonorrhoea notification rate 2010-2023 in NEPHU



Data source: [PHESS, Victorian Department of Health](#)

Data notes: solid line is NEPHU rate, dotted line is Victorian rate. Data table for this figure in **Appendix 2: Table A78**

Table 29: Rates of sexually transmissible infections (per 100,000 population) for 2023 by LGA

LGA / NEPHU / VIC	Syphilis - Infectious	Syphilis - Late	Chlamydia trachomatis infection	Gonococcal infection
Banyule	26.1	8.7	354.1	136.3
Boroondara	24.4	13.7	395.5	153.7
Darebin	28.9	17.5	436.8	248.4
Hume	19.7	6.6	263.6	97.2
Knox	17.6	1.9	239.5	77.3
Manningham	8.8	8.0	210.1	64.2
Maroondah	12.2	4.3	257.3	53.0
Nillumbik	12.7	3.2	360.9	92.2
Whitehorse	14.2	10.0	341.9	95.7
Whittlesea	17.9	13.9	227.1	88.1
Yarra	144.3	105.4	1,919.8	1,272.8
Yarra Ranges	7.0	3.8	238.4	63.4
NEPHU	24.1	13.7	377.6	165.5
VIC	26.3	16.4	411.4	154.4

Data source: [PHESS, Victorian Department of Health](#)

15.3. Vaccine Preventable Infections

The National Immunisation Program funds vaccinations for a range of conditions, in specific populations, most commonly based on age. Of these conditions, COVID-19 was the most commonly reported condition in NEPHU in 2023 followed by influenza, respiratory syncytial virus (RSV) and Varicella (**Table 30**). Data on vaccine preventable infections by LGA is available on the [Victorian Department of Health interactive infectious diseases reports](#) (89).

Table 30: Number of vaccine preventable infections notified among NEPHU residents in 2023

Condition	Total cases in 2023
COVID-19	44,275
Influenza	14,963
Respiratory Syncytial virus	6,384
Varicella zoster infection (Unspecified)	2,763
Varicella zoster infection (Shingles)	529
Rotavirus infection	195
Varicella zoster infection (Chickenpox)	161
Invasive Group A Streptococcus*	151
Pneumococcal infection (IPD)	112
Pertussis	94
Meningococcal infection	6
Mumps	3
Measles	2

Data source: [PHESS, Victorian Department of Health](#)

Data notes: * Group A streptococcal infections are not vaccine preventable but are included in this table for reporting of nationally notifiable invasive diseases

15.4. Outbreaks of Notifiable Conditions

Outbreaks of gastroenteritis and respiratory conditions (RSV, Influenza and COVID-19) are reported to and investigated by NEPHU. Outbreak management in sensitive settings such as residential care facilities, health services, early childhood services and other educational settings aims to reduce onward transmission in these vulnerable populations. NEPHU supports these facilities with infection prevention and control (IPC) advice and monitors case numbers throughout the outbreak.

An outbreak of influenza, RSV or COVID-19 in an aged care facility is defined as two or more residents testing positive within a 72-hour period.

Gastroenteritis outbreaks are defined as 2 or more cases of vomiting and diarrhoea occurring in a specified time frame, depending on the setting, that cannot be explained by medication or other medical conditions. The investigation and involvement of NEPHU in these outbreaks depends on the source or cause of the illness.

- *RSV and Influenza outbreaks peak in the winter months whereas the number of COVID-19 outbreaks fluctuates throughout the year (Table 31).*
- *In 2023, April and May had the highest number of COVID-19 outbreaks; 90% of COVID-19 outbreaks reported to NEPHU occurred in an aged care facility.*
- *Gastrointestinal outbreaks were highest in March and October in 2023; 65% of gastroenteritis outbreaks occurred in childcare centres (Table 32).*

Table 31: Number of reported outbreaks by month and type in NEPHU, 2023

Month, 2023	Gastrointestinal	RSV	Influenza	COVID-19
January	18			24
February	31	1		16
March	33	2		19
April	10	2	2	49
May	14	2	1	65
June	3	4	5	29
July	7	6	1	12
August	18	8	1	14
September	11	1	1	37
October	33	2	3	44
November	17			42
December	14	1	1	49
Total	209	29	5	400

Data source: PHESS, Victorian Department of Health.

Data notes: Data not publicly available.

Table 32: Number of reported outbreaks by site and type in NEPHU, 2023

Site	Gastrointestinal	RSV	Influenza	COVID-19
Residential aged care facility	58	25	11	361
Childcare centre	136	2		
Hospital / Health care centre	4		1	2
Disability service	2		3	35
School	1			
Camp	1			
Community	1			
Commercial caterer	2			
Restaurant	3			
Workplace / Industry				1
Supportive residential service (SRS)		2		
Other	1			1
Total	209	29	15	400

Data source: PHESS, Victorian Department of Health.

Data notes: Data not publicly available.

15.5. Antimicrobial Resistant Hospital Infections

Antimicrobial resistance (AMR) is a growing threat globally and in Victoria. Reducing antimicrobial resistance across human and animal health is a priority in the Victorian Public Health and Wellbeing Plan 2023-27(90). **Table 33** reports cases of antimicrobial resistant organisms identified in hospitals in the NEPHU catchment. Counts are based on the hospital where the organisms were detected and not the place of residence of the individual or the place of acquisition. One individual person may generate multiple counts for each organism. Metropolitan hospitals detect the highest number of antimicrobial resistant organisms due to larger caseloads and mandatory screening practices in place since 2017. Contact with an overseas hospital is the leading risk factor for acquiring an antimicrobial resistant organism either from medical tourism, dental work or emergency medical care overseas.

- In 2023, 566 antimicrobial resistant organisms were detected in Victorian hospitals; 27% of which were in hospitals in the NEPHU catchment (**Table 33**).

Table 33: Antimicrobial resistance organisms identified in Victorian and NEPHU hospitals in 2023

	Carbapenemase producing enterobacterales	VanA Vancomycin resistant enterococcus	Carbapenemase producing acinetobacter	Carbapenemase producing pseudomonas
NEPHU	85	62	4	3
VIC	318	221	14	13

Data source: [PHESS, Victorian Department of Health](#)

15.6.Cancer Rates

Data was sourced from the Cancer Atlas and age-standardised rates were calculated by PHIDU as cases per 100,000 people. Data are presented for the years 2014-2018. NEPHU age-standardised rates are not available but the highest ten cancer incidence rates by LGA and sex are presented in **Appendix 2:Table A79** .

- Among women in Victoria and NEPHU, the highest rate and incidence of cancer was for breast cancer, followed by colorectal and lung cancer (**Table 34**).
- Among men in Victoria and NEPHU, the highest rate and incidence of cancer was for prostate followed by colorectal cancer.

Table 34: Highest cancer age-standardised rates 2014-2018 in Victoria by sex

Females		Males	
Cancer type	ASR (VIC)	Cancer type	ASR (VIC)
Breast	143.1	Prostate	160.1
Colorectal	57.4	Colorectal	69.9
Lung	42.1	Lung	56.0
Melanoma	39.4	Melanoma	52.9
Uterine	24.5	Lymphoma	31.0
Lymphoma	22.9	Leukaemia	25.3
Thyroid	15.5	Head/neck	24.6
Leukaemia	15.5	Kidney	20.2
Pancreatic	14.6	Bladder	18.3
Ovarian	10.0	Pancreatic	15.8

Data source: [Cancer Atlas](#), [PHIDU](#)

Data notes: ASR: Age-standardised rate per 100,000

15.7.Chronic Disease

Data on self-reported long-term health conditions was obtained from the ABS census 2021. Overall, the proportion of the NEPHU population that self-report living with a chronic disease is similar to the Victorian average with some differences by LGA.

LGAs with a higher proportion of their population living with chronic conditions compared to the Victorian average may be indicative of the older populations living in those LGAs, for example Knox and Maroondah. This data is also influenced by access to and use of healthcare which affects diagnosis rates.

- *Despite being more disadvantaged in many other metrics, the LGAs of Hume and Whittlesea have a lower proportion of their population that reported living with many chronic diseases compared to the NEPHU and Victorian average including heart disease, arthritis, asthma and cancer (**Table 35**). It is worth noting that this data is self-reported and not age-standardised data and some of these lower rates were seen in LGAs with a younger population.*
- *The proportion of the population that report living with diabetes in 2021 is higher than the Victorian average of 4.7% in Hume (5.5%), Whittlesea (5.3%) and Knox (5.4%) LGAs.*
- *The proportion of the population that report living with a mental health condition is higher than the Victorian average in five LGAs including Darebin and Yarra, where 11% and 12% of the population report living with a mental health condition compared to 9% of the Victorian population (**Table 35**).*

Table 35: Proportion of the population (total adult and child population) living with chronic disease based on self-reported data by LGA, 2021

LGA / NEPHU / VIC	Arthriti s	Asthma	Cancer	Dementia	Diabetes	Heart Disease	Kidney Disease	Lung Condi tion	Mental Health Condi tion	Stroke
Banyule	8.7	8.4	3.1	0.9	4.2	3.9	0.9	1.4	9.2	1.0
Boroondara	6.6	7.4	3.1	0.9	3.0	3.5	0.7	0.9	7.1	0.7
Darebin	7.2	8.5	2.3	0.8	4.3	3.1	0.8	1.1	11.0	0.8
Hume	6.6	7.5	1.9	0.5	5.5	3.1	0.9	1.2	7.0	0.7
Knox	8.3	8.9	2.9	0.8	5.4	4.0	0.9	1.5	8.7	1.0
Manningham	7.9	6.2	3.2	1.1	4.6	4.1	0.9	1.1	5.8	1.0
Maroondah	8.6	9.1	3.1	0.8	4.4	3.8	0.9	1.5	9.8	1.0
Nillumbik	8.1	8.3	3.1	0.6	3.2	3.4	0.8	1.1	8.3	0.8
Whitehorse	7.0	7.3	2.8	0.7	4.2	3.6	0.8	1.1	7.4	0.9
Whittlesea	6.9	7.3	2.0	0.5	5.3	3.1	0.9	1.0	7.3	0.8
Yarra	5.3	9.3	2.3	0.5	2.6	2.3	0.6	0.8	11.8	0.6
Yarra Ranges	9.4	9.6	3.2	0.6	4.3	3.9	0.8	1.7	10.3	0.9
NEPHU	7.5	8.0	2.7	0.7	4.5	3.5	0.8	1.2	8.4	0.8
VIC	8.0	8.4	2.8	0.7	4.7	3.7	0.9	1.5	8.8	0.9

Data source: [ABS Census 2021](#)

Data notes:

Light blue: estimate is less than both NEPHU and VIC estimates;

Medium blue: estimate is greater than either NEPHU or VIC estimate;

Blue: estimate is greater than both NEPHU and VIC estimate

15.8. Women's Health

15.8.1. Endometriosis and Hysterectomies

The Victorian Women's Sexual and Reproductive Health Plan 2022-2030 focuses on key issues affecting women across their life including menstrual health, contraception, abortion and assisted reproductive treatment (91).

Data was sourced from the [Victorian Women's Health Atlas](#) which records the number and rate of women who were hospitalised (public and private) in 2022 where endometriosis (ICD-10-AM codes N80.0-N80.9) or hysterectomy (Australian Classification of Health Interventions (ACHI) procedure codes 1268 and 1269) was recorded. Data in the Victorian Women's Health Atlas was obtained from the Victorian Admitted Episodes data set (VAED).

Endometriosis is a condition where cells similar to those that line the uterus (womb) are found in other parts of the body, mainly in the pelvis and reproductive organs. The condition can cause mild to severe pain and affects about one in seven women of reproductive age in Victoria (47, 92). The endometriosis hospitalisation rate in **Table 36** is the number of public and private hospitalisations in 2022 where endometriosis was recorded per 1000 females of the corresponding LGA. More than one admission per person can be counted.

For hysterectomies, the rate in **Table 36** is the number of hysterectomies performed in public and private hospitals in 2022 per 1000 females of the corresponding patient LGA. Data on reasons for the procedure is not available.

- *The endometriosis hospitalisation rate was higher than the Victorian average in the LGAs of Maroondah, Yarra and Yarra Ranges (**Table 36**).*
- *Hysterectomy rates were higher than the Victorian average in the LGAs of Yarra Ranges, Hume and Nillumbik (**Table 36**)*

Table 36: Endometriosis and hysterectomy rates by LGA, 2022

LGA / NEPHU / VIC	Endometriosis hospitalisation rate (per 1,000)	Hysterectomy rate (per 1,000)
Banyule	2.2	1.5
Boroondara	2.6	1.5
Darebin	2.7	1.8
Hume	2.9	2.4
Knox	2.6	2.1
Manningham	2.1	2.1
Maroondah	3.2	1.8
Nillumbik	2.0	2.3
Whitehorse	2.5	1.5
Whittlesea	2.8	2.0
Yarra	3.7	1.6
Yarra Ranges	3.3	2.5
NEPHU	2.7	1.9
VIC	2.9	2.1

Data source: [Victorian Women's Health Atlas, 2022](#)

Data notes:

Light blue: estimate is less than both NEPHU and VIC estimates;

Medium blue: estimate is greater than either NEPHU or VIC estimate;

Blue: estimate is greater than both NEPHU and VIC estimate.

15.8.2. Medical Abortion and Adolescent Birth Rate

Medical abortion involves using prescribed mifepristone and/or misoprostol to end a pregnancy up to nine weeks of gestation. Medical abortion can be provided in primary care settings, such as GP practices or community health clinics, via telehealth with appropriate support mechanisms in place, or in hospitals. The Victorian Women's Sexual and Reproductive Health Plan 2022-2030 includes a focus on improving safe and respectful access to medical abortion services in primary care both in person and via telehealth (93,94).

- *The number of medical abortion services provided to Victorian female patients has been increasing over the last 10 years(95) .*
- *The rate of medical abortion per 1000 females aged 12-54 years was lower in NEPHU compared to Victoria, but higher in the LGAs of Hume and Whittlesea (**Table 37**).*

The reduction in adolescent birth rates in Australia is related to improvements in the availability of effective contraception (see **Section 11.7**) and in sexual education (see **Section 11.6**). Adolescent females are less likely to know how to access antenatal care services and are more likely to experience complications during pregnancy and childbirth. The adolescent birth rate in **Table 37** equals the number of live births to females younger than 20 years in the two year period January 2019 to December 2020, per 1000 females aged 13-19 residing in an LGA.

- *In all NEPHU LGAs the adolescent birth rate was lower than the Victoria rate of 8.2 per 1000 females aged 13-19 (**Table 37**).*
- *The adolescent birth rate ranged from 5.84 per 1000 females aged 13-19 in Hume and 5.46 per 1000 in Whittlesea LGA compared to less than 1 per 1000 in Boroondara, Manningham and Nillumbik (**Table 37**).*

Table 37: Medical abortion rate and adolescent birth rate by LGA, 2022

LGA / NEPHU / VIC	Medication abortion rate (per 1,000 females, aged 12-54 years),	Adolescent birth rate (per 1,000 females aged 13-19 years)
Banyule	4.5	1.98
Boroondara	4.4	0.31
Darebin	4.4	1.95
Hume	6.6	5.84
Knox	4.3	1.95
Manningham	3.6	0.51
Maroondah	3.8	3.21
Nillumbik	2.8	0.81
Whitehorse	3.2	1.16
Whittlesea	5.6	5.46
Yarra	4.6	3.64
Yarra Ranges	5.2	4.98
VIC	5.3	8.20

Data source: [Victorian Women's Health Atlas](#), 2022

Data notes:

Light blue: estimate is less than the Victorian estimates;

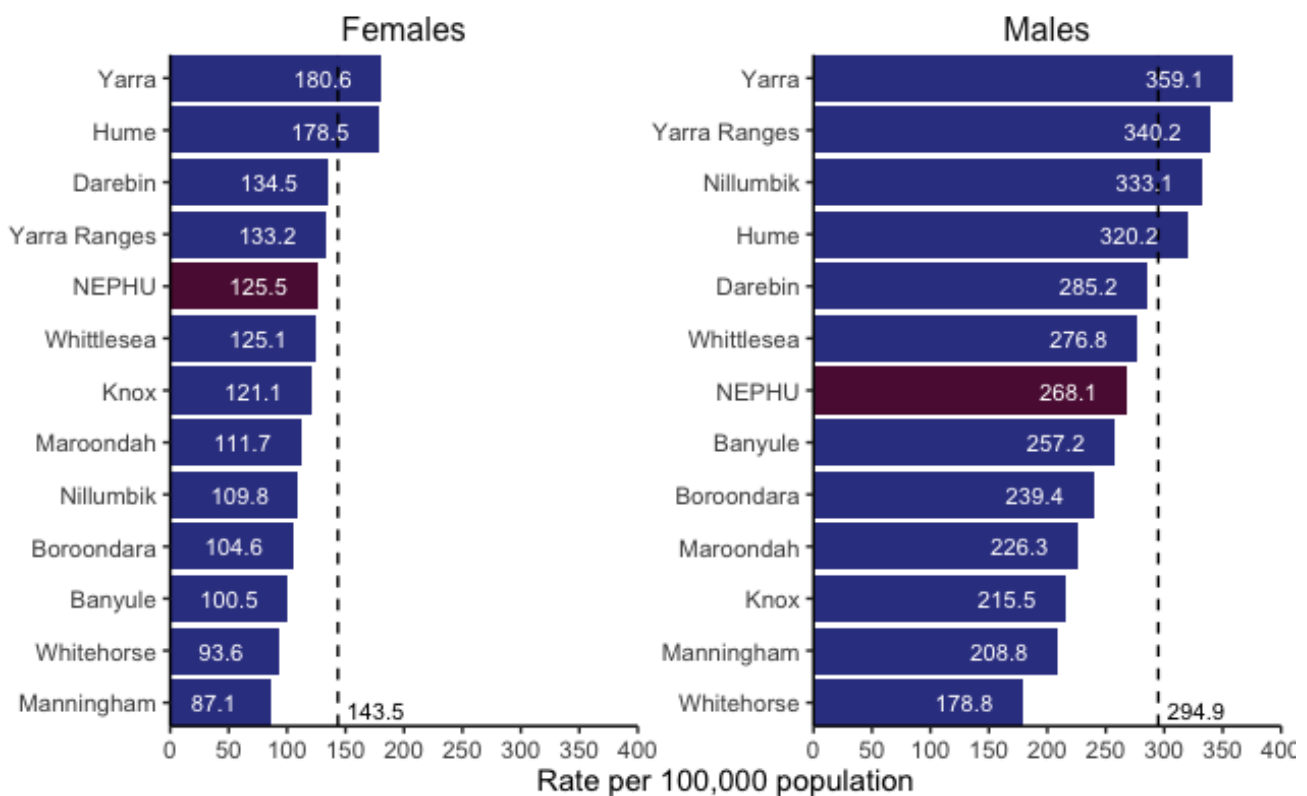
Dark blue: estimate is greater than the Victorian estimate.

15.9. Transport Related Injury

All injury data (falls and transport-related injuries) are sourced from the [Injury Atlas of Victoria](#) which records injuries and falls that resulted in hospitalisation. Transport related injury includes pedestrians, pedal cyclists, motorcycle riders and car occupants injured in transport accidents.

- The rate of transport related injuries among males was more than double the rate among females in NEPHU (**Figure 90**).
- The rate of transport related injuries in NEPHU (125.5 per 100,000) was lower than the Victorian average (143.5 per 100,000).
- Yarra had the highest rate of transport related injuries among both males and females.
- Manningham and Whitehorse had the lowest rates of transport related injuries among males and females.

Figure 90: Rate of transport related injuries by LGA, 2021-2022



Data source: [Injury Atlas of Victoria](#)

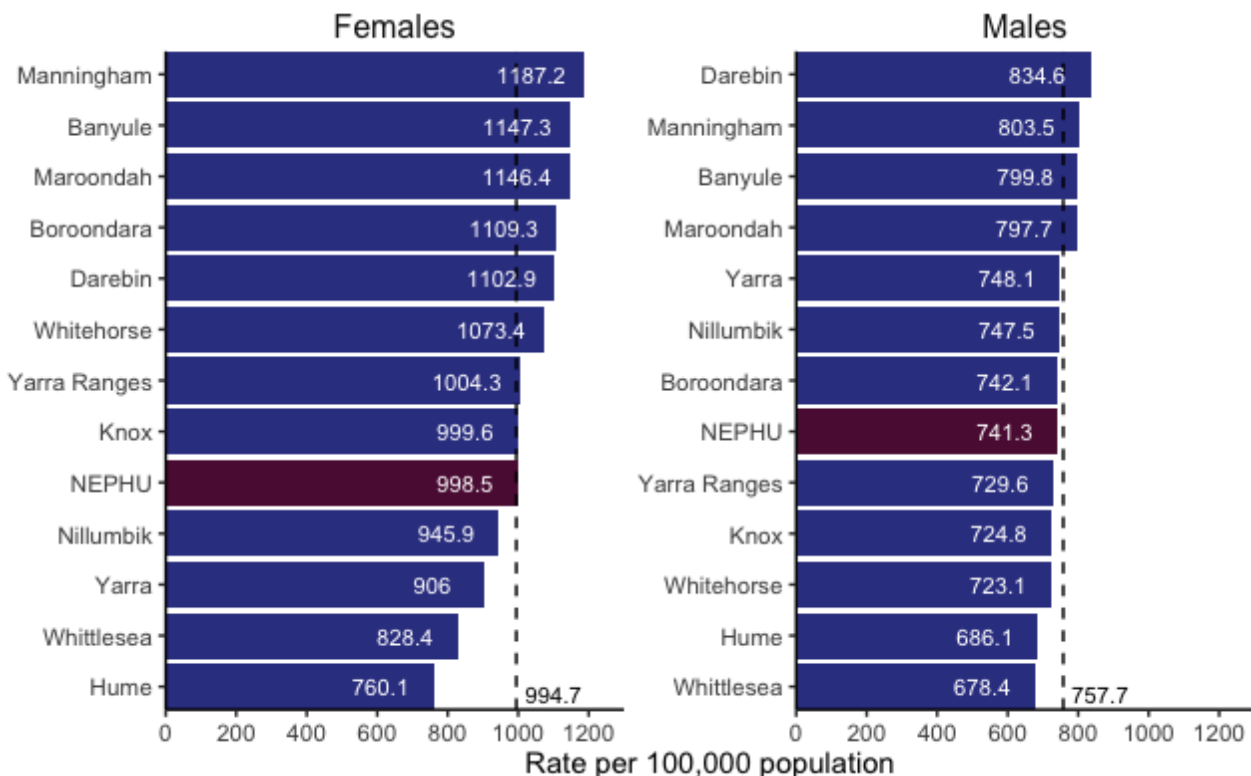
Data notes: Dashed line represents Victorian average. Data table for this figure is in **Appendix 2: Table A80**

15.10. Falls

'Falls' in this section refer to unintentional, hospital-treated injuries from falls. Falls were the leading cause of injury admissions and emergency department presentations for older adults (65+) in Victoria for 2022-2023, accounting for more than 75% of hospital admissions (49).

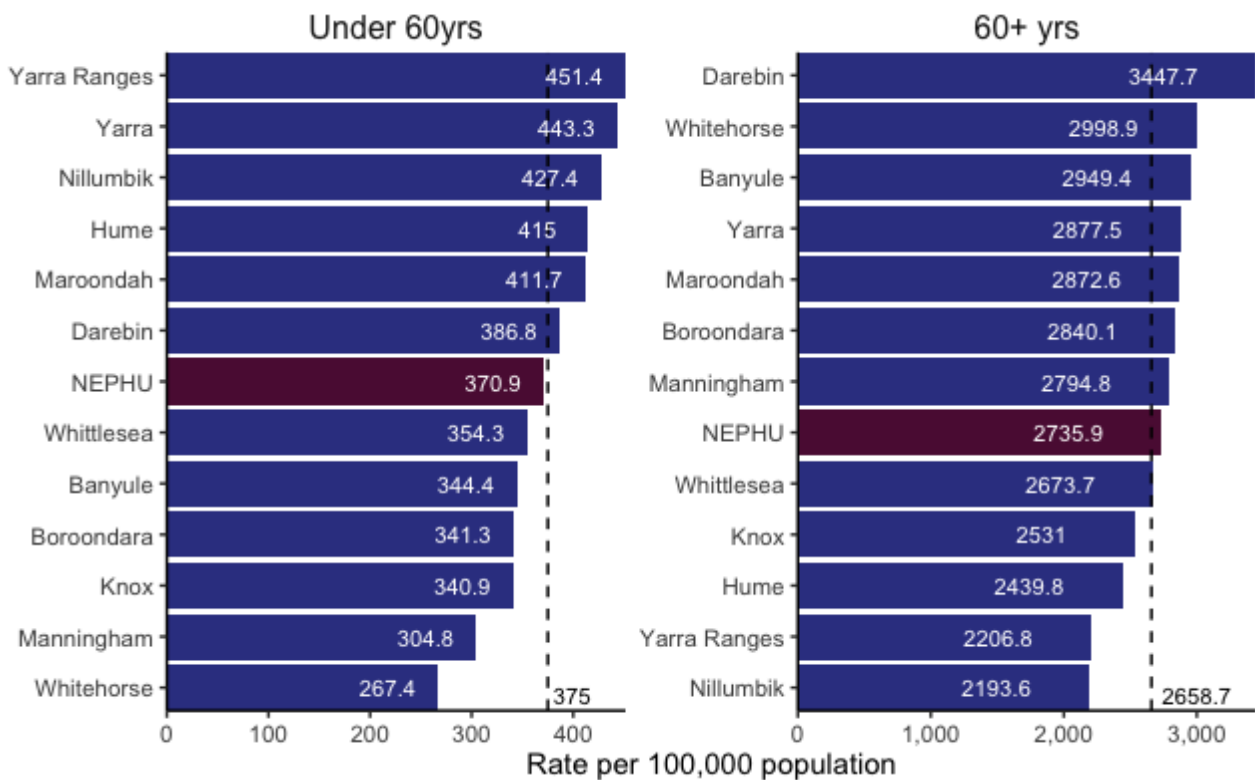
- Females in NEPHU had a higher rate of falls resulting in hospitalisation than males across all LGAs (**Figure 91**).
- Approximately half of NEPHU LGAs had rates higher than the Victorian average and half had rates below the Victorian average. The Victorian average is indicated by a vertical dotted line in (**Figure 91**).
- Manningham had the highest rate of falls among females (1187 per 100,000) and the second highest rate among males (803.5 per 100,000) and is the LGA with the highest proportion of individuals aged 65+.
- Among NEPHU residents the rate of falls resulting in hospitalisations is almost 10 times higher in the 60+ age group than under 60-year-olds (**Figure 92**).
- The LGAs of Hume, Whittlesea and Yarra, with the youngest populations in NEPHU, had the lowest rate of falls resulting in hospitalisations.

Figure 91: Rate of falls resulting in hospitalisation by LGA and sex, 2021-2022



Data source: [Injury Atlas of Victoria](#)

Data note: Dashed line represents Victorian average Data table for this figure in **Appendix 2: Table A81**

Figure 92: Rate of falls resulting in hospitalisation by LGA and age group, 2021-2022

Data source: [Injury Atlas of Victoria](#)

Data notes: Dashed line represents Victorian average. Data table for this figure in **Appendix 2: Table A82**

15.11. Hospital Admissions due to Alcohol and Other Drugs

The rate of hospital admissions due to overdose is one metric to assess the harms of alcohol and other drugs (AOD). Data on hospital admissions due to overdose from alcohol, cannabis and other illicit drugs was obtained from the Victorian Admitted Episodes Dataset (VAED) via Turning Point AOD stats (40).

- In NEPHU overall, the rate of hospital admissions due to overdose from alcohol or cannabis was higher than the Victorian average, but lower for amphetamines, illicit drugs and opioids (**Table 38**).
- Nillumbik and Yarra had higher rates of hospital admissions due to overdose from all substances compared to the Victorian rate. The rate of hospital admissions due to alcohol overdose was nearly twice as high in Yarra compared to the Victorian rate (1006 per 100,000 compared to 574 per 100,000).
- Lower rates of hospitalisation from alcohol and other drugs were seen in the LGAs of Hume, Manningham and Whittlesea (**Table 38**).

Table 38: Rate of hospital admissions (per 100,000 population) due to alcohol and other drug overdose by LGA, 2021-2022

LGA / NEPHU / VIC	Alcohol	Amphetamines (Meth)	Illicit Drugs (Any)	Opioids	Cannabis
Banyule	456.91	74.58	186.85	70.66	91.07
Boroondara	833.43	63.57	254.27	74.75	151.26
Darebin	629.26	66.52	271.39	71.17	79.16
Hume	341.10	59.15	156.78	50.23	70.08
Knox	713.47	98.45	231.18	37.39	124.00
Manningham	495.92	49.27	120.01	63.58	62.78
Maroondah	653.86	115.44	279.12	40.49	123.19
Nillumbik	791.12	190.69	428.66	241.12	288.40
Whitehorse	774.10	68.94	259.40	48.49	142.55
Whittlesea	263.59	59.10	154.44	50.91	66.87
Yarra	1,006.08	225.03	445.69	168.23	109.24
Yarra Ranges	589.51	71.78	203.91	34.94	112.44
NEPHU	591.20	83.50	229.40	66.80	108.50
VIC	574.00	88.45	241.26	72.80	106.44

Data source: [AODstats by Turning Point](#)

Data notes: Light blue: estimate is less than both NEPHU and VIC estimates;

Medium blue: estimate is greater than either NEPHU or VIC estimate;

Blue: estimate is greater than both NEPHU and VIC estimate.

16. Mortality

Section Summary

Information about deaths (mortality) can provide valuable information about the health of a population.

Within NEPHU in 2022, there was a difference of nearly nine years between the median age of death in the LGAs with the highest and lowest median age of death. There was a correlation between the median age of death, premature death rate, and IRSD score (see **Section 6.1** for details on IRSD). LGAs with the higher IRSD scores had a higher median age of death and a lower premature death rate highlighting the socio-economic determinants of health. Overall causes of death were similar across LGAs with coronary heart disease, dementia including Alzheimer's disease and COVID-19 the top three causes of death among NEPHU residents in 2022.



16.1.Mortality Data

Mortality statistics are often based on the underlying cause of death only, i.e. the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury. Leading cause of death statistics as presented here are based on the underlying cause of death. Associated causes of death (not included in this report) are all causes involved in the death, other than the underlying cause of death. Information about the number of people who die and their cause of death can provide vital information about the health of a population. Examining patterns and trends in deaths can help explain differences and changes in the health of a population, contribute to the evaluation of health strategies and interventions, and guide planning and policy-making.

Mortality data for this report was obtained from the AIHW for the NEPHU catchment. Cause of death was coded by the ABS using the International Statistical Classification of Diseases and Related Health Problems (ICD) codes (98). Deaths are counted according to year of registration of death, not the year in which the occurred.

Definitions

Median age at death is the age at which exactly half the deaths registered in a given time period were deaths of people above that age and half were deaths below that age. A lower median age at death is an indicator of premature mortality.

The numbers of deaths per 100,000 population are influenced by the age distribution of the population. **All causes age standardized death rate (ASR)** is a weighted average of the age-specific mortality rates from all causes standardized to the Australia resident population at 30 June 2001. The all causes ASR is an indicator of the overall health of the population and is similar to what is measured by life expectancy.

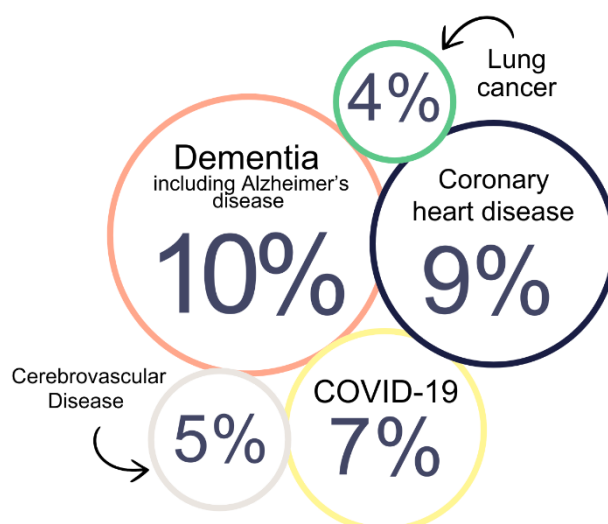
Premature deaths refer to deaths before the age of 75 years which is a conservative cut-off, lower than the Australian current life expectancy at birth (80 years for males and 84 years for females). It has been estimated that up to 50% of premature deaths are potentially avoidable (99). Understanding of premature death rates can inform the targeting of public health efforts and serve as benchmarks to measure the impact of future interventions including the prevention, early detection and treatment of key health conditions.

Premature deaths can also be summarised in terms of **potential years of life lost (PYLL)**. PYLL is a measure that captures the number of years of life lost due to death by looking at the average age of death from conditions compared to the average life expectancy. One PYLL can be thought of as one year of life lost due to a premature death.

Potentially avoidable deaths (PAD) are defined as outlined in the METeOR (METadata Online Registry) specifications and include deaths that occur prematurely (before age 75) and from conditions that are potentially preventable through individualised care or treatable through primary or hospital care. This includes, for example, some cancers, invasive infections and other chronic and communicable diseases (60,61).

- The median age of death in NEPHU in 2022 was slightly higher than the Victorian average (83.4 years compared to 82.9 years) with variation across LGAs ranging from the lowest in Hume at 78.0 years to the highest in Manningham at 86.8 years (**Table 39**)
- The premature death rate and potential years of life lost is lower in NEPHU than the Victorian average. The leading causes of premature deaths in NEPHU in 2022 among males were coronary heart disease, lung cancer, suicide, COVID-19 and colorectal cancer. Among females living in NEPHU, the leading causes of premature deaths in 2022 were breast cancer, lung cancer, colorectal cancer, pancreatic cancer and coronary heart disease.
- Yarra Ranges and Banyule have higher than the Victoria average rate of premature deaths and potential years of life lost (**Table 39**).
- Hume had the lowest median age of death, and the highest age standardised premature death rate and the highest age standardized all cause death rate.
- Darebin, Knox and Yarra Ranges also had high age standardized all cause death rates compared to the Victorian average (**Table 39**).
- Suicide was the leading cause of death among younger males aged 15-49 and females aged 15-29 (**Table 40** and **Table 41**).
- Among all ages the leading causes of death among residents of NEPHU in 2022 were coronary heart disease, dementia including Alzheimer's disease and COVID-19 (**Figure 93**).

Figure 93: Main causes of death in NEPHU in 2022



Data source: [AIHW](#)

Data notes: Percentages reported out of total deaths in NEPHU.

Data table for this figure **Appendix 2: Table A83**

Table 39: Mortality rates, PYLL and PAD in NEPHU by LGA, 2022

LGA / NEPHU / VIC	Median age at death (years)	All cause deaths ASR (per 100,000)	Premature deaths ASR (per 100,000)	PYLL under 75 rate (per 1,000)	PAD ASR (per 100,000)
Banyule	84.5	534.9	200.4	38.0	93.3
Boroondara	87.2	438.6	129.2	23.0	55.6
Darebin	85.0	559.1	197.0	34.0	96.4
Hume	78.0	568.0	215.8	36.0	99.8
Knox	82.7	552.9	196.6	38.1	96.7
Manningham	86.8	437.1	134.0	25.3	49.4
Maroondah	83.8	540.6	206.4	37.2	102.9
Nillumbik	83.6	484.9	143.5	26.8	62.3
Whitehorse	86.6	428.5	131.0	22.9	60.1
Whittlesea	81.9	534.5	178.1	31.8	77.3
Yarra	79.9	487.0	199.3	35.2	80.4
Yarra Ranges	80.5	552.7	202.7	40.4	93.5
NEPHU	83.4	509.9	177.8	32.4	80.6
VIC	82.9	541.4	200.9	37.1	96.0

Data source: [AIHW](#)

Data notes: ASR: Age-standardised rate; PYLL: Potential years of life lost; PAD: Potentially avoidable deaths; Premature deaths are those before age 75 years

Table 40: Mortality rates (per 100,000) by cause among males in NEPHU, 2022

Age group (years)	Top 1	Top 2	Top 3	Top 4	Top 5	Top 6	Top 7	Top 8	Top 9	Top 10
15–29	Suicide (11.9)									
30–49	Suicide (17.9)	CHD (7.8)	Liver disease (6.6)	Colorectal cancer (3.5)	COVID-19 (3.1)	CVD (1.9)	Pancreatic cancer (1.9)	Accidental falls (0.0)		
50–64	CHD (60.2)	Lung cancer (33.9)	Liver disease (19.8)	Colorectal cancer (19.2)	COVID-19 (17.9)	Suicide (16.6)	CVD (15.4)	Pancreatic cancer (14.1)	Liver cancer (14.1)	Prostate cancer (12.1)
65–74	CHD (161.5)	Lung cancer (124.3)	COVID-19 (82.9)	Colorectal cancer (71.8)	Diabetes (53.8)	COPD (52.5)	Prostate cancer (47.0)	CVD (45.6)	Liver cancer (41.4)	Liver disease (35.8)
75–84	CHD (445.7)	COVID-19 (319.5)	Dementia (264.4)	Lung cancer (206.9)	CVD (181.6)	Prostate cancer (179.4)	COPD (162.9)	Diabetes (142.3)	Accidental falls (133.4)	Colorectal cancer (128.8)
85+	Dementia (1,635.8)	CHD (1,585.7)	COVID-19 (1,526.3)	CVD (853.8)	Prostate cancer (770.3)	Accidental falls (763.0)	COPD (532.8)	Heart disease (468.6)	Diabetes (449.4)	Influenza and pneumonia (423.6)

Data source: [AIHW](#)

Data notes: CHD: Coronary heart disease, COPD: Chronic obstructive pulmonary disease, CVD: Cerebrovascular disease

Dementia includes Alzheimer's disease

Heart disease includes heart failure and complications and ill-defined heart disease. Rate of mortality cause per 100,000 is shown in parenthesis

Empty cells denote data is not available due to small numbers

Table 41: Mortality rates (per 100,000) by cause among females in NEPHU, 2022

Age group (years)	Top 1	Top 2	Top 3	Top 4	Top 5	Top 6	Top 7	Top 8	Top 9	Top 10
15–29	Suicide (4.6)									
30–49	Breast cancer (12.0)	Suicide (6.8)	Liver disease (3.8)	Colorectal cancer (3.0)	Pancreatic cancer (1.9)					
50–64	Breast cancer (25.1)	Lung cancer (20.9)	Colorectal cancer (17.3)	Pancreatic cancer (11.4)	Liver disease (10.2)	CVD (9.0)	CHD (7.8)	Suicide (6.0)	Liver cancer (6.0)	COPD (4.8)
65–74	Lung cancer (66.2)	Breast cancer (48.2)	CHD (36.2)	COVID-19 (33.8)	COPD (32.6)	CVD (29.0)	Dementia (29.0)	Colorectal cancer (27.7)	Pancreatic cancer (24.1)	Diabetes (18.1)
75–84	Dementia (316.8)	COVID-19 (174.8)	Lung cancer (157.5)	CHD (140.3)	CVD (128.6)	COPD (109.4)	Breast cancer (99.9)	Pancreatic cancer (86.3)	Diabetes (80.7)	Colorectal cancer (75.0)
85+	Dementia (2,488.0)	CHD (1,358.4)	COVID-19 (1,196.6)	CVD (779.3)	Heart disease (558.5)	Accidental falls (549.2)	Diabetes (483.7)	Influenza and pneumonia (445.8)	Kidney failure (408.8)	Cardiac arrhythmias (371.2)

Data source: [AIHW](#)

Date notes: CHD: Coronary heart disease, COPD: Chronic obstructive pulmonary disease, CVD: Cerebrovascular disease
Dementia includes Alzheimer's disease. Heart disease includes heart failure and complications and ill-defined heart disease
Rate of mortality cause per 100,000 is shown in parenthesis. Empty cells denote data is not available due to small numbers

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APPENDIX

Appendix 1: Additional information on key data sources

All data sources are described in **Section 2.6: Data Sources**. Below is some additional information and considerations for key data sources to assist with interpretation and use.

ABS Census

The Census of Population and Housing is a national statistical collection exercise done every 5 years. The most recent Census night was 10 August 2021. The 2021 Census collected data on population, demographics, cultural diversity, education, income and work, housing, disability and carers, long-term health conditions, and transport for geographical areas across the country. It also includes calculated measures such as the SEIFA and IRSD indices. As census completion is a legal requirement, it is therefore a rich dataset about the population. However, it is important to note that responses are self-reported and therefore affect interpretation of the data. For more information about the Census, please see [here](#).

Data is available at several geographical levels including mesh block (the smallest geographical unit), SA2, suburbs, postcode areas, and LGA. For more information about the various geographical levels and their relationships, please see [here](#).

The census data can be accessed using a variety of tools as explained on this [page](#). CSV files can be downloaded in bulk for multiple areas and geographical levels. In addition, the ABS provides an online tool called TableBuilder which allows you to customise the table to extract the data from the Census. Therefore, one can disaggregate the data and explore two or more variables at once. The use of TableBuilder requires a simple registration with the ABS and more information on how to use TableBuilder can be found [here](#).

ABS Heat Health

This dataset contains several indices related to risks to human health from heatwaves. The indices were developed for the purpose of developing a National Climate Risk Assessment methodology for the Australian Climate Service (ACS). This data will support decision making on mitigation, preparedness and response options to extreme heat that may reduce hazard exposure and social vulnerability. The indices are intended to be used as one line of evidence and considered alongside other data/information about specific places.

Data is provided for the latest year available as of November 2023, for 2021 SA1 and SA2 areas and is made available [here](#).

Data considerations when using the ABS Heat Health dataset

Data is sourced from a wide variety of collections, both ABS and non-ABS. When analysing the data, care needs to be taken as time periods, definitions, methodologies, scope, and coverage can differ across collections.

Index values do not represent quantity of risk, for example, an area with a score of 0.25 does not have twice the risk of an area with a score of 0.5. It is recommended to use quintiles for general analysis.

The indices are constrained by the information available in the source data, for example, the 2021 Census. The indices are based on a snapshot of Australia in August 2021. The make-up of areas can change over time, which may vary the relative ranking of areas within Australia. The indices are assigned to areas, not individuals. A SA1 or SA2 classified at relatively higher risk is likely to contain some people or groups who are at relatively at lower risk (and vice versa).

Data values have been randomly adjusted or suppressed to avoid the release of confidential data. In some cases, small cells have been randomly altered to zero. Care should be taken when interpreting cells with small numbers or zeros.

Some data values may have been converted from one geographical boundary to another in order align to the 2021 SA1 boundaries provided.

Blank data cells indicate where data is not available.

PHIDU

PHIDU collates data on a broad range of health and other determinants across the lifespan from various primary data sources. These have been compiled into the social health atlas of Australia and the Aboriginal and Torres Strait Islander and Indigenous Status comparison social health atlas of Australia.

In the Social Health Atlas of Australia, the indicators fall broadly into one of the following categories: (1) demographic and social indicators, (2) health status, disease prevention, disability, carers and deaths, and (3) use and provision of health and welfare services. Time periods can vary across all the indicators presented, depending on the primary data source that it came from.

Data from PHIDU is provided at various geographical levels – LGAs, Primary Health Networks, Population Health Areas, quintiles of socioeconomic disadvantage of area, remoteness areas, and regional centres. The population health area is a PHIDU derived geographical structure based on combinations of whole SA2s and multiple SA2s.

The data presented at LGA level have in most cases, been estimated from the postcode or SA2 of the address, as the LGA of usual residence was not more accurately geocoded (e.g., from the street address). Estimates produced in this way are of variable quality, as the allocation from a postcode to one or more LGAs is based on the proportion of the total population falling within LGAs covered by the postcode. This method does not account for variations in the proportion of a postcode varying between different constituent LGAs or parts of LGAs according to different population characteristics such as age groups or Indigenous status, or the location of facilities which can alter the proportion (e.g., a nursing home in part of the postcode will not be recognised by this method).

Data is presented as data visualisation or as data downloads in Excel files for each of the geographical area [here](#).

Victorian Population Health Survey

The Victorian Population Health Survey is conducted annually by the Victorian Department of Health. The survey is open to Victorian adults aged 18 and over and is the primary source of insight about their health and wellbeing.

Each year, approximately 7,500 Victorians undertake the survey to share information on their health, wellbeing and lifestyle. Survey questions may vary across the years. Every three years, the survey expands to include approximately 34,000 people. This larger sample size allows the reporting of estimates at LGA level. The most recent LGA-level data is from the 2023 VPHS.

Adults who reside in private dwellings across Victoria are randomly selected and invited to participate which is entirely voluntary. Information is collected via computer-assisted telephone interviewing (CATI). Besides English, interviews can also be conducted in foreign languages commonly spoken in Victoria, to ensure individuals from culturally and linguistically diverse backgrounds are represented.

The data are then weighted to the Victorian population to reflect the population distribution by age, gender, educational attainment, and geographic location. The data are presented as proportion estimates with 95% confidence intervals and the relative standard error.

Certain caveats exist when using and interpreting the VPHS data. Firstly, the estimates are crude estimates and not age-standardised. Users are also cautioned to not compare LGA estimates against each other or for the same LGA over time because the sample size is not large enough to detect significant differences with adequate power, and therefore doing so may lead to misleading conclusions. It is however reasonable to compare the LGA estimate with the Victorian estimate.

Data for the VPHS are housed by the Victorian Agency for Health Information (VAHI) and can be accessed [here](#).

Appendix 2: Data tables

Table A1: Population and population density across NEPHU LGAs 2021	241
Table A2: Birth rate per 1000 population by LGA, 2011-2022	242
Table A3: Total migrants in NEPHU by postcode area, 2011-2021	243
Table A4: Population number by age group, sex and LGA, 2021	251
Table A5: Proportion of self-reported LGBTIQ+ population by LGA, 2023	254
Table A6: Aboriginal and/or Torres Strait Islander population numbers by LGA, 2021	255
Table A7: Number and proportion of Australian and overseas born residents by LGA, 2021	256
Table A8: Number and proportion of the population among residents in NEPHU by country of birth, 2021	257
Table A9: Number and proportion of population English proficiency and speaking a language other than English at home by LGA, 2021	260
Table A10: Proportion of population with a self-reported disability by LGA, 2023	261
Table A11: Self-reported health status of the NEPHU population by LGA, 2023	262
Table A12: Proportion of children (under 2 years) exposed to alcohol while in utero by Department of Education areas, 2023	263
Table A13: Proportion of children aged three to four years who were enrolled in kindergarten by LGA, 2022	264
Table A14: Proportion of children in the first year of full-time school who are on track on all five early childhood development domains or developmentally vulnerable in early childhood development domains by LGA, 2021	265
Table A15: Proportion of students in years three, five, seven and nine who meet or exceed the benchmarks for literacy by LGA, 2008-2019	267
Table A16: Proportion of students in years three, five, seven and nine who meet or exceed the benchmarks for numeracy by LGA, 2008-2019	272
Table A17: Number and proportion of population by highest education level and LGA, 2021	276
Table A18: Number and proportion of the population with year eight or below education including those who did not go to school by Australian born status, sex and LGA, 2021	278
Table A19: Proportion of the population employment status by sex and LGA, 2021	280
Table A20: Proportion of population employment status by Australian born status and LGA, 2021	281
Table A21: Number and proportion of household weekly income levels and median weekly income level by LGA, 2021	282
Table A22: Proportion of weekly income levels by age group and LGA, 2021	283
Table A23: Proportion of weekly income levels by sex and LGA, 2021	285
Table A24: Proportion of population who experienced food insecurity by LGA, 2020 and 2023	287
Table A25: Proportion of population who worry about food insecurity by LGA, 2023	288

Table A26: Housing tenure type (number and proportion of dwellings) by LGA, 2021	289
Table A27: Number and proportion of households with housing costs (mortgage or rent) >30% of annual household income by LGA, 2021	291
Table A28: Number and proportion of overcrowded dwellings in NEPHU by LGA, 2021	292
Table A29: Proportion of overcrowded dwellings in NEPHU by postcode area, 2021	293
Table A30: Number and rate of homeless persons per 10,000 population by accommodation type and LGA, 2021	302
Table A31: Liveability index, walkability index, social infrastructure index and percent of dwellings with park or open space within 400m by suburb in NEPHU	304
Table A32: Emissions (measured in tonnes carbon dioxide equivalent (t CO ₂ e)) by sector and by LGA, 2022-2023	314
Table A33: Heat health risk index and quintiles classification by SA2 in NEPHU	316
Table A34: Proportion of the population who feel that most people can be trusted by LGA, 2020	324
Table A35: Proportion of the population who feel valued by society by LGA, 2023	325
Table A36: Proportion of the population who feel that multiculturalism makes life in their area better by LGA, 2023	326
Table A37: Proportion of the population who have close friends or family to talk to regularly by LGA, 2020	327
Table A38: Proportion of the population who experienced discrimination in the last 12 months by LGA, 2023	328
Table A39: Proportion of the population who experienced racism in the last 12 months by LGA, 2023	329
Table A40: Proportion of the population aged 18 or over belonging to a community or action group by LGA, 2017	330
Table A41: Proportion of the population who experience loneliness by LGA, 2023	331
Table A42: Proportion of children (years 4-9) who were bullied by LGA, 2023	332
Table A43: Rate of reported criminal incidents by LGA, 2023	333
Table A44: Number and rate of recorded family violence incidents by LGA, 2022-2023	334
Table A45: Proportion of the population reporting low - high life satisfaction by LGA, 2023	335
Table A46: Proportion of students in Years 5, 8 and 11 who showed a high level of psychological distress (depressive symptoms) by Department of Education areas, 2018	336
Table A47: Proportion of the population with psychological distress as measured on the Kessler Psychological Distress Scale by LGA, 2023	337
Table A48: Proportion of the population who sought professional help for a mental health problem by LGA, 2023	338
Table A49: Proportion of fully vaccinated children by age group and LGA as at 30th June 2024	339
Table A50: Proportion of adolescents who had DTP, HTP (at least 1 dose) and MenACWY vaccines by age 20 years by LGA as at 30th June 2024	341
Table A51: Childhood fully vaccinated coverage level by postcode areas by LGA and age group as at 30th June 2024	342
Table A52: Vaccination coverage level for adolescents aged 20 years under the National Immunisation Program by postcode areas by LGA and vaccine type as at 30th June 2024	344

Table A53: Vaccine coverage as per National Immunisation Program requirements by postcode as at 30th June 2024	348
Table A54: Cancer screening participation/coverage rate among age and sex eligible population by age group in the NEPHU catchment.....	358
Table A55: Proportion of the NEPHU adult population who met fruit and vegetable consumption recommendations by LGA, 2023 ..	360
Table A56: Proportion of children (aged 4-12 years) who consumed the minimum recommended serves of fruit and vegetables daily by Department of Education area, 2023	361
Table A57: Proportion of population and level of weekly physical activity by LGA, 2023	362
Table A58: Proportion of children (aged 5-13 years) who met the recommended level of physical activity every day	363
Table A59: Number and proportion of population and their mode of transport to work by LGA, 2021	364
Table A60: Proportion of young people (years 8 and 11) who always used a condom during sex by Department of Education area, 2018.....	365
Table A61: Proportion of population who smoke tobacco daily by LGA, 2023.....	366
Table A62: Proportion of population who vape by LGA, 2023	367
Table A63: Proportion of children (under 13 years) who were exposed to tobacco smoke in the home by Department of Education areas, 2023	368
Table A64: Proportion of adults consuming alcohol within or in excess of the revised NHMRC guidelines by LGA, 2023	369
Table A65: Age-standardised rate of people drinking more than two standard alcoholic drinks daily by LGA, 2023	370
Table A66: Proportion of adults and their total time spent sitting on an average weekday by LGA, 2023	371
Table A67: Proportion of sedentary adults and their total weekly time spent on physical activity by LGA, 2023	372
Table A68: Annual spend per LGA and annual spend per adult by LGA, financial year 2022-2023	373
Table A69: Proportion of adult population who are overweight or obese based on self-reported BMI by LGA, 2023	374
Table A70: Age-standardised rate of hypertension by LGA, 2024-2015	375
Table A71: Number of GP clinics and GP clinics per 10,000 population by postcode area	376
Table A72: Average distance to closest GP by suburb.....	383
Table A73: Proportion of adults and their reasons cited for being unable to see a GP in the last 12 months when needed by LGA, 2023	392
Table A74: Proportion of population with private health insurance cover by LGA, 2023	393
Table A75: Hepatitis B, hepatitis C and HIV cases and notification rate (per 100,000 population) by LGA, 2023	394
Table A76: Hepatitis B and hepatitis C notification rates (per 100,000 population) in NEPHU 2013-2023	396
Table A77: Syphilis notification rates (per 100,000 population) in NEPHU by LGA, 2023.....	397
Table A78: Chlamydia and gonorrhoea monthly rates (per 100,000 population) by NEPHU, 2023-2024	398
Table A79: Top 10 cancer rates by sex and LGA, 2014-2018.....	401
Table A80: Rate of transport related injuries by sex and LGA, 2021-2022	409

Table A81: Rates of fall related injuries resulting in hospitalisation by sex and LGA, 2021-2022.....	410
Table A82: Rate of fall related injuries resulting in hospitalisations by age group and LGA, 2021-2022.....	411
Table A83: Main causes of death in NEPHU, 2022	412

Appendix 2.1: Population: Data Tables

Population size and distribution

Table A1: Population and population density across NEPHU LGAs 2021

LGA	Total population	Area (sq.km)	Population density (per sq. km)
Banyule	126,236	62.5402	2,018.5
Boroondara	167,900	60.1776	2,790.1
Darebin	148,570	53.4712	2,778.5
Hume	243,901	503.8488	484.1
Knox	159,103	113.9114	1,396.7
Manningham	124,700	113.3479	1,100.2
Maroondah	115,043	61.4097	1,873.4
Nillumbik	62,895	432.3373	145.5
Whitehorse	169,346	64.2801	2,634.5
Whittlesea	229,396	489.6938	468.4
Yarra	90,114	19.5421	4,611.3
Yarra Ranges	156,068	2,468.2052	63.2



LGA	Total population	Area (sq.km)	Population density (per sq. km)
NEPHU	1,793,272		

Data source: [ABS Census 2021](#), ABS Australian Statistical Geography Standard (ASGS) Edition

Population growth

Table A2: Birth rate per 1000 population by LGA, 2011-2022

Birth rate (per 1,000 population) by year												
LGA / NEPHU / VIC	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Banyule	14.0	13.3	13.1	12.7	12.1	13.8	12.6	12.1	11.6	10.5	11.1	11.2
Boroondara	9.3	9.3	8.9	8.4	8.7	9.2	8.5	7.8	7.9	6.9	7.2	6.6
Darebin	14.4	15.1	13.7	13.7	12.7	13.8	13.6	12.5	12.3	11.2	11.3	11.2
Hume	15.5	17.1	15.8	16.1	15.1	16.7	16.8	16.0	15.6	14.4	15.3	15.3
Knox	11.5	12.3	11.5	11.2	10.8	12.4	11.9	10.5	10.7	9.7	9.9	9.8
Manningham	8.8	9.3	8.7	8.3	8.8	9.1	9.1	8.1	8.4	7.6	7.8	7.5
Maroondah	13.0	13.4	13.5	12.8	13.4	14.1	13.0	12.8	12.0	11.1	11.6	11.0
Nillumbik	10.4	9.7	9.3	8.9	8.4	10.0	10.0	9.5	8.4	8.4	9.6	8.7
Whitehorse	11.9	12.0	10.8	11.5	10.4	10.9	10.8	9.4	9.1	8.3	8.1	7.9
Whittlesea	15.2	17.1	16.7	16.8	15.6	17.8	17.0	15.5	14.7	13.6	13.6	14.1
Yarra	13.1	14.2	12.6	12.4	11.8	12.6	12.3	11.8	10.9	9.9	10.5	9.8



Birth rate (per 1,000 population) by year

LGA / NEPHU / VIC	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Yarra Ranges	12.0	12.6	11.9	11.4	11.4	12.5	12.1	12.1	11.8	10.9	12.0	11.6
NEPHU	12.6	13.2	12.5	12.4	11.9	13.1	12.7	11.9	11.5	10.6	11.0	10.9
VIC	12.9	13.7	12.8	12.6	12.2	13.4	13.0	12.2	11.8	11.1	11.5	11.3

Data source: ABS Births

Table A3: Total migrants in NEPHU by postcode area, 2011-2021

Postcode	Total migrants (2011-2021)
3043	1,415
3047	4,400
3048	2,608
3049	584
3054	579
3059	1,523
3061	541
3062	0
3063	9
3064	25,254
3065	1,174



Postcode	Total migrants (2011-2021)
3066	1,412
3067	1,432
3068	1,314
3070	1,545
3071	1,176
3072	3,314
3073	5,877
3074	2,887
3075	3,133
3076	4,422
3078	698
3079	1,208
3081	1,395
3082	2,560
3083	4,446
3084	1,989
3085	889
3087	474

Postcode	Total migrants (2011-2021)
3088	1,142
3089	359
3090	29
3091	20
3093	129
3094	318
3095	998
3096	30
3097	31
3099	78
3101	2,233
3102	446
3103	2,412
3104	2,885
3105	813
3106	1,637
3107	1,267
3108	4,910

Postcode	Total migrants (2011-2021)
3109	5,462
3111	1,127
3113	258
3114	111
3115	73
3116	565
3121	3,462
3122	2,827
3123	1,794
3124	2,015
3125	3,334
3126	651
3127	1,584
3128	6,687
3129	2,879
3130	3,620
3131	3,067
3132	1,857

Postcode	Total migrants (2011-2021)
3133	2,904
3134	3,467
3135	1,748
3136	3,144
3137	686
3138	1,463
3139	140
3140	589
3146	2,063
3147	1,420
3151	2,010
3152	3,861
3153	1,976
3154	121
3155	1,823
3156	2,056
3158	181
3159	37

Postcode	Total migrants (2011-2021)
3160	251
3178	2,238
3179	611
3180	812
3428	13
3429	1,499
3750	5,500
3751	5
3752	2,207
3754	5,640
3755	8
3757	146
3759	8
3760	4
3761	15
3765	88
3766	22
3767	18

Postcode	Total migrants (2011-2021)
3770	38
3775	31
3777	206
3779	19
3782	166
3785	0
3786	30
3787	36
3788	35
3789	18
3791	36
3792	21
3793	70
3795	24
3796	150
3797	51
3799	79
NEPHU	189,152

Postcode	Total migrants (2011-2021)
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Data source: [ABS Census 2021](#)

Appendix 2.2: Demographics: Data Tables

Population age and sex

Table A4: Population number by age group, sex and LGA, 2021

LGA / NEPHU / VIC	0-4 years		5-24 years		25-44 years		45-64 years	
	Males	Females	Males	Females	Males	Females	Males	Females
Banyule	3,625	3,426	15,073	14,143	16,819	17,598	15,234	16,547
Boroondara	3,408	3,246	22,706	21,835	19,893	21,557	20,931	23,631
Darebin	4,062	3,835	15,563	15,057	25,578	26,890	17,309	18,400
Hume	9,764	9,088	34,960	32,745	38,590	38,688	26,256	27,184
Knox	4,291	4,146	19,656	18,010	20,909	21,592	20,190	21,883
Manningham	2,777	2,778	15,313	13,976	14,262	15,193	15,470	17,157
Maroondah	3,504	3,359	14,060	13,027	15,452	16,450	13,878	15,099
Nillumbik	1,614	1,604	8,722	8,133	6,425	6,804	9,298	9,876
Whitehorse	4,030	3,753	21,490	20,407	23,177	23,757	19,662	21,729
Whittlesea	8,606	7,910	30,901	28,862	36,322	36,787	24,483	25,998
Yarra	1,808	1,833	7,033	8,007	20,940	21,181	9,409	9,233
Yarra Ranges	4,861	4,444	19,670	18,211	19,343	20,158	20,339	21,458
NEPHU	52,350	49,422	225,147	212,413	257,710	266,655	212,459	228,195
VIC	192,666	183,243	805,117	762,087	935,734	958,534	763,568	809,880

	0-4 years		5-24 years		25-44 years		45-64 years	
LGA / NEPHU / VIC	Males	Females	Males	Females	Males	Females	Males	Females

Data source: [ABS Census 2021](#)



LGA / NEPHU / VIC	65-84 years		85 and over years		All ages		People
	Males	Females	Males	Females	Males	Females	
Banyule	9,370	11,005	1,279	2,121	61,405	64,835	126,236
Boroondara	11,767	13,978	1,820	3,143	80,517	87,386	167,900
Darebin	8,116	9,809	1,543	2,406	72,162	76,410	148,570
Hume	11,442	12,704	989	1,481	122,013	121,890	243,901
Knox	11,566	13,328	1,333	2,203	77,940	81,164	159,103
Manningham	10,562	12,650	1,930	2,630	60,324	64,374	124,700
Maroondah	7,755	9,589	1,055	1,829	55,688	59,351	115,043
Nillumbik	4,711	4,842	340	539	31,101	31,794	62,895
Whitehorse	11,498	14,387	2,067	3,405	81,917	87,430	169,346
Whittlesea	12,212	13,981	1,322	2,014	113,834	115,556	229,396
Yarra	4,319	5,081	473	790	43,993	46,125	90,114
Yarra Ranges	11,902	13,012	1,086	1,590	77,188	78,878	156,068
NEPHU	115,220	134,366	15,237	24,151	878,082	915,193	1,793,272
VIC	448,951	501,443	55,013	87,475	3,200,974	3,302,553	6,503,503

Data source: [ABS Census 2021](#)



Lesbian, Gay, Bisexual, Transgender, Intersex, Queer plus (LGBTIQ+) community

Table A5: Proportion of self-reported LGBTIQ+ population by LGA, 2023

LGA / NEPHU / VIC	Proportion of population (%)		
	non-LGBTIQ+	LGBTIQ+	No response
Banyule	82.7	11.5	5.7
Boroondara	82.4	11.8	5.8
Darebin	76.0	17.6	6.4
Hume	80.1	7.7	12.2
Knox	80.6	11.2	8.2
Manningham	84.0	7.7	8.2
Maroondah	87.6	7.4	5.0
Nillumbik	89.6	8.7	1.8
Whitehorse	79.1	10.1	10.7
Whittlesea	79.2	8.2	12.6
Yarra	71.2	24.3	4.4
Yarra Ranges	85.5	11.0	3.5
NEPHU	81.5	11.4	7.1
VIC	81.5	11.0	7.6

Data source: [VPHS 2023](#)

Aboriginal and/or Torres Strait Islander population

Table A6: Aboriginal and/or Torres Strait Islander population numbers by LGA, 2021

LGA / NEPHU / VIC	Age groups					Total
	0-4 yrs	5-24 yrs	25-44 yrs	45-64 yrs	65 and over yrs	
Banyule	73	320	225	199	66	866
Boroondara	29	164	140	86	20	436
Darebin	133	445	494	279	93	1,441
Hume	204	780	497	300	93	1,870
Knox	83	425	248	227	62	1,022
Manningham	33	123	74	54	15	297
Maroondah	56	299	193	148	53	734
Nillumbik	33	142	97	87	28	380
Whitehorse	39	225	123	95	47	523
Whittlesea	269	968	615	308	99	2,270
Yarra	22	154	230	82	19	513
Yarra Ranges	176	681	392	357	125	1,713
NEPHU	1,150	4,726	3,328	2,222	720	12,065
VIC	7,037	26,064	17,133	11,509	3,961	65,639

Data source: [ABS Census 2021](#)

Country of birth

Table A7: Number and proportion of Australian and overseas born residents by LGA, 2021

LGA / NEPHU	Australian born	% Australian born	Overseas born	% Overseas born	Total population
Banyule	91,428	72.4	34,808	27.6	126,236
Boroondara	108,493	64.6	59,407	35.4	167,900
Darebin	95,646	64.4	52,924	35.6	148,570
Hume	134,334	55.1	109,567	44.9	243,901
Knox	101,819	64.0	57,284	36.0	159,103
Manningham	66,760	53.5	57,940	46.5	124,700
Maroondah	82,633	71.8	32,410	28.2	115,043
Nillumbik	50,919	81.0	11,976	19.0	62,895
Whitehorse	93,383	55.1	75,963	44.9	169,346
Whittlesea	133,440	58.2	95,956	41.8	229,396
Yarra	59,676	66.2	30,438	33.8	90,114
Yarra Ranges	123,985	79.4	32,083	20.6	156,068
NEPHU	1,142,516	63.7	650,756	36.3	1,793,272
VIC	4,228,688	65.0	2,274,815	35.0	6,503,503

Data source: [ABS Census 2021](#)

Table A8: Number and proportion of the population among residents in NEPHU by country of birth, 2021

Country	Total number	Proportion of population (%)
Australia	1,142,516	63.7
China	77,352	4.3
India	62,657	3.5
England	46,089	2.6
Italy	25,413	1.4
Malaysia	25,109	1.4
New Zealand	23,953	1.3
Sri Lanka	19,632	1.1
Iraq	19,381	1.1
Vietnam	18,908	1.1
Greece	18,486	1.0
Philippines	14,265	0.8
Hong Kong	12,877	0.7
Iran	11,980	0.7
Türkiye	9,668	0.5
Lebanon	8,960	0.5
North Macedonia	8,619	0.5

Country	Total number	Proportion of population (%)
South Africa	8,368	0.5
Pakistan	8,184	0.5
USA	7,148	0.4
Germany	6,975	0.4
Singapore	6,862	0.4
Nepal	6,835	0.4
Scotland	6,190	0.3
Indonesia	5,438	0.3
Korea South	5,054	0.3
Egypt	4,939	0.3
Netherlands	4,706	0.3
Thailand	4,677	0.3
Ireland	4,321	0.2
Taiwan	4,199	0.2
Myanmar	3,892	0.2
Malta	3,490	0.2
Croatia	3,425	0.2
Fiji	3,370	0.2
Poland	3,138	0.2

Country	Total number	Proportion of population (%)
Canada	2,990	0.2
Japan	2,626	0.1
Mauritius	2,206	0.1
Cambodia	2,162	0.1
France	2,085	0.1
Bangladesh	1,871	0.1
Samoa	1,864	0.1
Zimbabwe	1,719	0.1
Bosnia Herzegovina	1,526	0.1
Chile	1,465	0.1
Afghanistan	1,343	0.1
Brazil	1,217	0.1
Wales	1,212	0.1
Papua New Guinea	819	0.0

Data source: [ABS Census 2021](#)



Languages spoken

Table A9: Number and proportion of population English proficiency and speaking a language other than English at home by LGA, 2021

LGA / NEPHU	Speaks English only	% population speaks English only	Low English proficiency	% population with low English proficiency	Speaks a language other than English	% population speaks a language other than English
Banyule	94,634	75	3,592	3	27,548	22
Boroondara	114,556	68	6,809	4	48,227	29
Darebin	94,119	63	8,937	6	48,003	32
Hume	110,184	45	20,322	8	119,012	49
Knox	108,159	68	6,906	4	45,732	29
Manningham	63,188	51	9,766	8	57,685	46
Maroondah	88,426	77	4,348	4	22,750	20
Nillumbik	55,147	88	517	1	6,039	10
Whitehorse	94,609	56	13,830	8	68,588	41
Whittlesea	115,115	50	15,534	7	103,445	45
Yarra	67,385	75	3,670	4	18,021	20
Yarra Ranges	137,846	88	1,821	1	12,438	8
NEPHU	1,143,368	64	96,052	5	577,488	32

Data source: [ABS Census 2021](#)

Disability

Table A10: Proportion of population with a self-reported disability by LGA, 2023

LGA / NEPHU / VIC	Yes (%)	No (%)
Banyule	16.5	83.1
Boroondara	14.5	84.9
Darebin	22.7	76.7
Hume	22.4	77.6
Knox	18.5	81.2
Manningham	15.8	84.0
Maroondah	23.3	76.7
Nillumbik	17.0	82.8
Whitehorse	14.9	84.5
Whittlesea	18.1	80.9
Yarra	18.5	81.4
Yarra Ranges	26.7	73.3
NEPHU	19.1	80.6
VIC	19.9	79.5

Data source: [VPHS 2023](#)

General health

Table A11: Self-reported health status of the NEPHU population by LGA, 2023

LGA / NEPHU / VIC	Proportion of population (%)		
	Excellent/Very good	Good	Fair/Poor
Banyule	46.9	34.8	16.4
Boroondara	48.2	33.5	17.6
Darebin	39.9	41.1	18.5
Hume	31.8	42.1	24.0
Knox	37.2	39.2	22.7
Manningham	47.8	34.5	17.6
Maroondah	39.4	36.4	23.8
Nillumbik	43.9	38.7	17.0
Whitehorse	36.7	44.4	18.4
Whittlesea	34.1	39.8	24.9
Yarra	52.1	30.5	16.0
Yarra Ranges	39.8	36.9	22.3
NEPHU	41.5	37.6	19.9
VIC	39.8	38.3	20.9

Data source: [VPHS 2023](#)

Appendix 2.3: Early Childhood: Data Tables

Exposure to alcohol in utero

Table A12: Proportion of children (under 2 years) exposed to alcohol while in utero by Department of Education areas, 2023

Department of Education group areas	%
Inner Eastern Melbourne	69.1
North Eastern Melbourne	33.0
Outer Eastern Melbourne	68.3
Hume Merri-bek	21.1
Victoria	39.8

Data source: [VCHWS 2023](#)

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek

Monash and Merri-bek LGAs are not part of NEPHU

Early childhood education

Table A13: Proportion of children aged three to four years who were enrolled in kindergarten by LGA, 2022

LGA / NEPHU / EDU	Numerator	Denominator	%
Banyule	1,524.2	1,400	91.9
Boroondara	1,485.5	1,345	90.5
Darebin	1,573.9	1,405	89.3
Hume	3,955.0	3,632	91.8
Knox	1,768.7	1,612	91.1
Manningham	1,231.4	1,129	91.7
Maroondah	1,431.1	1,272	88.9
Nillumbik	701.1	658	93.9
Whitehorse	1,719.6	1,598	92.9
Whittlesea	3,473.2	3,153	90.8
Yarra	690.8	601	87.0
Yarra Ranges	1,914.2	1,743	91.1
NEPHU	21,468.7	19,548	90.9
Victoria	78,360.3	71,758	91.6

Data source: [Kindergarten Information Management System](#) (KIMS)

Early childhood development

Table A14: Proportion of children in the first year of full-time school who are on track on all five early childhood development domains or developmentally vulnerable in early childhood development domains by LGA, 2021 .

LGA / NEPHU / VIC	On track on all five domains			Developmentally vulnerable in one or more domains			Developmentally vulnerable in two or more domains		
	Number	Total	%	Number	Total	%	Number	Total	%
Banyule	857	1,348	63.6	183	1,345	13.6	88	1,352	6.5
Boroondara	858	1,292	66.4	168	1,292	13.0	62	1,294	4.8
Darebin	707	1,202	58.8	189	1,199	15.8	94	1,206	7.8
Hume	1,523	3,220	47.3	923	3,216	28.7	524	3,235	16.2
Knox	1,001	1,640	61.0	289	1,639	17.6	154	1,641	9.4
Manningham	743	1,166	63.7	181	1,166	15.5	79	1,166	6.8
Maroondah	762	1,223	62.3	187	1,221	15.3	83	1,222	6.8
Nillumbik	380	568	66.9	72	566	12.7	29	574	5.1
Whitehorse	970	1,554	62.4	242	1,553	15.6	117	1,554	7.5
Whittlesea	1,747	2,971	58.8	592	2,968	19.9	296	2,976	9.9
Yarra	320	524	61.1	97	524	18.5	59	524	11.3
Yarra Ranges	872	1,581	55.2	311	1,580	19.7	128	1,587	8.1
NEPHU	10,740	18,289	58.7	3,434	18,269	18.8	1,713	18,331	9.3
VIC	39,560	69,152	57.2	13,777	69,068	19.9	7,085	69,217	10.2

LGA / NEPHU / VIC	On track on all five domains			Developmentally vulnerable in one or more domains			Developmentally vulnerable in two or more domains		
	Number	Total	%	Number	Total	%	Number	Total	%

Data source: [AEDC](#) 2021

Childhood numeracy and literacy

Table A15: Proportion of students in years three, five, seven and nine who meet or exceed the benchmarks for literacy by LGA, 2008-2019

LGA / NEPHU / VIC	Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)											
	2008				2009				2010			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	96.5	94.0	96.7	93.9	97.2	94.7	95.8	93.5	95.6	94.2	97.4	94.4
Boroondara	98.3	97.6	99.0	98.4	98.4	97.2	98.8	98.2	98.2	97.0	98.8	98.0
Darebin	93.1	89.4	92.1	88.8	92.5	90.1	91.9	88.3	90.4	90.6	90.4	88.0
Hume	91.9	87.7	92.4	90.3	92.4	90.8	91.6	89.5	92.2	88.8	92.7	87.5
Knox	95.0	94.3	96.3	95.6	96.2	95.1	96.3	96.4	95.3	93.6	96.8	93.8
Manningham	96.2	95.1	96.0	92.7	95.4	95.9	94.2	90.8	96.5	94.3	95.3	93.2
Maroondah	96.5	92.8	97.6	95.9	97.1	95.6	97.6	96.2	96.3	95.5	96.4	95.1
Nillumbik	95.5	97.1	97.4	95.3	97.3	97.2	97.9	97.0	97.7	95.4	98.8	96.2
Whitehorse	96.4	94.3	97.8	96.8	96.3	94.4	97.0	97.1	96.9	95.6	97.7	96.8
Whittlesea	94.9	92.2	94.5	93.2	95.4	93.6	93.8	90.8	94.1	93.1	94.4	90.9
Yarra	96.3	95.1	98.2	97.4	97.3	95.8	98.6	97.5	97.7	97.4	98.5	97.0
Yarra Ranges	95.5	93.8	97.1	95.1	95.8	94.8	95.8	95.6	95.5	92.8	96.1	92.9
NEPHU	95.4	93.4	96.4	94.7	95.8	94.4	95.8	94.4	95.3	93.7	96.1	93.6
VIC	95.2	93.7	95.8	94.7	95.2	94.2	95.4	94.3	95.4	94.2	96.2	93.3

Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)

LGA / NEPHU / VIC	2008				2009				2010			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9

Source: [VCAMS](#)

Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)												
LGA / NEPHU / VIC	2011				2012				2013			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	94.5	94.8	97.0	95.1	96.7	93.9	95.9	93.3	95.3	96.5	97.2	95.3
Boroondara	98.6	98.1	99.2	98.5	98.5	97.9	98.9	98.3	98.7	98.9	99.0	98.8
Darebin	91.6	89.7	94.6	89.6	94.2	88.5	93.8	89.5	94.7	94.3	92.4	94.0
Hume	92.3	90.1	92.7	89.4	92.5	87.5	89.4	87.0	92.2	93.3	91.5	91.9
Knox	96.6	95.3	97.8	95.9	95.6	94.2	96.8	94.7	96.2	97.5	95.7	95.4
Manningham	95.4	94.9	95.2	91.6	95.7	95.5	93.2	92.2	95.3	96.1	95.2	91.7
Maroondah	95.6	96.0	97.2	95.0	96.3	95.5	96.8	95.3	97.7	97.3	97.1	95.0
Nillumbik	97.3	96.9	99.3	96.5	97.3	96.8	95.3	96.8	97.4	98.7	97.1	94.7
Whitehorse	94.7	95.2	97.7	95.7	95.1	94.4	96.3	95.3	96.2	95.7	96.5	95.7
Whittlesea	94.1	91.8	96.5	91.8	94.4	89.9	93.9	90.8	94.8	95.6	93.5	94.0
Yarra	96.7	94.4	98.5	96.4	97.0	94.8	96.7	96.2	95.4	97.2	97.2	95.9
Yarra Ranges	94.9	93.7	97.1	95.3	96.3	94.1	95.0	92.8	96.2	97.7	95.6	94.7
NEPHU	95.1	94.1	96.8	94.3	95.6	93.3	95.2	93.4	95.7	96.4	95.7	94.9
VIC	95.3	94.3	95.8	94.0	95.2	94.1	95.5	93.0	96.0	96.5	95.6	94.3

Source: [VCAMS](#)

Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)												
LGA / NEPHU / VIC	2014				2015				2016			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	96.0	95.5	96.4	92.8	97.2	94.7	96.0	95.3	97.0	95.2	96.8	94.3
Boroondara	98.4	98.7	99.0	97.9	98.2	97.8	99.6	98.4	98.4	98.2	99.0	98.5
Darebin	93.2	91.8	93.1	90.3	92.6	94.7	93.2	90.9	93.5	93.5	91.8	89.0
Hume	89.6	89.2	91.4	87.3	89.9	89.1	93.5	90.0	92.8	88.9	90.4	89.8
Knox	95.5	95.0	95.0	92.6	95.9	95.5	96.3	93.5	97.2	95.1	94.7	92.8
Manningham	96.1	94.0	93.8	89.4	95.3	95.4	95.5	91.9	96.2	96.4	93.7	90.4
Maroondah	96.9	96.0	97.4	93.8	96.2	97.4	97.4	96.1	97.1	96.0	96.5	96.7
Nillumbik	98.5	96.8	98.1	94.6	98.0	96.7	98.4	96.5	97.9	97.8	96.0	96.5
Whitehorse	94.7	95.0	96.5	95.5	95.7	95.2	96.4	95.0	95.3	94.3	95.8	94.1
Whittlesea	93.2	92.5	94.7	89.3	94.9	94.4	95.9	89.8	95.8	92.8	92.9	88.7
Yarra	95.4	94.8	96.5	94.7	96.3	95.7	98.0	96.4	96.4	96.1	97.6	96.5
Yarra Ranges	94.6	95.4	96.1	91.1	96.8	96.1	96.6	93.7	96.1	94.2	96.0	94.8
NEPHU	94.7	94.4	95.7	92.5	95.3	94.9	96.4	94.0	95.9	94.4	95.1	93.6
VIC	94.6	94.2	95.6	93.3	95.5	94.3	95.9	93.5	95.8	94.6	95.3	93.4

Source: [VCAMS](#)

Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)												
LGA / NEPHU / VIC	2017				2018				2019			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	97.5	96.8	95.8	91.4	96.8	97.6	95.5	94.0	97.4	97.0	96.1	93.8
Boroondara	98.1	98.7	98.7	98.0	97.9	98.5	98.6	98.4	98.5	98.3	99.2	98.1
Darebin	94.0	92.4	92.9	91.1	93.9	93.1	93.4	91.5	94.3	94.1	93.4	94.3
Hume	90.5	89.3	87.1	84.4	90.7	89.2	88.9	86.8	92.9	90.7	90.3	84.6
Knox	95.8	95.1	94.2	92.3	96.4	95.8	94.7	91.8	97.7	98.0	96.6	92.9
Manningham	95.6	95.7	93.8	91.2	95.5	96.0	95.1	90.9	96.8	95.6	94.4	90.3
Maroondah	97.2	96.9	97.0	92.6	96.7	97.1	97.5	95.3	98.5	97.3	98.5	93.1
Nillumbik	97.4	97.3	94.7	93.5	97.8	98.4	95.9	95.7	98.1	97.3	97.5	93.1
Whitehorse	95.3	94.9	95.8	95.0	96.0	95.5	95.8	95.3	96.3	95.9	96.2	94.5
Whittlesea	95.9	94.4	92.9	87.4	95.3	94.0	93.6	90.8	96.8	96.3	94.6	88.4
Yarra	95.4	96.8	96.0	96.4	96.3	97.4	94.8	95.4	97.5	95.5	96.5	96.2
Yarra Ranges	95.7	95.9	95.7	91.8	95.6	95.8	94.5	93.5	96.5	96.3	96.4	91.1
NEPHU	95.4	95.0	94.5	91.9	95.3	95.2	94.7	93.2	96.5	95.8	95.7	92.2
VIC	95.8	95.2	94.9	92.0	96.2	95.8	95.1	94.1	96.6	95.9	95.7	92.4

Source: [VCAMS](#)

Table A16: Proportion of students in years three, five, seven and nine who meet or exceed the benchmarks for numeracy by LGA, 2008-2019

LGA / NEPHU / VIC	Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)											
	2008				2009				2010			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	97.2	95.3	97.3	95.4	96.9	97.0	96.9	95.8	95.9	95.9	97.4	96.3
Boroondara	98.5	98.4	99.5	98.9	97.9	98.2	98.9	98.9	98.4	98.4	99.3	98.7
Darebin	94.5	90.3	95.2	89.6	90.9	92.1	92.7	93.0	90.3	92.5	92.8	91.6
Hume	92.9	90.8	93.6	91.7	90.6	93.0	93.9	94.5	91.9	91.7	94.4	89.5
Knox	96.5	95.5	97.9	96.6	95.5	97.1	97.9	98.3	96.2	96.3	98.0	96.7
Manningham	96.7	95.6	97.1	93.3	95.5	96.7	95.5	93.3	96.7	95.6	95.9	94.0
Maroondah	97.8	95.3	98.3	97.0	96.6	97.7	97.8	97.8	97.2	98.0	97.4	96.6
Nillumbik	96.5	97.1	97.7	96.4	97.0	98.2	97.8	97.9	98.3	96.8	98.7	97.0
Whitehorse	96.8	96.1	98.1	97.4	96.7	95.8	98.0	98.7	97.7	96.6	98.1	98.0
Whittlesea	96.1	93.2	96.0	94.0	92.6	95.9	94.7	95.8	95.0	94.9	94.8	93.3
Yarra	97.4	96.6	98.5	99.0	95.9	97.3	98.3	98.5	97.0	97.9	99.2	98.2
Yarra Ranges	97.6	96.4	97.9	96.1	95.5	97.2	97.2	97.6	96.7	96.6	97.2	95.6
NEPHU	96.4	94.9	97.3	95.6	95.0	96.3	96.7	96.8	95.8	95.8	97.0	95.4
VIC	96.5	94.6	96.5	95.2	95.6	95.5	96.0	96.3	95.4	95.7	96.1	94.8

Source: VCAMS



LGA / NEPHU / VIC	Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)											
	2011				2012				2013			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	95.4	96.0	97.2	95.4	96.4	95.8	96.2	95.9	95.0	94.5	97.6	94.6
Boroondara	98.8	98.4	99.1	99.0	98.7	98.5	98.9	99.1	99.1	98.5	99.2	98.1
Darebin	92.1	91.9	92.2	91.3	93.7	90.3	92.7	93.8	95.1	90.5	94.7	89.3
Hume	93.6	92.3	92.5	92.2	92.4	89.5	91.5	92.3	92.5	87.7	93.4	87.5
Knox	96.8	96.3	97.7	97.8	95.8	96.0	97.4	97.5	97.0	96.4	97.6	94.1
Manningham	95.2	96.1	95.1	93.0	95.5	96.4	93.7	94.5	95.6	95.4	95.5	91.4
Maroondah	96.8	96.8	97.4	96.9	97.0	96.5	97.9	96.2	97.4	96.0	98.3	93.6
Nillumbik	97.9	97.5	98.8	97.4	97.2	97.7	96.0	98.5	97.4	97.9	98.0	93.1
Whitehorse	95.4	96.2	97.8	97.5	95.4	95.7	97.0	98.2	96.0	94.5	97.8	95.6
Whittlesea	95.3	93.8	95.9	94.1	94.2	92.8	94.6	95.5	94.7	90.8	95.0	90.5
Yarra	97.6	96.6	98.6	97.6	97.5	97.0	96.1	96.8	95.7	96.0	96.5	95.3
Yarra Ranges	97.4	96.8	96.9	95.8	96.6	95.7	95.3	95.7	97.1	95.9	97.3	92.3
NEPHU	96.0	95.6	96.6	95.7	95.7	94.8	95.7	96.1	95.9	94.1	96.8	93.1
VIC	96.2	95.6	95.8	94.6	95.6	95.0	95.0	95.0	96.2	94.4	95.7	92.2

Source: VCAMS



Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)												
LGA / NEPHU / VIC	2014				2015				2016			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	96.6	96.0	96.7	95.6	97.3	96.0	96.5	96.6	97.2	96.3	97.4	96.3
Boroondara	98.6	98.3	99.4	99.2	98.3	98.5	99.6	99.4	98.2	98.8	99.6	99.4
Darebin	93.2	92.2	93.7	95.0	92.3	95.2	94.6	94.1	93.5	93.9	92.6	91.7
Hume	91.1	88.3	92.4	92.5	88.7	92.0	94.5	94.0	92.2	90.1	92.8	94.4
Knox	96.5	95.6	96.4	96.0	96.0	96.8	97.8	96.5	97.0	96.3	96.7	95.5
Manningham	96.5	94.5	94.0	92.3	94.7	96.1	96.3	93.6	96.1	96.8	94.9	91.9
Maroondah	97.2	96.3	97.8	97.6	96.1	98.7	97.7	98.1	96.8	96.7	98.0	98.0
Nillumbik	98.4	97.0	97.3	94.9	97.6	97.0	98.7	96.4	98.2	97.9	97.5	96.7
Whitehorse	95.0	95.1	96.9	97.6	95.8	95.5	96.4	97.0	95.4	95.4	97.1	96.3
Whittlesea	94.0	92.2	94.8	94.8	93.9	95.8	96.6	94.1	94.9	93.8	95.1	94.6
Yarra	96.8	94.6	96.3	96.5	97.0	97.5	98.2	98.1	96.6	97.5	98.7	97.5
Yarra Ranges	97.5	96.0	96.4	96.5	96.9	97.8	97.6	97.0	97.0	96.6	96.7	96.6
NEPHU	95.6	94.4	96.1	95.9	95.0	96.2	97.0	96.4	95.8	95.4	96.5	96.0
VIC	95.5	94.7	95.5	94.8	95.3	95.8	96.3	95.6	95.9	95.3	96.1	95.4

Source: [VCAMS](#)

Proportion of students in Year 3, 5, 7 or 9 by calendar year and LGA (%)												
LGA / NEPHU / VIC	2017				2018				2019			
	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9	Year 3	Year 5	Year 7	Year 9
Banyule	98.1	96.8	96.5	94.3	97.7	97.8	96.5	95.8	97.7	97.8	96.7	96.0
Boroondara	98.5	98.9	99.6	99.2	98.7	98.9	99.4	99.2	99.0	99.0	99.6	99.5
Darebin	95.0	93.5	94.8	94.5	94.9	94.1	95.2	95.1	94.4	95.1	93.7	97.1
Hume	91.4	90.2	90.9	92.8	92.3	91.6	91.6	91.1	92.4	92.1	91.7	92.9
Knox	96.5	96.7	97.0	97.9	97.8	97.3	96.2	94.9	98.0	98.4	97.4	97.9
Manningham	95.7	96.0	95.1	94.5	95.8	97.3	96.2	93.1	96.8	96.5	96.0	93.7
Maroondah	97.8	98.3	98.3	96.9	97.9	98.8	99.0	97.9	98.1	98.0	98.7	97.2
Nillumbik	98.2	98.4	96.1	96.4	98.6	99.1	97.6	96.2	98.6	98.2	97.1	94.9
Whitehorse	95.9	95.9	96.9	97.5	96.4	96.3	96.1	96.1	96.6	96.2	97.0	96.8
Whittlesea	96.3	94.8	96.5	95.5	95.6	96.3	95.4	94.6	96.0	96.4	94.0	95.6
Yarra	96.8	97.5	97.3	98.0	98.0	98.4	95.4	96.4	97.2	96.3	96.9	97.7
Yarra Ranges	97.2	96.7	97.9	97.5	97.5	98.1	96.5	96.6	97.5	98.2	97.2	97.0
NEPHU	96.1	95.7	96.4	96.2	96.4	96.6	96.2	95.6	96.5	96.6	96.2	96.4
VIC	96.0	96.0	96.0	95.5	96.3	96.4	95.9	95.5	96.4	96.4	95.7	96.2

Source: [VCAMS](#)

Appendix 2.4: Socioeconomic Determinants of Health: Data Tables

Education

Table A17: Number and proportion of population by highest education level and LGA, 2021

LGA / NEPHU / VIC	High school and below		Certificate III and IV and Diploma		Bachelor		Graduate Diploma and Postgraduate		Inadequately described or Not stated	
	Number	%	Number	%	Number	%	Number	%	Number	%
Banyule	33,060	32	23,006	22	24,414	24	14,840	14	8,484	8
Boroondara	37,339	26	19,830	14	45,721	32	27,947	20	10,138	7
Darebin	40,183	32	23,240	18	30,654	24	19,382	15	12,760	10
Hume	80,764	43	46,157	24	25,528	13	12,767	7	23,929	13
Knox	48,723	37	35,323	27	24,720	19	12,172	9	11,044	8
Manningham	35,257	34	20,180	19	26,019	25	13,890	13	9,211	9
Maroondah	32,537	35	25,013	27	18,354	20	9,911	11	8,199	9
Nillumbik	16,889	33	14,171	28	10,569	21	5,913	12	3,684	7
Whitehorse	44,013	31	26,131	18	36,660	26	22,689	16	12,889	9
Whittlesea	73,216	41	45,643	25	27,456	15	14,770	8	19,596	11
Yarra	16,884	21	11,264	14	28,226	35	16,983	21	7,238	9
Yarra Ranges	47,145	37	41,377	33	18,266	14	8,942	7	11,297	9
NEPHU	506,010	34	331,335	22	316,587	21	180,206	12	138,469	9

LGA / NEPHU / VIC	High school and below		Certificate III and IV and Diploma		Bachelor		Graduate Diploma and Postgraduate		Inadequately described or Not stated	
	Number	%	Number	%	Number	%	Number	%	Number	%
VIC	1,918,013	36	1,281,131	24	1,004,394	19	553,058	10	577,447	11

Data source: [ABS Census 2021](#)



Table A18: Number and proportion of the population with year eight or below education including those who did not go to school by Australian born status, sex and LGA, 2021

LGA / NEPHU / VIC	Australian born				Overseas born			
	Female		Male		Female		Male	
	Number	%	Number	%	Number	%	Number	%
Banyule	1,396	1.5	1,155	1.3	1,633	4.7	1,066	3.1
Boroondara	816	0.8	767	0.7	1,558	2.6	950	1.6
Darebin	1,211	1.3	1,081	1.1	4,857	9.2	3,238	6.1
Hume	1,778	1.3	1,742	1.3	8,267	7.5	6,415	5.9
Knox	1,430	1.4	1,340	1.3	1,916	3.3	1,249	2.2
Manningham	850	1.3	607	0.9	3,019	5.2	2,122	3.7
Maroondah	1,174	1.4	1,036	1.3	1,325	4.1	962	3.0
Nillumbik	479	0.9	475	0.9	273	2.3	218	1.8
Whitehorse	1,222	1.3	1,002	1.1	2,780	3.7	1,879	2.5
Whittlesea	1,703	1.3	1,616	1.2	6,792	7.1	4,988	5.2
Yarra	301	0.5	278	0.5	1,583	5.2	790	2.6
Yarra Ranges	1,642	1.3	1,826	1.5	993	3.1	933	2.9
NEPHU	14,002	1.2	12,925	1.1	34,996	5.4	24,810	3.8
VIC	62,652	1.5	63,736	1.5	109,107	4.8	80,105	3.5

	Australian born				Overseas born			
	Female		Male		Female		Male	
LGA / NEPHU / VIC	Number	%	Number	%	Number	%	Number	%

Data source: [ABS Census 2021](#)

Data notes: Percentages calculated using population size of Australian born or overseas born in each LGA as denominator

Employment Status

Table A19: Proportion of the population employment status by sex and LGA, 2021

LGA / NEPHU / VIC	Employed full-time		Employed part-time		Unemployed		Hours not stated	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
Banyule	35.2	21.6	10.8	22.0	2.4	1.9	0.6	0.4
Boroondara	33.6	23.3	12.3	21.2	2.3	2.0	0.6	0.5
Darebin	32.2	23.7	12.2	20.3	2.9	2.4	0.8	0.6
Hume	35.5	19.1	12.1	19.0	4.0	3.5	1.5	0.8
Knox	36.3	21.3	10.6	21.6	2.4	2.1	0.7	0.6
Manningham	33.9	20.6	12.5	22.1	2.8	2.4	0.7	0.6
Maroondah	36.2	21.2	10.1	22.5	2.1	1.9	0.6	0.5
Nillumbik	36.3	19.1	10.6	24.1	1.8	1.7	0.6	0.4
Whitehorse	33.0	21.3	13.0	21.8	2.9	2.5	0.7	0.5
Whittlesea	36.1	20.2	11.1	20.4	3.2	2.7	1.1	0.7
Yarra	35.6	29.6	10.1	15.6	2.0	1.8	0.5	0.4
Yarra Ranges	36.6	18.7	10.3	23.8	1.8	1.7	0.8	0.7
NEPHU	35.0	21.5	11.4	21.0	2.7	2.3	0.8	0.6
VIC	35.0	21.2	11.4	21.0	2.7	2.3	0.9	0.7

Data source: [ABS Census 2021](#)

Table A20: Proportion of population employment status by Australian born status and LGA, 2021

LGA / NEPHU / VIC	Employed full-time		Employed part-time		Unemployed		Not-stated	
	Australian born	Overseas born	Australian born	Overseas born	Australian born	Overseas born	Australian born	Overseas born
Banyule	56.1	58.6	33.5	30.9	4.2	4.7	6.3	5.5
Boroondara	56.0	58.4	34.4	31.8	4.0	4.0	5.6	4.8
Darebin	56.3	54.9	32.3	33.0	4.9	6.0	6.4	6.1
Hume	56.2	52.8	30.1	32.2	6.6	8.7	7.1	6.4
Knox	56.6	59.5	33.1	30.7	4.3	4.6	6.0	5.1
Manningham	53.8	55.2	35.5	33.6	4.8	5.8	6.0	5.5
Maroondah	56.4	60.0	33.7	30.0	3.8	4.7	6.2	5.0
Nillumbik	54.4	59.4	35.3	31.8	3.5	3.1	6.7	5.8
Whitehorse	54.0	54.6	34.4	34.1	4.8	6.0	5.7	5.4
Whittlesea	56.9	55.5	31.0	32.1	5.6	6.3	6.5	6.0
Yarra	65.7	63.8	25.8	25.4	3.2	5.0	5.2	5.6
Yarra Ranges	55.0	56.5	34.2	33.3	3.6	3.4	7.3	6.6
NEPHU	56.4	56.5	32.7	31.9	4.5	5.8	6.3	5.7
VIC	56.1	56.4	32.7	31.7	4.5	6.0	6.7	5.9

Data source: [ABS Census 2021](#)

Income level

Table A21: Number and proportion of household weekly income levels and median weekly income level by LGA, 2021

LGA / NEPHU / VIC	<\$500		\$501-\$1,499		\$1,500-\$2,999		>\$3,000		Not stated		Median weekly income
	Number	%	Number	%	Number	%	Number	%	Number	%	\$
Banyule	4,033	8.5	12,355	25.9	13,869	29.1	13,974	29.3	3,425	7.2	2,027
Boroondara	4,091	6.5	13,279	21.2	15,795	25.2	24,433	39.0	5,113	8.2	2,376
Darebin	6,350	10.7	15,999	26.9	17,461	29.4	15,209	25.6	4,464	7.5	1,829
Hume	6,030	8.0	23,672	31.3	25,952	34.3	13,645	18.0	6,438	8.5	1,703
Knox	4,790	8.3	16,318	28.4	18,470	32.2	13,657	23.8	4,186	7.3	1,884
Manningham	3,865	8.7	12,009	26.9	12,122	27.2	12,634	28.3	3,954	8.9	1,920
Maroondah	3,645	8.5	12,430	28.9	13,139	30.6	10,688	24.9	3,116	7.2	1,867
Nillumbik	1,125	5.4	4,234	20.2	5,978	28.6	7,926	37.9	1,654	7.9	2,476
Whitehorse	6,073	9.6	17,612	27.9	17,239	27.3	16,938	26.8	5,229	8.3	1,841
Whittlesea	6,084	8.0	22,735	29.9	26,685	35.1	14,405	19.0	6,056	8.0	1,768
Yarra	3,393	8.3	8,287	20.4	11,719	28.8	14,490	35.6	2,745	6.8	2,270
Yarra Ranges	4,700	8.4	15,868	28.4	18,163	32.5	12,668	22.7	4,443	8.0	1,881
NEPHU	54,179	8.4	174,798	27.0	196,592	30.4	170,667	26.4	50,823	7.9	1,987
VIC	224,714	9.4	705,182	29.5	721,310	30.2	542,111	22.7	196,782	8.2	1,552

Data source: [ABS Census 2021](#)

Table A22: Proportion of weekly income levels by age group and LGA, 2021

LGA / NEPHU / VIC	15-24 years age (%)					25-34 years age (%)				
	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated
Banyule	38.8	26.7	2.1	0.2	32.2	11.0	45.0	31.6	3.7	8.7
Boroondara	39.7	22.8	2.3	0.3	34.9	9.0	43.1	33.5	5.5	8.9
Darebin	38.0	29.1	1.9	0.2	30.8	11.8	48.2	27.4	3.1	9.5
Hume	35.2	27.3	1.9	0.2	35.4	15.6	49.1	17.9	1.3	16.1
Knox	37.1	29.4	2.0	0.1	31.4	11.3	51.7	25.6	1.9	9.5
Manningham	38.3	23.6	2.0	0.3	35.7	12.3	46.7	25.6	3.7	11.7
Maroondah	38.0	31.1	1.8	0.0	29.0	11.0	49.0	28.3	2.7	9.0
Nillumbik	39.3	27.4	2.0	0.1	31.2	10.7	46.1	30.9	4.4	7.8
Whitehorse	38.3	25.5	1.9	0.2	34.1	13.0	48.0	23.1	2.9	12.9
Whittlesea	33.7	29.2	2.1	0.1	35.0	12.8	52.4	20.1	1.2	13.5
Yarra	32.8	38.9	4.9	0.8	22.6	6.1	39.3	40.3	6.9	7.4
Yarra Ranges	36.3	31.9	2.0	0.2	29.6	11.5	50.2	26.6	2.1	9.6
NEPHU	37.0	28.0	2.1	0.2	32.7	11.7	47.7	26.5	3.0	11.1
VIC	35.4	29.7	2.2	0.2	32.5	11.7	49.0	24.1	2.7	12.4

Data source: [ABS Census 2021](#)

LGA / NEPHU / VIC	35-49 years age (%)					50-64 years age (%)				
	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated
Banyule	9.6	32.4	35.9	13.6	8.5	14.9	36.8	27.5	10.2	10.6
Boroondara	8.2	24.0	29.8	28.0	10.0	11.4	26.8	26.4	25.0	10.5
Darebin	10.4	34.7	33.2	12.4	9.4	18.9	37.4	24.0	8.1	11.7
Hume	17.2	43.2	21.6	3.4	14.5	25.8	39.0	16.2	2.7	16.3
Knox	11.5	41.2	31.6	6.8	9.0	16.5	42.8	23.4	5.4	12.0
Manningham	11.7	33.4	30.1	13.3	11.5	16.6	35.6	23.2	11.1	13.4
Maroondah	10.8	38.3	33.2	8.8	8.7	15.6	41.0	25.8	6.5	11.1
Nillumbik	8.9	31.7	36.6	14.3	8.5	12.1	36.6	29.5	12.1	9.7
Whitehorse	11.7	33.2	32.0	13.1	10.0	16.9	35.0	25.7	9.9	12.5
Whittlesea	13.3	45.3	26.0	3.8	11.6	21.0	43.6	17.6	2.7	15.1
Yarra	8.3	24.0	36.6	22.1	9.0	16.9	26.1	27.0	19.1	10.9
Yarra Ranges	12.0	41.7	30.6	6.4	9.4	16.4	43.1	23.3	5.5	11.7
NEPHU	11.8	36.7	30.2	10.9	10.4	17.5	37.6	23.3	9.1	12.5
VIC	11.5	39.1	28.6	9.4	11.4	18.1	39.4	21.5	7.5	13.4

Data source: [ABS Census 2021](#)



LGA / NEPHU / VIC	65 over years age (%)				
	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated
Banyule	38.3	38.5	8.2	2.4	12.6
Boroondara	24.4	39.3	15.4	8.2	12.7
Darebin	50.2	27.4	5.1	1.2	16.2
Hume	52.0	26.3	3.3	0.8	17.6
Knox	44.7	34.2	4.8	1.0	15.3
Manningham	39.5	34.1	8.6	2.7	15.1
Maroondah	41.6	37.7	5.8	1.2	13.6
Nillumbik	32.8	40.6	10.5	2.9	13.3
Whitehorse	39.6	35.6	6.8	1.8	16.1
Whittlesea	53.5	25.0	3.1	0.5	18.0
Yarra	34.2	35.3	12.3	6.1	12.2
Yarra Ranges	43.6	35.9	5.6	1.5	13.4
NEPHU	41.9	33.7	7.1	2.4	14.9
VIC	43.5	32.8	6.1	2.2	15.5

Data source: [ABS Census 2021](#)

Data note: Percentages calculated using population size of each age group as denominator.

Table A23: Proportion of weekly income levels by sex and LGA, 2021



LGA / NEPHU / VIC	Female					Male				
	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated	<\$500	\$501-\$1,499	\$1,500-\$2,999	>\$3,000	Not stated
Banyule	24.5	38.8	19.3	3.8	13.6	17.0	32.8	27.0	10.6	12.6
Boroondara	20.2	33.4	21.3	9.3	15.7	15.2	26.9	22.6	21.4	13.9
Darebin	24.5	37.4	20.1	4.0	13.9	19.2	35.8	23.4	8.3	13.4
Hume	30.8	37.4	9.6	0.9	21.4	21.6	40.0	18.4	3.0	17.0
Knox	27.3	41.9	13.7	1.5	15.5	18.3	38.3	24.7	5.7	13.0
Manningham	27.2	36.0	15.3	3.6	17.9	19.3	32.7	22.4	10.9	14.8
Maroondah	26.0	42.1	15.9	2.0	14.0	17.0	36.9	26.5	7.4	12.2
Nillumbik	24.0	39.6	17.8	3.9	14.6	15.0	31.6	28.9	12.3	12.2
Whitehorse	26.3	36.8	16.5	3.3	17.2	18.9	33.8	22.4	9.7	15.2
Whittlesea	28.4	40.6	10.9	0.9	19.2	19.2	41.2	21.2	3.1	15.3
Yarra	17.1	35.2	28.3	8.7	10.7	12.6	29.8	31.1	15.6	10.8
Yarra Ranges	27.9	42.7	13.1	1.7	14.6	17.7	38.7	25.1	5.5	12.9
NEPHU	25.9	38.5	15.9	3.3	16.3	18.1	35.7	23.5	8.6	14.0
VIC	26.2	39.4	14.5	2.9	17.0	18.5	37.5	21.9	7.2	14.9

Data source: [ABS Census 2021](#)

Data notes: Percentages calculated using population size of females or males in each LGA as denominator



Food security

Table A24: Proportion of population who experienced food insecurity by LGA, 2020 and 2023

LGA / NEPHU / VIC	Proportion of population who experienced food insecurity (%)	
	2020	2023
Banyule	4.6	6.5
Boroondara	3.0	4.9
Darebin	4.5	9.5
Hume	5.2	13.3
Knox	5.6	7.7
Manningham	3.7	4.8
Maroondah	4.1	5.8
Nillumbik	4.0	2.6
Whitehorse	3.1	7.7
Whittlesea	10.0	9.8
Yarra	5.3	4.4
Yarra Ranges	8.0	8.9
NEPHU	5.1	7.2
VIC	5.9	8.0

Data source: [VPHS 2020, 2023](#)

Table A25: Proportion of population who worry about food insecurity by LGA, 2023

LGA / NEPHU / VIC	Worry about food insecurity (%)	Sometimes worry about food insecurity (%)	Did not worry about food insecurity (%)
Banyule	9.2	12.3	77.5
Boroondara	5.5	9.1	85.3
Darebin	10.5	15.2	74.0
Hume	15.9	19.7	64.2
Knox	10.6	17.6	71.2
Manningham	8.8	8.5	82.5
Maroondah	8.4	16.0	75.6
Nillumbik	4.4	12.8	82.5
Whitehorse	8.2	9.9	81.9
Whittlesea	11.2	20.5	68.3
Yarra	8.2	11.5	79.9
Yarra Ranges	10.5	13.7	75.8
NEPHU	9.3	13.9	76.6
VIC	9.7	15.4	74.7

Data source: [VPHS 2023](#)

Appendix 2.5: Housing: Data Tables

House ownership

Table A26: Housing tenure type (number and proportion of dwellings) by LGA, 2021

LGA / NEPHU / VIC	Owned outright		Owned with mortgage		Rented	
	Number	%	Number	%	Number	%
Banyule	17,479	37	16,725	35	12,280	26
Boroondara	24,290	39	18,643	30	18,036	29
Darebin	17,502	29	17,605	30	22,711	38
Hume	18,528	24	35,925	47	19,067	25
Knox	19,667	34	23,561	41	12,210	21
Manningham	19,296	43	14,648	33	9,064	20
Maroondah	14,161	33	17,390	40	10,437	24
Nillumbik	8,552	41	10,079	48	1,858	9
Whitehorse	22,558	36	19,987	32	18,291	29
Whittlesea	21,148	28	33,632	44	18,936	25
Yarra	8,207	20	9,716	24	21,709	53
Yarra Ranges	19,627	35	26,908	48	7,791	14
NEPHU	211,015	33	244,819	38	172,390	27
VIC	768,702	32	862,657	36	681,414	29

LGA / NEPHU / VIC	Owned outright		Owned with mortgage		Rented	
	Number	%	Number	%	Number	%

Data source: [ABS Census 2021](#)

Housing affordability and housing stress

Table A27: Number and proportion of households with housing costs (mortgage or rent) >30% of annual household income by LGA, 2021

LGA / NEPHU / VIC	Number	%
Banyule	5,685	10.7
Boroondara	8,886	12.2
Darebin	9,046	13.3
Hume	14,418	17.1
Knox	7,605	12.3
Manningham	6,657	13.4
Maroondah	5,912	12.6
Nillumbik	1,832	8.2
Whitehorse	9,888	13.8
Whittlesea	12,314	14.9
Yarra	6,068	12.1
Yarra Ranges	6,399	10.4
NEPHU	94,710	13.1
VIC	343,724	12.2

Data source: [ABS Census 2021](#)

Crowded dwellings and household occupancy

Table A28: Number and proportion of overcrowded dwellings in NEPHU by LGA, 2021

LGA / NEPHU / VIC	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
Banyule	25	49	171	930	1,175	2.3
Boroondara	6	17	167	1,340	1,530	2.3
Darebin	39	112	435	2,302	2,888	4.5
Hume	143	294	1,106	4,201	5,744	6.7
Knox	6	36	231	1,209	1,482	2.4
Manningham	7	19	145	892	1,063	2.2
Maroondah	20	50	240	1,067	1,377	3.0
Nillumbik	6	12	49	292	359	1.6
Whitehorse	15	65	325	1,996	2,401	3.5
Whittlesea	74	188	690	3,010	3,962	4.7
Yarra	4	38	175	1,343	1,560	3.5
Yarra Ranges	29	70	279	1,307	1,685	2.7
NEPHU	374	950	4,013	19,889	25,226	3.6
VIC	1,770	4,324	16,527	75,402	98,023	3.7

Data source: [ABS Census 2021](#)

Table A29: Proportion of overcrowded dwellings in NEPHU by postcode area, 2021

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3002	0	0	3	50	53	2.0
3036	0	0	8	32	40	1.7
3043	0	10	36	202	248	3.3
3045	0	0	0	0	0	0.0
3047	36	52	216	757	1,061	13.7
3048	28	69	162	548	807	13.3
3049	3	4	23	97	127	3.3
3053	0	9	56	333	398	5.2
3054	0	3	6	96	105	2.8
3058	6	35	100	542	683	4.7
3059	7	5	45	142	199	2.9
3060	5	37	125	419	586	11.1
3061	5	17	47	170	239	12.9
3062	0	0	0	0	0	0.0
3063	0	0	0	3	3	1.5
3064	61	137	542	2,018	2,758	7.4

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3065	0	8	30	172	210	4.1
3066	4	11	34	173	222	4.5
3067	0	0	13	138	151	3.1
3068	0	0	18	250	268	3.0
3070	0	6	23	287	316	2.9
3071	0	0	26	262	288	3.4
3072	4	27	126	561	718	4.8
3073	29	66	225	985	1,305	5.9
3074	18	47	124	542	731	8.8
3075	14	51	155	521	741	8.3
3076	10	26	141	591	768	6.3
3078	0	0	9	91	100	1.9
3079	0	4	10	115	129	1.8
3081	10	18	85	222	335	5.4
3082	6	12	68	322	408	3.7
3083	0	33	88	359	480	3.8
3084	0	4	21	211	236	2.2

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3085	0	0	7	76	83	1.5
3087	5	0	11	55	71	1.9
3088	0	0	15	137	152	1.4
3089	0	0	14	53	67	1.5
3090	0	0	0	3	3	0.4
3091	3	0	0	4	7	1.3
3093	4	0	0	14	18	1.1
3094	0	0	0	39	39	1.0
3095	0	6	17	110	133	1.3
3096	0	0	4	9	13	1.9
3097	0	0	4	14	18	3.5
3099	0	0	3	36	39	2.1
3101	0	0	38	154	192	2.0
3102	0	0	4	49	53	2.1
3103	0	0	16	135	151	2.4
3104	0	4	26	148	178	2.3
3105	0	0	10	61	71	1.6

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3106	0	0	10	69	79	1.3
3107	0	0	23	75	98	1.8
3108	10	5	61	273	349	3.2
3109	4	6	27	285	322	2.7
3111	0	5	7	67	79	1.7
3113	0	0	0	32	32	1.1
3114	0	0	0	19	19	1.5
3115	0	0	3	12	15	1.1
3116	0	3	9	77	89	2.0
3121	0	7	73	502	582	3.7
3122	3	3	36	290	332	3.2
3123	0	3	11	179	193	2.9
3124	0	0	14	180	194	2.3
3125	0	5	28	180	213	3.5
3126	0	0	6	34	40	1.3
3127	0	4	17	120	141	1.9
3128	12	18	98	530	658	6.4

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3129	3	9	23	215	250	3.5
3130	0	5	42	326	373	2.8
3131	0	10	50	289	349	3.7
3132	0	3	20	149	172	2.5
3133	0	6	25	161	192	2.2
3134	7	16	82	347	452	3.3
3135	0	22	46	180	248	3.0
3136	6	19	93	427	545	2.9
3137	4	8	23	149	184	3.1
3138	6	12	72	234	324	3.7
3139	5	11	21	133	170	3.1
3140	5	3	42	130	180	2.5
3141	0	3	33	327	363	2.5
3142	0	0	6	106	112	1.9
3144	0	0	6	64	70	1.5
3145	0	12	22	188	222	2.3
3146	0	0	34	179	213	2.0

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3147	0	0	9	107	116	2.0
3149	9	9	45	278	341	2.5
3150	0	17	112	542	671	2.8
3151	0	3	24	110	137	3.1
3152	0	4	43	237	284	2.1
3153	0	9	53	224	286	3.2
3154	0	4	12	31	47	2.8
3155	0	3	62	253	318	3.1
3156	3	7	42	276	328	2.2
3158	0	0	0	34	34	1.3
3159	0	0	5	15	20	2.1
3160	0	0	8	62	70	2.0
3170	5	15	32	191	243	3.2
3175	52	143	472	1,623	2,290	11.0
3178	0	8	25	181	214	1.7
3179	5	0	10	45	60	2.6
3180	0	0	14	56	70	2.3

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3427	0	4	0	30	34	1.5
3428	0	0	0	11	11	4.5
3429	0	4	32	260	296	1.9
3430	0	0	0	8	8	6.5
3431	0	0	3	13	16	1.0
3658	0	7	15	65	87	3.3
3723	0	0	9	16	25	1.4
3750	6	19	60	272	357	4.4
3751	0	0	0	5	5	8.6
3752	3	15	40	221	279	3.2
3753	4	6	0	35	45	2.9
3754	12	12	48	319	391	2.2
3755	0	0	0	0	0	0.0
3757	0	3	21	93	117	3.2
3759	0	0	3	10	13	3.3
3760	0	0	0	0	0	0.0
3761	0	0	6	20	26	5.7

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3763	0	0	0	15	15	2.2
3765	3	0	12	36	51	2.0
3766	0	0	0	5	5	1.0
3767	0	0	3	9	12	2.4
3770	0	0	0	26	26	2.1
3775	0	3	10	17	30	1.9
3777	0	8	24	106	138	3.0
3778	3	0	0	0	3	3.5
3779	0	0	0	7	7	2.8
3781	0	0	8	41	49	2.8
3782	0	0	7	32	39	1.3
3783	4	0	5	18	27	2.9
3785	0	0	0	0	0	0.0
3786	0	4	0	7	11	1.9
3787	0	0	0	0	0	0.0
3788	0	0	3	13	16	2.2
3789	0	0	0	4	4	3.4

Postcode	Four or more extra bedrooms needed	Three extra bedrooms needed	Two extra bedrooms needed	One extra bedroom needed	Total overcrowded dwellings	Proportion of overcrowded dwellings (%)
3791	0	0	0	14	14	2.3
3792	0	0	5	9	14	3.5
3793	0	3	5	41	49	3.4
3795	0	4	0	16	20	4.1
3796	6	5	14	83	108	2.9
3797	0	9	3	45	57	3.6
3799	0	0	18	68	86	3.2
3804	7	12	22	46	87	3.2
3808	0	0	0	17	17	1.6
3825	0	11	49	229	289	3.0
3833	0	0	0	7	7	3.8

Data source: [ABS Census 2021](#)

Homelessness and social housing

Table A30: Number and rate of homeless persons per 10,000 population by accommodation type and LGA, 2021

LGA / NEPHU / VIC	Persons living in improvised dwellings, tents or sleeping out	Persons in supported accommodation for the homeless	Persons staying temporarily with other households	Persons living in boarding houses	Persons in other temporary lodgings	Persons living in severely crowded dwellings	Total homeless persons	Homeless persons per 10,000 population
Banyule	16	223	33	123	9	134	538	42.7
Boroondara	12	76	38	147	12	38	323	19.5
Darebin	91	404	57	235	42	203	1,032	70.1
Hume	20	244	68	100	3	713	1,148	47.1
Knox	7	173	59	98	51	45	433	27.3
Manningham	0	58	24	61	0	35	178	14.4
Maroondah	16	240	26	84	23	83	472	41.4
Nillumbik	5	16	15	6	17	30	89	14.4
Whitehorse	3	244	36	785	57	97	1,222	72.5
Whittlesea	24	213	62	150	23	381	853	37.3
Yarra	39	166	23	317	5	24	574	64.5
Yarra Ranges	3	108	49	82	30	136	408	26.5
NEPHU	236	2,165	490	2,188	272	1,919	7,270	40.8
VIC	1,022	7,820	2,531	8,578	1,583	9,068	30,602	47.4

LGA / NEPHU / VIC	Persons living in improvised dwellings, tents or sleeping out	Persons in supported accommodation for the homeless	Persons staying temporarily with other households	Persons living in boarding houses	Persons in other temporary lodgings	Persons living in severely crowded dwellings	Total homeless persons	Homeless persons per 10,000 population
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Data source: [ABS Census 2021](#)

Appendix 2.6: Environmental Determinants: Data Tables

AUO Data

Table A31: Liveability index, walkability index, social infrastructure index and percent of dwellings with park or open space within 400m by suburb in NEPHU

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Abbotsford	Yarra	106.0	12.3	6.5	78.7
Alphington	Yarra	100.2	9.2	-0.1	85.0
Ashburton	Boroondara	102.6	8.9	1.3	79.5
Attwood	Hume	96.8	3.4	-1.7	79.7
Badger Creek	Yarra Ranges	91.9	2.1	-3.3	85.8
Balwyn	Boroondara	101.0	10.4	1.1	79.6
Balwyn North	Boroondara	100.5	9.2	0.8	82.0
Bayswater	Knox	99.4	8.0	0.3	78.2
Bayswater North	Maroondah	97.7	5.8	-1.0	80.4
Belgrave	Yarra Ranges	96.1	5.6	-2.2	82.7
Belgrave Heights	Yarra Ranges	94.1	3.3	-2.9	79.0
Belgrave South	Yarra Ranges	96.8	4.1	-1.8	80.2
Bellfield	Banyule	103.1	7.2	1.7	82.8
Blackburn	Whitehorse	100.9	8.2	1.3	82.0

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Blackburn North	Whitehorse	99.7	6.9	0.3	82.1
Blackburn South	Whitehorse	100.7	7.1	0.9	78.3
Boronia	Knox	99.5	7.9	0.0	80.5
Box Hill	Whitehorse	101.3	10.2	2.9	84.6
Box Hill North	Whitehorse	100.3	8.6	0.8	81.8
Box Hill South	Whitehorse	101.3	8.3	0.8	80.5
Briar Hill	Banyule	98.1	6.9	-0.2	81.4
Broadmeadows	Hume	100.1	7.9	-0.1	82.2
Bulleen	Manningham	99.4	6.4	0.1	80.6
Bundoora	Whittlesea	98.6	6.7	-0.1	81.6
Burnley	Yarra	100.1	9.0	2.3	78.4
Burwood	Whitehorse	99.9	7.2	1.2	83.9
Burwood East	Whitehorse	98.8	6.1	1.3	77.3
Camberwell	Boroondara	102.5	10.3	1.5	80.9
Campbellfield	Hume	97.1	3.9	-1.5	84.1
Canterbury	Boroondara	102.0	10.4	1.5	80.0
Carlton North	Yarra	106.0	13.5	8.7	78.8
Chirnside Park	Yarra Ranges	96.6	4.5	-1.3	80.3

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Chum Creek	Yarra Ranges	91.4	1.3	-3.8	80.7
Clifton Hill	Yarra	105.4	11.0	4.9	84.6
Coldstream	Yarra Ranges	96.8	5.0	-2.1	78.2
Collingwood	Yarra	106.8	14.1	9.7	78.2
Coolaroo	Hume	99.4	5.3	-1.4	81.9
Craigieburn	Hume	96.8	5.0	-0.4	81.3
Cremorne	Yarra	101.8	10.2	5.2	80.2
Croydon	Maroondah	99.4	7.4	-0.2	79.2
Croydon Hills	Maroondah	97.4	4.0	-1.9	81.6
Croydon North	Maroondah	96.3	3.7	-1.5	83.4
Croydon South	Maroondah	98.8	6.8	-1.2	82.3
Dallas	Hume	97.4	6.6	-1.2	83.0
Deepdene	Boroondara	102.3	11.2	0.9	83.0
Diamond Creek	Nillumbik	96.6	4.6	-2.2	81.2
Doncaster	Manningham	99.5	8.5	1.0	80.7
Doncaster East	Manningham	99.0	6.7	0.4	79.8
Donnybrook	Whittlesea	87.0	0.9	-4.0	78.3
Donvale	Manningham	95.9	4.7	-1.6	81.6

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Doreen	Nillumbik	96.0	4.0	-1.0	80.4
Eaglemont	Banyule	101.3	8.0	1.0	78.7
Eltham	Nillumbik	96.4	4.5	-1.9	77.3
Eltham North	Nillumbik	96.8	4.2	-1.9	79.4
Epping	Whittlesea	97.5	5.9	-0.7	78.7
Fairfield	Yarra	102.4	12.0	2.7	81.2
Ferntree Gully	Knox	99.2	6.3	-0.5	81.5
Ferny Creek	Yarra Ranges	89.9	1.0	-3.6	77.8
Fitzroy	Yarra	107.5	13.9	11.7	75.6
Fitzroy North	Yarra	107.4	12.5	8.8	80.1
Forest Hill	Whitehorse	100.9	9.4	1.0	82.6
Gladstone Park	Hume	99.4	6.9	-0.3	83.7
Glen Iris	Boroondara	101.2	8.6	1.7	82.2
Greensborough	Banyule	98.4	7.0	-1.0	82.1
Greenvale	Hume	94.5	2.7	-2.4	80.7
Hawthorn	Boroondara	102.8	12.0	3.3	81.5
Hawthorn East	Boroondara	102.6	11.9	3.2	82.7
Healesville	Yarra Ranges	97.7	4.1	-2.2	83.1

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Heathmont	Maroondah	99.9	7.9	-0.9	80.8
Heidelberg	Banyule	101.5	9.0	0.7	84.2
Heidelberg Heights	Banyule	102.4	6.7	1.9	81.8
Heidelberg West	Banyule	104.9	9.7	1.7	84.5
Hurstbridge	Nillumbik	95.9	3.9	-2.6	81.9
Ivanhoe	Banyule	101.7	9.4	1.6	81.2
Ivanhoe East	Banyule	102.1	9.2	-0.1	81.9
Jacana	Hume	99.4	8.8	-0.3	86.3
Kalkallo	Hume	88.4	0.9	-3.5	84.4
Kallista	Yarra Ranges	93.2	2.2	-3.5	81.1
Kalorama	Yarra Ranges	90.6	1.1	-3.6	85.5
Kew	Boroondara	102.0	10.1	1.7	81.5
Kew East	Boroondara	102.2	8.9	0.9	80.6
Kilsyth	Yarra Ranges	98.0	5.0	-0.4	80.6
Kilsyth South	Maroondah	94.4	1.6	-2.4	80.2
Kingsbury	Darebin	100.0	7.8	0.5	78.3
Knoxfield	Knox	98.9	6.9	-0.5	83.4
Lalor	Whittlesea	98.6	6.9	0.1	82.2

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Launching Place	Yarra Ranges	97.1	2.5	-2.5	85.9
Lilydale	Yarra Ranges	95.9	4.0	-1.7	81.1
Lower Plenty	Banyule	97.0	4.3	-1.8	80.8
Lysterfield	Yarra Ranges	93.5	2.8	-2.4	83.7
Macleod	Banyule	99.5	7.7	-0.5	82.4
Meadow Heights	Hume	99.4	4.0	-0.2	80.4
Melbourne Airport	Hume	93.3	0.6	-2.9	78.0
Menzies Creek	Yarra Ranges	90.8	2.4	-3.8	83.6
Mernda	Whittlesea	96.2	4.1	-0.8	83.1
Mickleham	Hume	91.9	2.6	-1.4	80.8
Mill Park	Whittlesea	98.3	5.8	-0.6	80.1
Millgrove	Yarra Ranges	91.2	1.4	-3.3	80.9
Mitcham	Whitehorse	99.7	7.6	0.5	80.9
Monbulk	Yarra Ranges	97.0	5.8	-2.8	79.6
Mont Albert	Whitehorse	101.6	8.8	1.9	80.7
Mont Albert North	Whitehorse	100.3	9.3	0.3	81.0
Montmorency	Banyule	100.4	7.3	0.0	78.2
Montrose	Yarra Ranges	97.5	4.5	-1.8	77.0

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Mooroolbark	Yarra Ranges	96.4	5.6	-1.3	82.6
Mount Dandenong	Yarra Ranges	94.8	1.3	-2.4	84.4
Mount Evelyn	Yarra Ranges	96.0	3.2	-2.5	79.2
North Warrandyte	Nillumbik	91.5	1.2	-3.5	83.2
Northcote	Darebin	104.0	10.9	4.6	78.5
Nunawading	Whitehorse	98.6	7.1	0.5	80.5
Olinda	Yarra Ranges	95.3	2.1	-2.7	78.1
Park Orchards	Manningham	93.3	3.5	-3.2	82.1
Plenty	Nillumbik	91.9	1.8	-3.3	77.5
Preston	Darebin	103.4	10.4	3.8	81.8
Princes Hill	Yarra	104.7	11.8	6.2	81.7
Research	Nillumbik	97.1	5.2	-3.3	79.0
Reservoir	Darebin	100.3	6.7	1.7	81.1
Richmond	Yarra	105.8	13.2	7.0	81.4
Ringwood	Maroondah	100.0	8.0	0.0	79.9
Ringwood East	Maroondah	99.9	8.2	-0.1	82.5
Ringwood North	Maroondah	100.3	7.1	-0.9	80.7
Rosanna	Banyule	101.0	8.9	0.9	81.1

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Rowville	Knox	97.0	4.5	-1.4	83.2
Roxburgh Park	Hume	97.7	5.4	0.0	81.0
Sassafras	Yarra Ranges	93.1	1.8	-3.4	81.4
Scoresby	Knox	99.8	6.6	0.5	83.9
Selby	Yarra Ranges	93.7	4.0	-2.9	78.8
Seville	Yarra Ranges	98.5	5.0	-1.8	78.7
Sherbrooke	Yarra Ranges	95.2	1.6	-3.3	84.3
South Morang	Whittlesea	95.8	3.1	-1.5	79.6
St Helena	Banyule	99.4	6.1	-1.2	83.0
Sunbury	Hume	95.5	4.4	-1.5	80.4
Surrey Hills	Boroondara	101.7	9.0	0.9	79.7
Tecoma	Yarra Ranges	95.0	4.8	-2.8	82.0
Templestowe	Manningham	97.8	5.6	-0.9	82.0
Templestowe Lower	Manningham	99.4	7.8	0.1	82.3
The Basin	Knox	98.0	3.2	-2.1	86.3
The Patch	Yarra Ranges	92.7	1.7	-3.3	85.1
Thomastown	Whittlesea	100.2	7.0	0.2	81.9
Thornbury	Darebin	102.6	9.7	3.4	80.6

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Tremont	Yarra Ranges	91.4	0.0	-2.2	76.9
Tullamarine	Hume	97.6	7.5	-0.6	78.6
Upper Ferntree Gully	Knox	97.8	5.8	-1.9	81.6
Upwey	Yarra Ranges	96.0	5.9	-2.4	78.6
Vermont	Whitehorse	98.3	6.5	-0.4	78.8
Vermont South	Whitehorse	98.6	6.9	0.0	82.3
Viewbank	Banyule	97.6	6.4	-0.6	82.2
Wandin North	Yarra Ranges	96.7	3.1	-2.6	78.1
Wantirna	Knox	98.8	7.3	-0.1	80.3
Wantirna South	Knox	99.6	7.4	0.2	80.9
Warburton	Yarra Ranges	95.6	3.1	-3.3	79.4
Warrandyte	Manningham	96.3	5.1	-2.8	79.8
Warrandyte South	Manningham	90.7	1.6	-3.6	97.5
Warranwood	Maroondah	95.1	3.5	-2.6	83.0
Watsonia	Banyule	102.3	9.4	1.3	85.3
Watsonia North	Banyule	98.4	4.6	-0.6	76.7
Wattle Glen	Nillumbik	92.4	2.5	-3.5	89.0
Wesburn	Yarra Ranges	91.7	1.2	-2.5	83.4

Suburb	LGA	Liveability index (100 is average)	Social infrastructure index (Score 0-16)	Walkability index (0 is average)	% dwellings with park or open space within 400m
Westmeadows	Hume	99.0	4.4	-1.1	83.5
Whittlesea	Whittlesea	96.9	5.1	-2.0	80.5
Wollert	Whittlesea	92.3	1.9	-1.9	80.3
Wonga Park	Manningham	94.7	2.1	-2.7	84.3
Woori Yallock	Yarra Ranges	96.6	3.9	-2.6	80.9
Yallambie	Banyule	98.5	5.2	-1.2	81.5
Yarra Glen	Yarra Ranges	98.3	4.9	-1.6	83.2
Yarra Junction	Yarra Ranges	96.9	5.3	-2.6	84.6
Yarrambat	Nillumbik	89.7	1.5	-3.5	93.1

Data source: [AUO](#)



Emissions

Table A32: Emissions (measured in tonnes carbon dioxide equivalent (t CO₂e)) by sector and by LGA, 2022-2023

LGA / NEPHU / VIC	Total emissions	Electricity sector		Gas sector		Transport sector	
		Emissions	%	Emissions	%	Emissions	%
Banyule	801,000	324,000	40.4	183,000	22.8	198,000	24.7
Boroondara	1,316,000	657,000	49.9	257,000	19.5	274,000	20.8
Darebin	1,019,000	380,000	37.3	274,000	26.9	242,000	23.7
Hume	4,059,000	832,000	20.5	389,000	9.6	2,348,000	57.8
Knox	1,644,000	584,000	35.5	355,000	21.6	351,000	21.4
Manningham	779,000	331,000	42.5	153,000	19.6	215,000	27.6
Maroondah	990,000	380,000	38.4	232,000	23.4	245,000	24.7
Nillumbik	452,000	201,000	44.5	74,000	16.4	136,000	30.1
Whitehorse	1,352,000	626,000	46.3	269,000	19.9	321,000	23.7
Whittlesea	1,644,000	667,000	40.6	308,000	18.7	388,000	23.6
Yarra	1,040,000	506,000	48.7	223,000	21.4	187,000	18.0
Yarra Ranges	1,208,000	448,000	37.1	223,000	18.5	389,000	32.2
VIC	81,527,000	27,353,000	33.6	10,731,000	13.2	19,579,000	24.0

Data source: [ABS Census 2021](#)

LGA / NEPHU / VIC	Waste		IPPU		Agriculture		Fugitive	
	Emissions	%	Emissions	%	Emissions	%	Emissions	%
Banyule	43,000	5.4	53,000	6.6	0	0.0	0	0.0
Boroondara	67,000	5.1	60,000	4.6	1,000	0.1	0	0.0
Darebin	51,000	5.0	72,000	7.1	0	0.0	0	0.0
Hume	107,000	2.6	370,000	9.1	7,000	0.2	6,000	0.1
Knox	62,000	3.8	274,000	16.7	0	0.0	18,000	1.1
Manningham	42,000	5.4	38,000	4.9	0	0.0	0	0.0
Maroondah	44,000	4.4	89,000	9.0	0	0.0	0	0.0
Nillumbik	17,000	3.8	21,000	4.6	3,000	0.7	0	0.0
Whitehorse	66,000	4.9	70,000	5.2	0	0.0	0	0.0
Whittlesea	80,000	4.9	169,000	10.3	11,000	0.7	21,000	1.3
Yarra	70,000	6.7	54,000	5.2	0	0.0	0	0.0
Yarra Ranges	50,000	4.1	74,000	6.1	24,000	2.0	0	0.0
VIC	2,806,000	3.4	6,064,000	7.4	11,759,000	14.4	3,235,000	4.0

Data source: [ABS Census 2021](#)

Heat health risk index

Table A33: Heat health risk index and quintiles classification by SA2 in NEPHU

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Abbotsford	0.146	Lower risk
Alphington - Fairfield	0.537	Medium risk
Ashburton (Vic.)	0.051	Lower risk
Balwyn	0.127	Lower risk
Balwyn North	0.089	Lower risk
Bayswater	0.881	Higher risk
Bayswater North	0.506	Medium risk
Belgrave - Selby	0.132	Lower risk
Blackburn	0.169	Lower risk
Blackburn South	0.467	Medium risk
Boronia	0.757	Medium-high risk
Box Hill	0.463	Medium risk
Box Hill North	0.384	Medium-low risk
Broadmeadows	0.787	Medium-high risk
Bulleen	0.256	Medium-low risk
Bundoora - East	0.670	Medium-high risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Bundoora - North	0.703	Medium-high risk
Bundoora - West	0.847	Higher risk
Burwood (Vic.)	0.615	Medium-high risk
Burwood East	0.527	Medium risk
Camberwell	0.096	Lower risk
Campbellfield - Coolaroo	0.949	Higher risk
Carlton North - Princes Hill	0.251	Medium-low risk
Chirnside Park	0.228	Medium-low risk
Clifton Hill - Alphington	0.042	Lower risk
Collingwood	0.480	Medium risk
Craigieburn - Central	0.768	Medium-high risk
Craigieburn - North	0.592	Medium risk
Craigieburn - North West	0.562	Medium risk
Craigieburn - South	0.708	Medium-high risk
Craigieburn - West	0.638	Medium-high risk
Croydon - East	0.783	Medium-high risk
Croydon - West	0.720	Medium-high risk
Croydon Hills - Warranwood	0.119	Lower risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Croydon South	0.512	Medium risk
Doncaster	0.724	Medium-high risk
Doncaster East - North	0.086	Lower risk
Doncaster East - South	0.296	Medium-low risk
Donvale - Park Orchards	0.081	Lower risk
Doreen - North	0.343	Medium-low risk
Doreen - South	0.434	Medium risk
Eltham	0.166	Lower risk
Epping - East	0.666	Medium-high risk
Epping - South	0.714	Medium-high risk
Epping (Vic.) - West	0.664	Medium-high risk
Ferntree Gully - North	0.570	Medium risk
Ferntree Gully (South) - Upper Ferntree Gully	0.411	Medium risk
Fitzroy	0.450	Medium risk
Fitzroy North	0.318	Medium-low risk
Forest Hill	0.496	Medium risk
Gladstone Park - Westmeadows	0.590	Medium risk
Glen Iris - East	0.029	Lower risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Greensborough	0.286	Medium-low risk
Greenvale - Bulla	0.136	Lower risk
Hawthorn - North	0.094	Lower risk
Hawthorn - South	0.115	Lower risk
Hawthorn East	0.167	Lower risk
Healesville - Yarra Glen	0.146	Lower risk
Heidelberg - Rosanna	0.225	Medium-low risk
Heidelberg West	0.727	Medium-high risk
Hurstbridge	0.501	Medium risk
Ivanhoe	0.080	Lower risk
Ivanhoe East - Eaglemont	0.014	Lower risk
Keilor	0.623	Medium-high risk
Kew - South	0.037	Lower risk
Kew - West	0.050	Lower risk
Kew East	0.015	Lower risk
Kilsyth	0.853	Higher risk
Kingsbury	0.446	Medium risk
Knoxfield - Scoresby	0.216	Medium-low risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Lalor - East	0.896	Higher risk
Lalor - West	0.849	Higher risk
Lilydale - Coldstream	0.281	Medium-low risk
Lysterfield	0.112	Lower risk
Meadow Heights	0.475	Medium risk
Melbourne Airport	0.607	Medium-high risk
Mernda - North	0.516	Medium risk
Mernda - South	0.500	Medium risk
Mickleham - Yuroke	0.397	Medium-low risk
Mill Park - North	0.535	Medium risk
Mill Park - South	0.432	Medium risk
Mitcham (Vic.)	0.484	Medium risk
Monbulk - Silvan	0.554	Medium risk
Montmorency - Briar Hill	0.275	Medium-low risk
Montrose	0.380	Medium-low risk
Mooroolbark	0.659	Medium-high risk
Mount Dandenong - Olinda	0.057	Lower risk
Mount Evelyn	0.556	Medium risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Northcote - East	0.454	Medium risk
Northcote - West	0.509	Medium risk
Nunawading	0.527	Medium risk
Panton Hill - St Andrews	0.307	Medium-low risk
Plenty - Yarrambat	0.287	Medium-low risk
Preston - East	0.716	Medium-high risk
Preston - West	0.732	Medium-high risk
Research - North Warrandyte	0.265	Medium-low risk
Reservoir - North East	0.936	Higher risk
Reservoir - North West	0.796	Medium-high risk
Reservoir - South East	0.884	Higher risk
Reservoir - South West	0.895	Higher risk
Richmond - North	0.395	Medium-low risk
Richmond (South) - Cremorne	0.155	Lower risk
Ringwood	0.735	Medium-high risk
Ringwood East	0.389	Medium-low risk
Ringwood North	0.176	Lower risk
Rowville - Central	0.041	Lower risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Rowville - North	0.211	Medium-low risk
Rowville - South	0.025	Lower risk
Roxburgh Park - North	0.697	Medium-high risk
Roxburgh Park (South) - Somerton	0.663	Medium-high risk
South Morang - North	0.300	Medium-low risk
South Morang - South	0.342	Medium-low risk
Sunbury	0.378	Medium-low risk
Sunbury - South	0.649	Medium-high risk
Sunbury - West	0.469	Medium risk
Surrey Hills (East) - Mont Albert	0.086	Lower risk
Surrey Hills (West) - Canterbury	0.043	Lower risk
Templestowe	0.021	Lower risk
Templestowe Lower	0.379	Medium-low risk
The Basin	0.308	Medium-low risk
Thomastown	0.951	Higher risk
Thornbury	0.560	Medium risk
Tullamarine	0.668	Medium-high risk
Upper Yarra Valley	0.284	Medium-low risk

SA2 name	Heat health risk index (Index range: 0 - 1)	Heat health risk quintile classification
Upwey - Tecoma	0.322	Medium-low risk
Vermont	0.328	Medium-low risk
Vermont South	0.186	Lower risk
Viewbank - Yallambie	0.280	Medium-low risk
Wandin - Seville	0.349	Medium-low risk
Wantirna	0.279	Medium-low risk
Wantirna South	0.087	Lower risk
Warrandyte - Wonga Park	0.210	Medium-low risk
Watsonia	0.613	Medium-high risk
Wattle Glen - Diamond Creek	0.271	Medium-low risk
Whittlesea	0.415	Medium risk
Wollert	0.398	Medium-low risk
Yarra Valley	0.505	Medium risk

Data source: ABS - HHRI

Appendix 2.7: Social capital and safety: Data Tables

Social environment

Table A34: Proportion of the population who feel that most people can be trusted by LGA, 2020

LGA / NEPHU / VIC	Never or not often (%)	Sometimes (%)	Yes definitely (%)
Banyule	14.8	48.8	35.0
Boroondara	11.7	44.3	42.3
Darebin	16.9	41.4	39.4
Hume	24.3	47.1	25.8
Knox	14.9	46.1	35.6
Manningham	9.4	53.2	36.9
Maroondah	8.0	42.8	46.7
Nillumbik	12.7	42.1	42.6
Whitehorse	14.3	44.6	37.5
Whittlesea	24.2	45.3	28.5
Yarra	8.0	44.4	43.5
Yarra Ranges	13.6	46.0	39.4
NEPHU	14.4	45.5	37.8
VIC	14.2	47.7	36.1

Data source: [VPHS 2020](#)

Table A35: Proportion of the population who feel valued by society by LGA, 2023

LGA / NEPHU / VIC	No (%)	Sometimes (%)	Yes (%)
Banyule	11.2	35.3	50.7
Boroondara	9.0	39.0	50.0
Darebin	15.5	38.5	41.4
Hume	18.3	36.7	42.0
Knox	16.9	31.8	47.0
Manningham	13.9	35.6	46.6
Maroondah	15.2	36.5	45.4
Nillumbik	12.0	32.4	53.4
Whitehorse	14.1	31.7	49.7
Whittlesea	13.0	31.5	50.5
Yarra	10.4	33.3	52.5
Yarra Ranges	11.9	35.8	50.2
NEPHU	13.5	34.8	48.3
VIC	14.6	34.3	47.9

Data source: [VPHS 2023](#)

Table A36: Proportion of the population who feel that multiculturalism makes life in their area better by LGA, 2023

LGA / NEPHU / VIC	No (%)	Sometimes (%)	Yes (%)
Banyule	5.9	21.6	69.5
Boroondara	4.7	21.1	71.8
Darebin	4.8	14.2	79.8
Hume	11.4	24.7	60.7
Knox	9.9	22.7	64.1
Manningham	6.6	23.5	67.9
Maroondah	7.0	22.2	65.5
Nillumbik	8.0	19.8	68.3
Whitehorse	6.2	20.3	70.3
Whittlesea	8.3	24.4	64.1
Yarra	3.2	9.1	86.5
Yarra Ranges	8.0	21.3	66.4
NEPHU	7.0	20.4	69.6
VIC	8.1	21.6	66.5

Data source: [VPHS 2023](#)

Table A37: Proportion of the population who have close friends or family to talk to regularly by LGA, 2020

LGA / NEPHU / VIC	Yes (%)	No (%)
Banyule	95.8	4.2
Boroondara	94.3	5.7
Darebin	98.0	2.0
Hume	95.2	4.2
Knox	95.4	4.6
Manningham	95.4	4.6
Maroondah	93.4	5.8
Nillumbik	97.1	2.9
Whitehorse	94.6	5.2
Whittlesea	94.0	5.6
Yarra	93.2	6.4
Yarra Ranges	97.8	1.7
NEPHU	95.4	4.4
VIC	95.2	4.7

Data source: [VPHS 2020](#)

Table A38: Proportion of the population who experienced discrimination in the last 12 months by LGA, 2023

LGA / NEPHU / VIC	Yes (%)	No (%)	Do not know (%)
Banyule	14.0	86.0	0.0
Boroondara	16.0	83.4	0.7
Darebin	18.5	80.4	1.1
Hume	17.7	81.1	1.2
Knox	15.3	83.2	1.5
Manningham	16.1	83.0	0.9
Maroondah	16.4	83.3	0.3
Nillumbik	12.4	87.4	0.2
Whitehorse	15.3	82.6	2.0
Whittlesea	15.4	83.2	1.3
Yarra	14.8	83.6	1.6
Yarra Ranges	16.4	83.6	0.0
NEPHU	15.7	83.4	0.9
VIC	15.8	83.4	0.8

Data source: [VPHS 2023](#)

Table A39: Proportion of the population who experienced racism in the last 12 months by LGA, 2023

LGA / NEPHU / VIC	Yes (%)	No (%)	Do not know (%)
Banyule	6.4	83.1	10.5
Boroondara	9.2	81.7	9.0
Darebin	8.1	78.5	13.4
Hume	9.7	76.8	13.5
Knox	4.6	79.1	16.3
Manningham	8.2	80.4	11.4
Maroondah	6.9	79.9	13.2
Nillumbik	3.1	84.6	12.3
Whitehorse	9.2	79.2	11.6
Whittlesea	8.5	80.0	11.5
Yarra	4.2	80.1	15.8
Yarra Ranges	2.9	79.9	17.3
NEPHU	6.8	80.3	13.0
VIC	6.9	80.1	13.0

Data source: [VPHS 2023](#)

Group membership

Table A40: Proportion of the population aged 18 or over belonging to a community or action group by LGA, 2017

LGA / NEPHU / VIC	%
Banyule	59.1
Boroondara	65.6
Darebin	55.3
Hume	44.6
Knox	56.5
Manningham	61.1
Maroondah	62.7
Nillumbik	58.4
VIC	56.1
Whitehorse	64.3
Whittlesea	49.5
Yarra	63.0
Yarra Ranges	58.4
NEPHU	57.6

Data source: [VPHS 2017](#)

Table A41: Proportion of the population who experience loneliness by LGA, 2023

LGA / NEPHU / VIC	%
Banyule	23.9
Boroondara	17.6
Darebin	24.0
Hume	25.8
Knox	24.4
Manningham	19.7
Maroondah	22.0
Nillumbik	20.5
Whitehorse	20.3
Whittlesea	25.8
Yarra	20.1
Yarra Ranges	22.1
NEPHU	22.2
VIC	23.3

Data source: [VPHS 2023](#)

Bullying in children

Table A42: Proportion of children (years 4-9) who were bullied by LGA, 2023

LGA / NEPHU / VIC	Proportion of children (%)	
	Years 4-6	Years 7-9
Banyule	14.0	15.9
Boroondara	15.8	13.3
Darebin	15.8	13.8
Hume	17.6	18.5
Knox	16.2	19.3
Manningham	13.9	12.5
Maroondah	13.0	15.3
Nillumbik	15.2	17.1
Whitehorse	15.1	15.4
Whittlesea	17.1	18.4
Yarra	16.5	12.4
Yarra Ranges	18.0	15.3
NEPHU	15.9	15.9
VIC	17.1	16.9

Data source: [Attitudes to school survey 2023](#)

Crime

Table A43: Rate of reported criminal incidents by LGA, 2023

LGA / NEPHU / VIC	Incidents recorded	Rate per 100,000 population
Banyule	5,875	4,553.5
Darebin	10,605	6,823.0
Hume	13,364	5,122.6
Nillumbik	1,176	1,858.4
Whittlesea	9,589	3,920.0
Yarra	10,218	10,406.9
Boroondara	6,137	3,522.4
Knox	7,334	4,557.9
Manningham	3,654	2,855.5
Maroondah	5,452	4,656.9
Whitehorse	7,406	4,203.3
Yarra Ranges	4,830	3,040.9
NEPHU	85,640	4,775.6
VIC	385,755	5,672.3

Data source: [Crime Statistics Agency Victoria](#)

Family violence

Table A44: Number and rate of recorded family violence incidents by LGA, 2022-2023

LGA / NEPHU / VIC	Number of recorded incidents	Rate of recorded incidents per 100,000 population
Banyule	1,163	904.2
Darebin	1,715	1,118.7
Hume	3,641	1,405.9
Nillumbik	419	662.2
Whittlesea	2,637	1,085.3
Yarra	1,056	1,110.9
Boroondara	1,047	606.2
Knox	1,970	1,223.6
Manningham	1,002	785.0
Maroondah	1,346	1,150.7
Whitehorse	1,470	839.1
Yarra Ranges	1,977	1,249.1
NEPHU	19,443	1,084.2
VIC	93,115	1,378.0

Data source: [Crime Statistics Agency Victoria](#)

Appendix 2.8: Mental health and wellbeing: Data Tables

Life satisfaction

Table A45: Proportion of the population reporting low - high life satisfaction by LGA, 2023

LGA / NEPHU / VIC	Low, Score 0-4 (%)	Medium, Score 5-6 (%)	Low-Medium, Score 0-6 (%)	High, Score 7-8 (%)	Very high, Score 9-10 (%)
Banyule	5.6	13.6	19.1	54.2	25.6
Boroondara	3.0	13.3	16.3	55.0	27.7
Darebin	9.6	11.6	21.3	57.3	19.7
Hume	6.1	17.9	24.0	53.9	20.0
Knox	8.0	16.9	25.0	44.5	28.4
Manningham	4.7	13.4	18.2	54.7	25.8
Maroondah	8.2	17.4	25.6	49.3	23.9
Nillumbik	4.6	12.6	17.2	55.7	26.3
Whitehorse	5.8	15.6	21.4	53.8	23.8
Whittlesea	5.1	15.5	20.5	50.3	28.7
Yarra	3.9	18.4	22.3	52.3	24.1
Yarra Ranges	7.1	16.2	23.4	50.1	24.6
NEPHU	6.0	15.2	21.2	52.6	24.9
VIC	6.5	15.5	21.9	50.7	26.0

Data source: [VPHS 2023](#)



Psychological distress

Table A46: Proportion of students in Years 5, 8 and 11 who showed a high level of psychological distress (depressive symptoms) by Department of Education areas, 2018

Department of Education areas	Proportion (%)
Inner Eastern Melbourne	22.4
North Eastern Melbourne	18.2
Outer Eastern Melbourne	22.5
Hume Merri-bek	18.9
Victoria	20.4

Data source: [VSHAWS](#) 2018

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek

Monash and Merri-bek LGAs are not part of NEPHU

Table A47: Proportion of the population with psychological distress as measured on the Kessler Psychological Distress Scale by LGA, 2023

LGA / NEPHU / VIC	Low (%)	Moderate (%)	High to Very High (%)
Banyule	54.0	27.7	13.7
Boroondara	61.9	22.7	12.5
Darebin	42.0	29.0	20.6
Hume	42.9	28.0	20.9
Knox	46.9	27.7	15.6
Manningham	56.5	21.1	16.2
Maroondah	47.8	26.6	20.4
Nillumbik	54.2	26.1	16.2
Whitehorse	51.9	24.1	14.9
Whittlesea	45.8	25.6	22.4
Yarra	51.5	24.9	17.5
Yarra Ranges	43.5	26.7	25.7
NEPHU	49.9	25.9	18.1
VIC	49.7	25.2	19.1

Data source: [VPHS 2023](#)

Sought professional help for mental health

Table A48: Proportion of the population who sought professional help for a mental health problem by LGA, 2023

LGA / NEPHU / VIC	Sought professional help (%)	Did not seek professional help (%)	Do not know (%)
Banyule	20.8	78.9	0.3
Boroondara	20.3	79.5	0.2
Darebin	26.3	73.2	0.4
Hume	20.9	78.9	0.1
Knox	20.8	79.0	0.2
Manningham	15.4	84.0	0.6
Maroondah	20.0	80.0	0.0
Nillumbik	20.9	79.1	0.0
Whitehorse	17.3	82.1	0.6
Whittlesea	18.4	81.0	0.7
Yarra	31.0	69.0	0.0
Yarra Ranges	23.9	76.0	0.1
NEPHU	21.3	78.4	0.3
VIC	20.1	79.5	0.4

Data source: [VPHS 2023](#)

Appendix 2.9: Health Seeking Behaviours: Data Tables

Immunisation coverage

Table A49: Proportion of fully vaccinated children by age group and LGA as at 30th June 2024

LGA / NEPHU / VIC	Fully vaccinated coverage level for age groups (%)		
	12-<15 Months	24-<27 Months	60-<63 Months
Banyule	95.5	89.0	95.5
Boroondara	95.1	92.3	91.6
Darebin	92.4	91.8	94.3
Hume	92.6	88.5	93.8
Knox	96.1	92.2	95.6
Manningham	91.7	87.6	93.6
Maroondah	94.4	93.3	96.9
Nillumbik	87.7	92.3	97.5
Whitehorse	94.2	91.9	94.2
Whittlesea	90.5	88.7	95.4
Yarra	95.0	92.6	91.6
Yarra Ranges	92.8	91.4	95.5
NEPHU	93.2	91.0	94.6
VIC	92.9	91.2	94.5

Fully vaccinated coverage level for age groups (%)			
LGA / NEPHU / VIC	12-<15 Months	24-<27 Months	60-<63 Months

Data source: AIR (data as at 30 June 2024)

Data notes: There is a known administrative lag in the AIR data. AIR data may fluctuate over time based on the timing of providers uploading vaccine administration information into AIR

Table A50: Proportion of adolescents who had DTP, HTP (at least 1 dose) and MenACWY vaccines by age 20 years by LGA as at 30th June 2024

LGA / NEPHU / VIC	DTP coverage (%)	HPV coverage (%)	menACWY coverage (%)
Banyule	90.4	92.6	85.9
Boroondara	89.8	91.9	89.1
Darebin	91.4	89.3	86.1
Hume	86.5	86.3	76.8
Knox	91.0	92.1	82.1
Manningham	83.6	83.3	84.1
Maroondah	89.1	89.1	83.2
Nillumbik	93.4	91.5	84.4
Whitehorse	85.4	87.7	85.1
Whittlesea	90.1	90.9	82.2
Yarra	84.4	88.9	80.0
Yarra Ranges	91.9	90.6	82.9
NEPHU	88.2	88.6	81.5
VIC	87.9	88.8	80.3

Data source: AIR (data as at 30 June 2024)

Data notes: There is a known administrative lag in the AIR data. AIR data may fluctuate over time based on the timing of providers uploading vaccine administration information into AIR

Table A51: Childhood fully vaccinated coverage level by postcode areas by LGA and age group as at 30th June 2024

LGA	Age group	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Banyule	12-<15 Months	8	0	0	1	7
Banyule	24-<27 Months	8	0	0	3	5
Banyule	60-<63 Months	8	0	0	0	8
Boroondara	12-<15 Months	10	0	0	3	7
Boroondara	24-<27 Months	10	0	0	3	7
Boroondara	60-<63 Months	10	0	1	2	7
Darebin	12-<15 Months	5	0	0	1	4
Darebin	24-<27 Months	5	0	0	1	4
Darebin	60-<63 Months	5	0	0	0	5
Hume	12-<15 Months	11	0	1	0	8
Hume	24-<27 Months	11	1	2	4	3
Hume	60-<63 Months	11	2	0	1	7
Knox	12-<15 Months	8	0	0	2	6
Knox	24-<27 Months	8	0	0	2	6
Knox	60-<63 Months	8	0	0	1	7

LGA	Age group	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Manningham	12-<15 Months	9	1	1	0	7
Manningham	24-<27 Months	9	0	2	4	3
Manningham	60-<63 Months	9	0	1	0	8
Maroondah	12-<15 Months	4	0	0	1	3
Maroondah	24-<27 Months	4	0	0	0	4
Maroondah	60-<63 Months	4	0	0	0	4
Nillumbik	12-<15 Months	10	2	0	1	6
Nillumbik	24-<27 Months	10	1	0	0	8
Nillumbik	60-<63 Months	10	0	0	0	9
Whitehorse	12-<15 Months	9	0	0	3	6
Whitehorse	24-<27 Months	9	0	0	3	6
Whitehorse	60-<63 Months	9	0	0	1	8
Whittlesea	12-<15 Months	11	0	0	5	5
Whittlesea	24-<27 Months	11	0	0	6	4
Whittlesea	60-<63 Months	11	0	0	0	10
Yarra	12-<15 Months	6	0	0	1	5

LGA	Age group	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Yarra	24-<27 Months	6	0	0	2	4
Yarra	60-<63 Months	6	0	1	1	4
Yarra Ranges	12-<15 Months	27	2	3	5	14
Yarra Ranges	24-<27 Months	27	1	4	3	14
Yarra Ranges	60-<63 Months	27	0	2	0	23

Data source: AIR (data as at 30 June 2024)

Data notes: There is a known administrative lag in the AIR data. AIR data may fluctuate over time based on the timing of providers uploading vaccine administration information into AIR

Number of total postcode areas are postcodes areas that are fully included within the LGA

Table A52: Vaccination coverage level for adolescents aged 20 years under the National Immunisation Program by postcode areas by LGA and vaccine type as at 30th June 2024

LGA	Vaccine	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Banyule	DTP	8	0	0	3	5

LGA	Vaccine	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Banyule	HPV	8	0	0	1	7
Banyule	menACWY	8	0	2	2	4
Boroondara	DTP	10	0	0	5	5
Boroondara	HPV	10	0	0	3	7
Boroondara	menACWY	10	0	0	5	5
Darebin	DTP	5	0	0	2	3
Darebin	HPV	5	0	0	3	2
Darebin	menACWY	5	0	0	5	0
Hume	DTP	11	1	2	4	4
Hume	HPV	11	0	2	5	4
Hume	menACWY	11	2	4	3	2
Knox	DTP	8	0	1	3	4
Knox	HPV	8	0	1	1	6
Knox	menACWY	8	1	2	3	2
Manningham	DTP	9	1	0	5	3
Manningham	HPV	9	0	2	4	3

LGA	Vaccine	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Manningham	menACWY	9	0	1	6	2
Maroondah	DTP	4	0	0	3	1
Maroondah	HPV	4	0	0	2	2
Maroondah	menACWY	4	0	1	3	0
Nillumbik	DTP	10	2	1	3	3
Nillumbik	HPV	10	1	4	0	4
Nillumbik	menACWY	10	2	3	2	2
Whitehorse	DTP	9	0	2	5	2
Whitehorse	HPV	9	0	1	5	3
Whitehorse	menACWY	9	0	2	6	1
Whittlesea	DTP	11	0	0	5	5
Whittlesea	HPV	11	0	0	4	6
Whittlesea	menACWY	11	0	3	6	1
Yarra	DTP	6	0	1	4	1
Yarra	HPV	6	0	1	3	2
Yarra	menACWY	6	1	1	3	1

LGA	Vaccine	Total postcode areas	Fully vaccinated coverage levels (Number of postcode areas)			
			<70 %	70-80 %	>80-90 %	>90 %
Yarra Ranges	DTP	27	1	4	4	17
Yarra Ranges	HPV	27	3	3	4	16
Yarra Ranges	menACWY	27	10	2	8	6

Data source: AIR (data as at 30 June 2024)

Data notes: There is a known administrative lag in the AIR data. AIR data may fluctuate over time based on the timing of providers uploading vaccine administration information into AIR

Table A53: Vaccine coverage as per National Immunisation Program requirements by postcode as at 30th June 2024

Postcode	Vaccine coverage as per NIP requirements for age group (%)			
	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3002	75*	100*	83.3*	100*
3036	100*	94.1	100	94.1
3043	92.3	93.6	85.1	89.4
3047	92	74.3	73	55.4
3048	88.2	84.4	88.3	72.7
3049	93.8	86.2	93.1	79.3
3053	94.1	67.9	64.3	57.1
3054	75*	94.1	88.2	82.4
3058	89.4	86.7	86.7	80.7
3059	94.2	88	86	82
3060	89.8	80.4	82.6	82.6
3061	92	81.2	62.5	56.2*
3063	0*	100*	100*	100*
3064	95.6	85	86.2	75

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3065	100	88.2	82.4	82.4
3066	94.7	76.5	70.6	58.8
3067	100	100	100	100
3068	83	87.1	87.1	74.2
3070	98	90.9	90.9	83.6
3071	97.7	90.9	97.7	86.4
3072	94.4	89.9	92.4	88.6
3073	92.3	87.7	89.3	84.4
3074	91.1	84.1	84.1	87.3
3075	92.9	89.6	89.6	79.2
3076	95.8	88.5	89.6	72.9
3078	97.4	89.2	89.2	89.2
3079	91.4	93.4	91.8	90.2
3081	95.7	83.3	88.9	72.2
3082	94.5	91.3	90.2	79.3

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3083	96.1	90.5	90.5	85.1
3084	95.8	93	87.3	88.7
3085	96.4	93.1	93.1	89.7
3087	90.9	94.4	94.4	94.4
3088	97.5	91.9	87.1	79
3089	100	91.5	89.4	72.3
3090	100*	77.8*	77.8*	66.7*
3091	100*	75*	83.3	83.3
3093	91.7	100	100	92.3
3094	96.7	100	95.2	90.5
3095	97.3	92.8	94.8	85.6
3096	100*	50*	100*	100*
3097	100*	75*	62.5*	75*
3099	91.7	80	86.7	73.3
3101	87.3	91.6	92.8	86.7

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3102	79	95.2	95.2	90.5
3103	81.5	86.8	83	83
3104	90.9	89.8	85.2	87.5
3105	96.3	75.7	83.8	91.9
3106	95.7	83.3	85.4	83.3
3107	92.6	92.3	92.3	84.6
3108	92.8	72.5	68.1	75.4
3109	93.3	85.7	84.4	84.4
3111	97.1	93.5	90.3	90.3
3113	80	82.9	82.9	85.4
3114	91.7	84.6	84.6	84.6
3115	100*	91.3	100	87
3116	100	97.1	88.6	82.9
3121	95.2	90	82.5	85
3122	93	88.1	84.7	84.7

Postcode	Vaccine coverage as per NIP requirements for age group (%)			
	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3123	96.7	90.9	87.9	87.9
3124	94.1	95.8	93	95.8
3125	95.7	81.4	74.4	79.1
3126	93.3	93.8	87.5	90.6
3127	96.6	94.8	87.9	89.7
3128	86	74.3	72.9	75.7
3129	93.6	89.1	89.1	85.9
3130	95.2	87.9	90.9	88.9
3131	98.2	92.2	90.6	82.8
3132	100	90	87.5	85
3133	93.2	93.2	84.7	86.4
3134	95.3	92.4	92.4	84.8
3135	94.1	80.6	82.1	89.6
3136	97.8	89.9	89.9	80.6
3137	94.1	92.1	89.5	76.3

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3138	100	84	89.3	84
3139	97.7	96.2	92.5	83
3140	93.8	90.9	90.9	83.6
3141	91.2	76.9	69.2	71.8
3142	100	100	87.5	90.6
3144	84.6	92.3	94.9	79.5
3145	93.9	95	92.5	90
3146	95.9	95.4	95.4	92
3147	96.8	92.5	92.5	92.5
3149	90.1	87.9	79.4	86
3150	95	89.7	87.1	86.1
3151	95.8	88	88	96
3152	92.2	88	87	82.6
3153	98.5	94.4	96.3	81.5
3154	100	80	86.7	66.7

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3155	96.2	95	95	71.7
3156	94.3	91.3	90.4	79.1
3158	90.9	88.9	94.4	94.4
3159	100*	100*	100*	42.9*
3160	90.3	94.3	97.1	94.3
3170	90.6	92.5	90.6	90.6
3175	89.3	78.7	78.7	73.6
3178	100	95.4	95.4	89.7
3179	100	92.9	78.6	92.9
3180	88.9	94.1	88.2	94.1
3427	93.3	90.9	90.9	90.9
3428	66.7*	80*	80*	80*
3429	92.3	92.8	94.4	87.2
3430	50*	100*	100*	0*
3431	93.8	87.5	93.8	75

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3658	94.7	94.4	94.4	88.9
3723	60*	100*	100*	100*
3750	92.9	89.3	82.1	87.5
3751	100*	100*	100*	100*
3752	94.7	97.8	95.7	87.1
3753	96.8	94.4	94.4	77.8
3754	98.7	90.3	89.6	81.2
3757	92.6	96.8	100	83.9
3759	100*	100*	50*	50*
3761	100*	100*	100*	100*
3763	83.3*	83.3*	100*	50*
3765	100	100	100	83.3
3766	100*	71.4*	71.4*	57.1*
3767	100*	100*	100*	66.7*
3770	100*	100*	100*	100*

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3775	92.9	100	100	90
3777	92.3	88.6	94.3	77.1
3778	100*	100*	100*	100*
3779	100*	100*	100*	0*
3781	82.3	81.8*	90.9	72.7*
3782	95.2	86.7	90	70
3783	100*	100*	100*	50*
3786	100*	66.7*	83.3*	66.7*
3787	100*	100*	80*	60*
3788	100*	100*	100*	100*
3791	100*	66.7*	100*	66.7*
3792	100*	100*	100*	100*
3793	80*	73.3	80	66.7
3795	100*	90.9	100	100
3796	100	96.2	100	84.6

Vaccine coverage as per NIP requirements for age group (%)				
Postcode	Child (60-<63 mths)	Adolescent (20 years)		
	Fully vaccinated	HPV (at least 1 dose)	dTpa vaccine	menACWY vaccine
3797	100*	100*	100*	88.9*
3799	77.8*	75	75	62.5
3804	91.7	86	95.3	81.4
3808	100*	94.4	88.9	94.4
3825	91.4	91.8	90.2	67.2

* calculation was based on small population numbers (<10)

Data source: AIR (data as at 30 June 2024)

Data notes: There is a known administrative lag in the AIR data. AIR data may fluctuate over time based on the timing of providers uploading vaccine administration information into AIR

Cancer screening

Table A54: Cancer screening participation/coverage rate among age and sex eligible population by age group in the NEPHU catchment

Cancer screening participation/coverage (%)			
Age group (years)	Bowel (2018-2019)	Breast (Jul 2021-Jun 2023)	Cervical (2017-2021)
25-29			78.8
30-34			72.6
35-39			72.2
40-44			76.3
45-49			81.3
50-54	39.7	50.3	80.1
55-59	43.9	51.6	79.0
60-64	49.1	54.8	76.7
65-69	54.3	55.1	70.3
70-74	56.1	52.7	38.9

Data source: Victorian Department of Health as part of the Victorian Cancer Screening Framework

Data notes: Bowel cancer screening data presented here covers the number of FOBT kit returned within 30 months of receiving an invitation to screen in the period 2018-2019. The denominator used is total number of invites sent to male and females aged 50-74 years in the period 2018 to 2019.

Breast cancer screening data presented here covers the number of women aged 50-74 years screened by BreastScreen Victoria from July 2021 to June 2023. The denominator used is the ABS estimated resident population.

Cancer screening participation/coverage (%)			
Age group (years)	Bowel (2018-2019)	Breast (Jul 2021-Jun 2023)	Cervical (2017-2021)

Cervical cancer coverage data presented here covers the number of participants aged 25-74 years who had at least one HPV test or cytology test for any reason in Victoria in the 5-year period (2017-2021). The denominator used is the ABS estimated resident population over the 5-year period, adjusted for hysterectomy fractions and active Compass trial participants in Victoria. Coverage is defined as number of participants aged 25-74 who had at least one HPV test or cytology test for any reason (which may include diagnostic testing) in Victoria in the five-year reporting periods. It is strongly advised against comparing participation/coverage rates between screening programs since (i) the period used are different, (ii) there are multiple factors which impact differently on participation and (iii) the population denominators used to calculate participation rates are different for each program.

Fruit and vegetable consumption

Table A55: Proportion of the NEPHU adult population who met fruit and vegetable consumption recommendations by LGA, 2023

LGA / NEPHU / VIC	Proportion who met fruit consumption guidelines (%)	Proportion who met vegetable consumption guidelines (%)
Banyule	34.5	9.4
Boroondara	37.7	6.3
Darebin	37.5	6.2
Hume	37.9	2.2
Knox	35.5	4.3
Manningham	35.6	6.0
Maroondah	36.3	4.6
Nillumbik	41.9	8.4
Whitehorse	41.3	5.4
Whittlesea	36.2	3.9
Yarra	37.5	7.2
Yarra Ranges	32.4	8.0
NEPHU	37.0	6.0
VIC	35.2	5.7

Data source: [VPHS 2023](#)

Table A56: Proportion of children (aged 4-12 years) who consumed the minimum recommended serves of fruit and vegetables daily by Department of Education area, 2023

Department of Education areas	Proportion who consumed min recommended serve of fruit (%)	Proportion who consumed min recommended serve of vegetable (%)
Inner Eastern Melbourne	70.3	3.7
North Eastern Melbourne	70.6	2.1
Outer Eastern Melbourne	76.4	5.6
Hume Merri-bek	66.6	3.5
Victoria	70.8	2.7

Data source: [VCHWS](#) 2023

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek

Monash and Merri-bek LGAs are not part of NEPHU

Physical activity

Table A57: Proportion of population and level of weekly physical activity by LGA, 2023

LGA / NEPHU / VIC	No physical activity (%)	Less than 150min (%)	At least 150min (%)	Do not know (%)
Banyule	15.1	47.0	37.7	0.2
Boroondara	11.4	48.5	39.8	0.3
Darebin	16.4	47.8	34.8	1.0
Hume	21.5	50.1	28.0	0.4
Knox	15.1	48.5	34.9	1.4
Manningham	15.7	47.7	34.9	1.7
Maroondah	15.7	54.2	29.9	0.2
Nillumbik	13.9	51.1	33.7	1.3
Whitehorse	11.5	55.9	31.0	1.7
Whittlesea	18.3	48.0	32.0	1.8
Yarra	6.8	49.5	43.4	0.3
Yarra Ranges	17.8	43.6	36.9	1.7
NEPHU	14.9	49.3	34.8	1.0
VIC	16.8	47.1	35.1	1.0

Data source: [VPHS 2023](#)

Table A58: Proportion of children (aged 5-13 years) who met the recommended level of physical activity every day

Department of Education areas	Proportion who met recommended level of physical activity (%)
Inner Eastern Melbourne	49.3
North Eastern Melbourne	42.9
Outer Eastern Melbourne	51.9
Hume Merri-bek	49.4
Victoria	51.2

Data source: [VSHAWS](#) 2023

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek

Monash and Merri-bek LGAs are not part of NEPHU

Active transport

Table A59: Number and proportion of population and their mode of transport to work by LGA, 2021

LGA / NEPHU / VIC	Public transport		Vehicle		Active transport		Worked at home or did not go to work		Other mode		Not stated	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Banyule	2,991	4.7	29,428	46.0	1,780	2.8	29,284	45.8	245	0.4	191	0.3
Boroondara	4,896	5.6	32,257	37.1	2,982	3.4	46,312	53.2	271	0.3	270	0.3
Darebin	5,965	7.5	31,275	39.5	3,262	4.1	37,980	48.0	313	0.4	287	0.4
Hume	4,798	4.7	67,202	65.3	808	0.8	29,017	28.2	526	0.5	542	0.5
Knox	2,457	3.0	47,977	58.9	825	1.0	29,748	36.5	282	0.3	231	0.3
Manningham	2,424	4.1	29,541	50.5	666	1.1	25,444	43.5	228	0.4	227	0.4
Maroondah	2,145	3.6	31,350	53.1	810	1.4	24,298	41.2	171	0.3	215	0.4
Nillumbik	797	2.4	17,399	51.5	369	1.1	14,981	44.4	108	0.3	111	0.3
Whitehorse	5,513	6.6	37,119	44.5	1,949	2.3	38,167	45.8	305	0.4	280	0.3
Whittlesea	5,416	5.1	67,796	63.3	792	0.7	32,030	29.9	505	0.5	514	0.5
Yarra	4,746	8.3	13,518	23.6	5,964	10.4	32,514	56.9	251	0.4	179	0.3
Yarra Ranges	1,597	2.0	47,999	60.1	1,159	1.5	28,591	35.8	253	0.3	297	0.4
NEPHU	43,745	4.9	452,861	50.7	21,366	2.4	368,366	41.2	3,458	0.4	3,344	0.4
VIC	146,520	4.6	1,725,344	54.5	94,748	3.0	1,167,146	36.9	13,746	0.4	15,391	0.5

Data source: [ABS Census 2021](#)

Condom use

Table A60: Proportion of young people (years 8 and 11) who always used a condom during sex by Department of Education area, 2018

Department of Education areas	Proportion (%)
Inner Eastern Melbourne	24.3
North Eastern Melbourne	24.1
Outer Eastern Melbourne	28.1
Hume Merri-bek	14.8
Victoria	25.5

Data source: [VSHAWS](#) 2018

Data notes: Denominator is number of students in Years 8 and 11 in government and independent schools, who have had sexual intercourse

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek.

Monash and Merri-bek LGAS are not part of NEPHU

Appendix 2.10: Health Risk Behaviours: Data Tables

Tobacco smoking

Table A61: Proportion of population who smoke tobacco daily by LGA, 2023

LGA / NEPHU / VIC	Proportion of population (%)
Banyule	6.3
Boroondara	3.7
Darebin	9.4
Hume	14.2
Knox	8.8
Manningham	5.9
Maroondah	11.1
Nillumbik	8.0
Whitehorse	5.2
Whittlesea	12.9
Yarra	6.3
Yarra Ranges	7.8
NEPHU	8.3
VIC	10.0

Data source: [VPHS 2023](#)



Vaping

Table A62: Proportion of population who vape by LGA, 2023

LGA / NEPHU / VIC	Daily (%)	Weekly (%)	Weekly or Monthly (%)
Banyule	4.4	0.9	1.5
Boroondara	2.6	2.0	3.3
Darebin	6.5	3.4	4.6
Hume	5.2	0.6	1.6
Knox	2.6	2.2	2.7
Manningham	3.4	0.8	2.1
Maroondah	3.2	0.6	1.6
Nillumbik	4.8	0.2	0.6
Whitehorse	5.1	0.8	1.5
Whittlesea	6.3	0.0	0.4
Yarra	7.0	3.1	5.4
Yarra Ranges	7.0	1.6	2.5
NEPHU	4.8	1.4	2.3
VIC	4.5	1.2	1.9

Data source: [VPHS 2023](#)

Secondary smoke

Table A63: Proportion of children (under 13 years) who were exposed to tobacco smoke in the home by Department of Education areas, 2023

Department of Education areas	Proportion of children under 13 years (%)
Inner Eastern Melbourne	8.3
North Eastern Melbourne	12.0
Outer Eastern Melbourne	12.2
Hume Merri-bek	24.4
Victoria	14.7

Data source: [VCHWS 2023](#)

Data notes: Indicator represents the number of children aged under 13 years of age who live in a household where one or more regular smokers reside and smoke inside the home

Inner Eastern Melbourne: Boroondara, Manningham, Whitehorse, Monash

North Eastern Melbourne: Banyule, Darebin, Nillumbik, Whittlesea, Yarra

Outer Eastern Melbourne: Knox, Maroondah, Yarra Ranges

Hume Merri-bek: Hume, Merri-bek

Monash and Merri-bek LGAs are not part of NEPHU

Alcohol consumption

Table A64: Proportion of adults consuming alcohol within or in excess of the revised NHMRC guidelines by LGA, 2023

LGA / NEPHU / VIC	Did not consume alcohol (%)	Within guidelines (%)	In excess of guidelines (%)
Banyule	18.3	71.8	8.4
Boroondara	17.7	65.5	14.4
Darebin	18.4	64.9	15.9
Hume	36.3	55.4	7.6
Knox	21.2	68.5	8.9
Manningham	24.3	64.2	10.0
Maroondah	16.5	73.3	9.8
Nillumbik	10.5	72.5	16.0
Whitehorse	25.8	63.8	9.3
Whittlesea	26.4	64.1	7.7
Yarra	7.9	71.3	20.0
Yarra Ranges	14.0	68.6	17.2
NEPHU	19.8	67.0	12.1
VIC	21.2	64.4	13.1

Data source: [VPHS 2023](#)

Table A65: Age-standardised rate of people drinking more than two standard alcoholic drinks daily by LGA, 2023

LGA / NEPHU / VIC	Males		Females	
	Number	Age-standardised rate per 100 population	Number	Age-standardised rate per 100 population
Banyule	11,768	24.3	4,666	8.9
Boroondara	15,321	23.5	6,757	9.3
Darebin	11,093	18.4	4,718	7.3
Hume	10,125	13.0	3,579	4.5
Knox	12,082	19.6	4,528	6.9
Manningham	9,145	19.5	3,673	7.2
Maroondah	10,505	24.6	4,187	8.9
Nillumbik	7,063	28.9	2,880	11.1
Whitehorse	12,368	19.4	5,091	7.3
Whittlesea	10,187	13.0	3,844	4.7
Yarra	10,463	26.3	4,075	10.0
Yarra Ranges	16,940	28.4	6,555	10.5
VIC	505,251	21.3	198,037	7.9

Data source: [PHIDU](#)

Physical inactivity

Table A66: Proportion of adults and their total time spent sitting on an average weekday by LGA, 2023

LGA / NEPHU / VIC	Less than 2hrs (%)	2-3hrs (%)	4-5hrs (%)	6-7hrs (%)	More than 8hrs (%)	Do not know (%)
Banyule	3.6	18.2	26.3	15.7	33.8	2.3
Boroondara	2.5	15.3	26.1	16.9	33.7	5.5
Darebin	1.3	23.3	23.3	14.6	34.1	3.4
Hume	5.0	23.2	29.7	13.0	24.3	4.8
Knox	4.4	20.1	27.3	12.9	30.7	4.6
Manningham	3.1	16.8	27.9	17.6	29.3	5.3
Maroondah	1.7	22.9	23.2	15.0	32.3	5.0
Nillumbik	2.2	18.7	28.0	20.7	28.8	1.7
Whitehorse	3.9	17.5	25.8	14.7	33.1	5.0
Whittlesea	2.7	23.0	25.6	17.8	24.2	6.7
Yarra	2.0	15.4	23.1	17.4	38.8	3.3
Yarra Ranges	1.4	21.2	32.8	15.3	25.8	3.5
NEPHU	2.8	19.6	26.6	16.0	30.8	4.2
VIC	3.8	21.3	26.3	15.4	27.9	5.2

Data source: [VPHS 2023](#)

Table A67: Proportion of sedentary adults and their total weekly time spent on physical activity by LGA, 2023

LGA / NEPHU / VIC	No physical activity (%)	Less than 150min (%)	At least 150min (%)
Banyule	16.3	54.8	28.8
Boroondara	13.0	50.4	36.5
Darebin	14.5	49.1	35.1
Hume	24.6	55.9	19.5
Knox	17.9	55.7	26.4
Manningham	19.0	58.3	22.3
Maroondah	17.1	58.4	24.0
Nillumbik	14.3	60.3	24.3
Whitehorse	13.9	64.7	17.6
Whittlesea	25.4	47.5	26.4
Yarra	9.6	45.0	45.4
Yarra Ranges	24.0	47.3	28.8
NEPHU	17.5	54.0	27.9
VIC	19.5	50.5	29.3

Data source: [VPHS 2023](#)

Gambling

Table A68: Annual spend per LGA and annual spend per adult by LGA, financial year 2022-2023

LGA / NEPHU / VIC	Annual spend (\$)	Annual spend per adult (\$)
Banyule	57,169,939	540
Boroondara	18,797,009	125
Darebin	85,837,107	604
Hume	139,030,852	713
Knox	78,302,497	586
Manningham	60,358,351	563
Maroondah	62,283,768	645
Nillumbik	9,600,842	189
Whitehorse	56,114,551	373
Whittlesea	137,846,028	711
Yarra	30,411,152	320
Yarra Ranges	30,291,016	239
NEPHU	766,043,113	543
VIC	3,021,664,869	543

Data source: [VGCCC](#)

Appendix 2.11: Biomedical risk factors: Data Tables

Overweight and obesity

Table A69: Proportion of adult population who are overweight or obese based on self-reported BMI by LGA, 2023

LGA / NEPHU / VIC	Overweight and obese - BMI ≥ 25 (%)
Banyule	50.8
Boroondara	46.9
Darebin	46.6
Hume	61.3
Knox	61.3
Manningham	48.1
Maroondah	56.7
Nillumbik	57.3
Whitehorse	47.1
Whittlesea	57.5
Yarra	41.7
Yarra Ranges	56.7
NEPHU	52.7
VIC	54.4

Data source: [VPHS 2023](#)

High blood pressure

Table A70: Age-standardised rate of hypertension by LGA, 2024-2015

LGA / NEPHU / VIC	Age-standardised rate per 100 of hypertension (sBP > 140mmHg, dBP > 90mmHg)
Banyule	21.3
Boroondara	21.8
Darebin	21.9
Hume	23.4
Knox	21.8
Manningham	21.9
Maroondah	22.0
Nillumbik	21.8
Whitehorse	21.7
Whittlesea	23.1
Yarra	21.9
Yarra Ranges	21.9
VIC	22.7

Data source: [PHIDU](#)

Appendix 2.12: Health service utilization: Data Tables

Access to GP services

Table A71: Number of GP clinics and GP clinics per 10,000 population by postcode area

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3043	7	3.9
3047	18	8.4
3048	5	2.8
3049	1	1.0
3054	4	4.9
3059	2	0.9
3061	2	4.0
3062		
3063		
3064	21	1.8
3065	4	3.8
3066	6	6.5
3067	3	3.3
3068	12	6.2
3070	10	4.0

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3071	7	3.7
3072	12	3.6
3073	12	2.3
3074	8	4.0
3075	6	2.6
3076	16	4.8
3078	3	2.5
3079	7	4.1
3081	4	2.9
3082	10	3.5
3083	8	2.5
3084	11	4.1
3085	1	0.7
3087	5	5.5
3088	7	2.6
3089	3	2.4
3090		
3091		

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3093		
3094	2	2.2
3095	6	2.1
3096		
3097		
3099	1	2.0
3101	3	1.2
3102	3	4.5
3103	6	3.8
3104	7	3.3
3105	6	5.4
3106	5	2.9
3107	5	3.5
3108	5	2.0
3109	12	3.9
3111	3	2.4
3113	1	1.2
3114	1	2.6

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3115		
3116	4	3.4
3121	14	4.4
3122	13	5.8
3123	5	3.4
3124	9	4.1
3125	8	5.3
3126	1	1.3
3127	4	2.1
3128	15	6.6
3129	1	0.6
3130	9	2.7
3131	6	2.6
3132	3	1.8
3133	6	2.6
3134	11	3.2
3135	4	1.9
3136	10	2.2
3137	4	2.7

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3138	3	1.3
3139	5	3.5
3140	5	2.9
3146	8	3.1
3147	6	4.0
3151	3	2.8
3152	15	4.3
3153	5	2.4
3154		
3155	7	3.0
3156	7	1.8
3158	1	1.5
3159	1	3.9
3160	5	5.5
3178	9	2.7
3179	1	1.6
3180	1	1.3
3428		

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3429	7	1.8
3750		
3751		
3752	6	2.4
3754	11	2.2
3755		
3757	3	3.1
3759		
3760		
3761		
3765	1	1.4
3766		
3767		
3770	1	3.0
3775	2	4.9
3777	5	4.6
3779	1	20.0
3782	2	2.5

Postcode	Number of GP clinics	Number of GP clinics per 10,000 population
3785		
3786		
3787		
3788	1	5.6
3789		
3791	1	7.1
3792		
3793	3	8.2
3795		
3796	2	2.0
3797	1	2.7
3799	1	1.7

Data source: [HealthMap](#)

Data notes: Empty cells denote data was not available

Data accessed in 2024

Table A72: Average distance to closest GP by suburb

Suburb	LGA	Average distance to closest GP (m)
Abbotsford	Yarra	338.7
Alphington	Yarra	1,085.3
Ashburton	Boroondara	690.0
Attwood	Hume	1,265.9
Badger Creek	Yarra Ranges	4,458.1
Balwyn	Boroondara	641.9
Balwyn North	Boroondara	780.0
Bayswater	Knox	837.5
Bayswater North	Maroondah	1,182.2
Belgrave	Yarra Ranges	1,253.7
Belgrave Heights	Yarra Ranges	1,445.2
Belgrave South	Yarra Ranges	1,290.2
Bellfield	Banyule	573.8
Blackburn	Whitehorse	863.1
Blackburn North	Whitehorse	947.2
Blackburn South	Whitehorse	838.3
Boronia	Knox	1,066.1

Suburb	LGA	Average distance to closest GP (m)
Box Hill	Whitehorse	475.7
Box Hill North	Whitehorse	725.8
Box Hill South	Whitehorse	795.5
Briar Hill	Banyule	656.1
Broadmeadows	Hume	555.4
Bulleen	Manningham	752.2
Bundoora	Whittlesea	988.5
Burnley	Yarra	593.3
Burwood	Whitehorse	748.1
Burwood East	Whitehorse	885.2
Camberwell	Boroondara	738.8
Campbellfield	Hume	1,088.9
Canterbury	Boroondara	774.9
Carlton North	Yarra	286.8
Chirnside Park	Yarra Ranges	1,356.3
Chum Creek	Yarra Ranges	4,162.9
Clifton Hill	Yarra	532.6
Coldstream	Yarra Ranges	906.2
Collingwood	Yarra	364.1

Suburb	LGA	Average distance to closest GP (m)
Coolaroo	Hume	1,024.8
Craigieburn	Hume	1,235.6
Cremorne	Yarra	328.1
Croydon	Maroondah	967.5
Croydon Hills	Maroondah	1,411.1
Croydon North	Maroondah	1,546.2
Croydon South	Maroondah	782.6
Dallas	Hume	619.0
Deepdene	Boroondara	504.6
Diamond Creek	Nillumbik	1,381.7
Doncaster	Manningham	787.0
Doncaster East	Manningham	730.0
Donnybrook	Whittlesea	6,564.5
Donvale	Manningham	1,374.8
Doreen	Nillumbik	1,035.6
Eaglemont	Banyule	879.3
Eltham	Nillumbik	1,164.6
Eltham North	Nillumbik	1,384.2
Epping	Whittlesea	850.7

Suburb	LGA	Average distance to closest GP (m)
Fairfield	Yarra	471.5
Ferntree Gully	Knox	1,502.0
Ferny Creek	Yarra Ranges	3,455.5
Fitzroy	Yarra	334.3
Fitzroy North	Yarra	413.7
Forest Hill	Whitehorse	703.5
Gladstone Park	Hume	905.3
Glen Iris	Boroondara	745.8
Greensborough	Banyule	1,405.9
Greenvale	Hume	1,775.0
Hawthorn	Boroondara	429.3
Hawthorn East	Boroondara	501.1
Healesville	Yarra Ranges	1,559.6
Heathmont	Maroondah	986.8
Heidelberg	Banyule	552.7
Heidelberg Heights	Banyule	1,150.5
Heidelberg West	Banyule	632.6
Hurstbridge	Nillumbik	1,276.9
Ivanhoe	Banyule	732.0

Suburb	LGA	Average distance to closest GP (m)
Ivanhoe East	Banyule	677.1
Jacana	Hume	753.1
Kalkallo	Hume	5,524.9
Kallista	Yarra Ranges	2,122.9
Kalorama	Yarra Ranges	3,960.1
Kew	Boroondara	914.2
Kew East	Boroondara	707.7
Kilsyth	Yarra Ranges	1,221.7
Kilsyth South	Maroondah	1,226.6
Kingsbury	Darebin	848.0
Knoxfield	Knox	1,035.2
Lalor	Whittlesea	793.6
Launching Place	Yarra Ranges	1,026.0
Lilydale	Yarra Ranges	1,513.7
Lower Plenty	Banyule	1,840.4
Lysterfield	Yarra Ranges	2,565.9
Macleod	Banyule	1,057.0
Meadow Heights	Hume	931.7
Melbourne Airport	Hume	3,721.4

Suburb	LGA	Average distance to closest GP (m)
Menzies Creek	Yarra Ranges	3,391.2
Mernda	Whittlesea	877.2
Mickleham	Hume	1,541.7
Mill Park	Whittlesea	892.2
Millgrove	Yarra Ranges	4,606.1
Mitcham	Whitehorse	912.1
Monbulk	Yarra Ranges	994.8
Mont Albert	Whitehorse	638.2
Mont Albert North	Whitehorse	848.6
Montmorency	Banyule	787.9
Montrose	Yarra Ranges	1,379.9
Mooroolbark	Yarra Ranges	1,279.1
Mount Dandenong	Yarra Ranges	3,680.6
Mount Evelyn	Yarra Ranges	1,424.7
North Warrandyte	Nillumbik	3,402.0
Northcote	Darebin	586.1
Nunawading	Whitehorse	998.0
Olinda	Yarra Ranges	1,761.6
Park Orchards	Manningham	1,630.4

Suburb	LGA	Average distance to closest GP (m)
Plenty	Nillumbik	3,526.5
Preston	Darebin	635.0
Princes Hill	Yarra	518.6
Research	Nillumbik	859.2
Reservoir	Darebin	943.8
Richmond	Yarra	392.6
Ringwood	Maroondah	875.0
Ringwood East	Maroondah	948.6
Ringwood North	Maroondah	1,168.0
Rosanna	Banyule	757.8
Rowville	Knox	1,175.5
Roxburgh Park	Hume	1,031.0
Sassafras	Yarra Ranges	2,164.5
Scoresby	Knox	1,121.6
Selby	Yarra Ranges	1,065.2
Seville	Yarra Ranges	831.8
Sherbrooke	Yarra Ranges	1,388.4
South Morang	Whittlesea	1,488.3
St Helena	Banyule	844.6

Suburb	LGA	Average distance to closest GP (m)
Sunbury	Hume	1,903.1
Surrey Hills	Boroondara	635.0
Tecoma	Yarra Ranges	1,564.8
Templestowe	Manningham	1,052.8
Templestowe Lower	Manningham	1,053.0
The Basin	Knox	2,432.7
The Patch	Yarra Ranges	2,540.5
Thomastown	Whittlesea	903.1
Thornbury	Darebin	639.3
Tremont	Yarra Ranges	2,632.1
Tullamarine	Hume	802.0
Upper Ferntree Gully	Knox	926.2
Upwey	Yarra Ranges	1,359.4
Vermont	Whitehorse	985.7
Vermont South	Whitehorse	876.5
Viewbank	Banyule	1,153.4
Wandin North	Yarra Ranges	1,140.4
Wantirna	Knox	892.4
Wantirna South	Knox	934.0

Suburb	LGA	Average distance to closest GP (m)
Warburton	Yarra Ranges	1,512.7
Warrandyte	Manningham	1,568.0
Warrandyte South	Manningham	1,580.3
Warranwood	Maroondah	1,170.5
Watsonia	Banyule	608.6
Watsonia North	Banyule	1,432.9
Wattle Glen	Nillumbik	2,373.9
Wesburn	Yarra Ranges	3,643.5
Westmeadows	Hume	1,214.0
Whittlesea	Whittlesea	1,304.6
Wollert	Whittlesea	2,185.7
Wonga Park	Manningham	3,980.2
Woori Yallock	Yarra Ranges	893.5
Yallambie	Banyule	1,469.2
Yarra Glen	Yarra Ranges	836.7
Yarra Junction	Yarra Ranges	1,228.3
Yarrambat	Nillumbik	3,465.1

Data source: [AUO](#)



Table A73: Proportion of adults and their reasons cited for being unable to see a GP in the last 12 months when needed by LGA, 2023

LGA / NEPHU / LGA	Cost (%)	Could not get an appointment when needed (%)	No suitable GP in area (%)	Transport issue or too far to travel (%)	Other reason (%)	Do not know (%)
Banyule	37.0	21.5	0.0	1.3	39.8	0.5
Boroondara	31.9	21.9	8.1	0.0	34.1	3.8
Darebin	22.6	32.1	0.0	2.5	41.4	1.3
Hume	17.2	48.1	3.9	3.4	23.7	3.7
Knox	23.1	31.6	2.0	0.8	41.5	1.0
Manningham	20.6	31.4	0.0	1.9	42.3	3.9
Maroondah	35.1	26.9	3.3	8.5	24.4	1.7
Nillumbik	19.7	47.2	3.2	1.5	27.6	0.9
Whitehorse	21.7	18.6	4.3	7.1	40.9	7.4
Whittlesea	21.1	33.1	2.6	3.0	37.9	2.4
Yarra	37.0	16.4	0.0	1.8	43.0	1.9
Yarra Ranges	25.7	36.7	3.3	3.1	31.2	0.0
NEPHU	26.1	30.5	2.6	2.9	35.7	2.4
VIC	22.9	35.5	4.1	2.7	32.9	1.9

Data source: [VPHS 2023](#)

Private health insurance

Table A74: Proportion of population with private health insurance cover by LGA, 2023

LGA / NEPHU / VIC	With private insurance (%)	Without private insurance (%)	Extras only (%)
Banyule	66.1	30.8	0.1
Boroondara	75.1	23.2	0.0
Darebin	51.5	47.2	0.2
Hume	44.7	53.3	0.4
Knox	57.7	38.1	1.7
Manningham	71.6	25.3	1.3
Maroondah	57.7	40.0	1.7
Nillumbik	70.0	26.9	2.0
Whitehorse	66.5	31.4	0.0
Whittlesea	41.8	55.8	1.6
Yarra	59.0	38.6	0.8
Yarra Ranges	49.2	48.7	1.3
NEPHU	59.2	38.3	0.9
VIC	52.3	45.2	1.0

Data source: [VPHS 2023](#)

Appendix 2.13: Health consequences: Data Tables

Blood-borne viruses

Table A75: Hepatitis B, hepatitis C and HIV cases and notification rate (per 100,000 population) by LGA, 2023

LGA / NEPHU / VIC	HIV		Hepatitis B		Hepatitis C	
	Cases	Rate per 100,000 population	Cases	Rate per 100,000 population	Cases	Rate per 100,000 population
Banyule	8	6.3	17	13.5	10	7.9
Boroondara	3	1.8	52	31.0	13	7.7
Darebin	5	3.4	33	22.2	28	18.8
Hume	6	2.5	37	15.2	37	15.2
Knox	3	1.9	27	17.0	14	8.8
Manningham	2	1.6	51	40.9	6	4.8
Maroondah	3	2.6	18	15.6	17	14.8
Nillumbik			1	1.6	6	9.5
Whitehorse	4	2.4	68	40.2	18	10.6
Whittlesea	5	2.2	48	20.9	32	13.9
Yarra	13	14.4	10	11.1	23	25.5
Yarra Ranges	2	1.3	3	1.9	26	16.7
NEPHU	54	3.0	365	20.4	230	12.8
VIC	222	3.4	1,413	21.7	1,298	20.0

LGA / NEPHU / VIC	HIV		Hepatitis B		Hepatitis C	
	Cases	Rate per 100,000 population	Cases	Rate per 100,000 population	Cases	Rate per 100,000 population

Data source: [Victoria, local public health areas and local government areas surveillance summary report](#), Victorian Department of Health

Table A76: Hepatitis B and hepatitis C notification rates (per 100,000 population) in NEPHU 2013-2023

Year	Hepatitis B		Hepatitis C	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population
2,013	551	33.0	417	25.0
2,014	513	30.7	416	24.9
2,015	527	31.5	426	25.5
2,016	505	30.2	444	26.6
2,017	559	33.5	350	20.9
2,018	520	31.1	346	20.7
2,019	485	27.0	328	18.3
2,020	342	19.1	253	14.1
2,021	341	19.0	236	13.2
2,022	376	21.0	225	12.5
2,023	357	19.9	231	12.9

Data source: [Victoria, local public health areas and local government areas surveillance summary report](#), Victorian Department of Health

Table A77: Syphilis notification rates (per 100,000 population) in NEPHU by LGA, 2023

LGA / NEPHU / VIC	Cases	Rate per 100,000 population
Banyule	44	34.9
Boroondara	64	38.1
Darebin	69	46.4
Hume	64	26.2
Knox	31	19.5
Manningham	21	16.8
Maroondah	19	16.5
Nillumbik	10	15.9
Whitehorse	41	24.2
Whittlesea	73	31.8
Yarra	225	249.7
Yarra Ranges	17	10.9
NEPHU	678	37.8
VIC	2,774	42.7

Data source: [Victoria, local public health areas and local government areas surveillance summary report](#), Victorian Department of Health

Table A78: Chlamydia and gonorrhoea monthly rates (per 100,000 population) by NEPHU, 2023-2024

Month-Year	Chlamydia		Gonorrhoea	
	Female	Male	Female	Male
Jan-2022	6.4	11.1	1.4	7.2
Feb-2022	8.9	13.9	2.3	9.7
Mar-2022	10.3	17.9	1.9	9.3
Apr-2022	8.9	14.3	2.1	9.1
May-2022	11.1	15.8	1.9	10.9
Jun-2022	9.5	15.5	1.8	9.4
Jul-2022	10.0	15.6	1.9	9.6
Aug-2022	12.5	17.5	2.4	10.6
Sep-2022	9.7	14.1	2.1	9.2
Oct-2022	11.2	17.5	3.1	10.2
Nov-2022	11.2	16.1	2.0	9.4
Dec-2022	10.6	13.9	2.8	8.6
Jan-2023	13.2	19.4	2.4	11.5
Feb-2023	12.7	18.7	2.7	10.5
Mar-2023	13.1	19.7	2.7	10.8

Month-Year	Chlamydia		Gonorrhoea	
	Female	Male	Female	Male
Apr-2023	10.2	16.9	2.4	8.6
May-2023	13.6	21.1	2.4	11.7
Jun-2023	12.0	18.3	3.4	9.4
Jul-2023	12.8	18.2	2.2	10.0
Aug-2023	13.1	20.4	3.3	12.7
Sep-2023	11.0	18.6	2.5	10.5
Oct-2023	12.7	21.4	2.6	10.6
Nov-2023	11.7	17.1	2.7	12.7
Dec-2023	9.4	16.3	2.3	12.1
Jan-2024	11.7	17.7	2.6	15.3
Feb-2024	10.9	20.3	2.5	14.7
Mar-2024	11.4	18.9	2.1	13.5
Apr-2024	10.8	17.5	1.9	12.7
May-2024	12.3	20.0	3.1	14.7
Jun-2024	8.9	14.4	1.5	12.6
Jul-2024	11.7	15.7	2.5	13.8
Aug-2024	10.4	15.7	2.6	14.2

Month-Year	Chlamydia		Gonorrhoea	
	Female	Male	Female	Male
Sep-2024	10.5	15.7	2.2	11.7
Oct-2024	12.3	15.8	2.7	12.1

Data source: [Victoria, local public health areas and local government areas surveillance summary report](#), Victorian Department of Health

Cancer rates

Table A79: Top 10 cancer rates by sex and LGA, 2014-2018

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Banyule	1	Breast	160.2	Prostate	158.2
Banyule	2	Colorectal	58.4	Colorectal	70.1
Banyule	3	Lung	36.8	Melanoma	57.7
Banyule	4	Melanoma	33.9	Lung	48.9
Banyule	5	Uterine	24.8	Lymphoma	29.5
Banyule	6	Lymphoma	23.7	Leukaemia	25.0
Banyule	7	Thyroid	17.6	Headneck	21.3
Banyule	8	Pancreatic	14.6	Kidney	16.6
Banyule	9	Leukaemia	14.0	Bladder	15.7
Banyule	10	Ovarian	7.6	Pancreatic	14.9
Boroondara	1	Breast	154.7	Prostate	187.1
Boroondara	2	Colorectal	50.4	Colorectal	57.9
Boroondara	3	Melanoma	44.7	Melanoma	53.5
Boroondara	4	Lung	28.7	Lung	37.9
Boroondara	5	Lymphoma	21.6	Lymphoma	25.7

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Boroondara	6	Uterine	21.5	Leukaemia	21.3
Boroondara	7	Thyroid	15.7	Headneck	17.5
Boroondara	8	Pancreatic	14.6	Bladder	16.0
Boroondara	9	Leukaemia	11.9	Pancreatic	15.6
Boroondara	10	Ovarian	6.5	Kidney	14.8
Darebin	1	Breast	130.0	Prostate	137.2
Darebin	2	Colorectal	55.6	Colorectal	73.0
Darebin	3	Lung	38.6	Lung	68.5
Darebin	4	Uterine	28.5	Melanoma	30.9
Darebin	5	Lymphoma	22.6	Lymphoma	30.4
Darebin	6	Melanoma	22.6	Leukaemia	25.9
Darebin	7	Thyroid	18.7	Headneck	21.9
Darebin	8	Leukaemia	16.3	Bladder	17.2
Darebin	9	Pancreatic	14.6	Stomach	15.7
Darebin	10	Ovarian	7.6	Pancreatic	14.0
Hume	1	Breast	130.5	Prostate	151.1
Hume	2	Lung	50.2	Colorectal	75.0

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Hume	3	Colorectal	49.2	Lung	63.7
Hume	4	Uterine	29.9	Lymphoma	32.8
Hume	5	Lymphoma	24.1	Melanoma	32.5
Hume	6	Melanoma	22.7	Bladder	26.5
Hume	7	Thyroid	21.1	Leukaemia	25.0
Hume	8	Pancreatic	17.5	Kidney	23.2
Hume	9	Leukaemia	15.5	Headneck	18.9
Hume	10	Ovarian	8.6	Stomach	18.8
Knox	1	Breast	139.4	Prostate	183.4
Knox	2	Colorectal	47.9	Colorectal	71.9
Knox	3	Lung	41.2	Lung	55.4
Knox	4	Melanoma	40.1	Melanoma	42.4
Knox	5	Lymphoma	23.0	Lymphoma	29.3
Knox	6	Uterine	22.5	Leukaemia	23.6
Knox	7	Thyroid	16.3	Kidney	22.3
Knox	8	Pancreatic	14.6	Headneck	21.2
Knox	9	Leukaemia	13.7	Bladder	19.9

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Knox	10	Ovarian	9.6	Pancreatic	13.9
Manningham	1	Breast	150.2	Prostate	161.7
Manningham	2	Colorectal	51.1	Colorectal	58.1
Manningham	3	Lung	29.5	Melanoma	45.9
Manningham	4	Melanoma	29.2	Lung	39.4
Manningham	5	Uterine	23.0	Lymphoma	31.9
Manningham	6	Lymphoma	22.4	Leukaemia	21.7
Manningham	7	Leukaemia	20.6	Kidney	20.8
Manningham	8	Thyroid	16.1	Headneck	16.4
Manningham	9	Ovarian	11.8	Pancreatic	16.2
Manningham	10	Pancreatic	11.0	Bladder	15.9
Maroondah	1	Breast	143.9	Prostate	192.1
Maroondah	2	Colorectal	49.7	Colorectal	63.0
Maroondah	3	Lung	42.6	Melanoma	61.4
Maroondah	4	Melanoma	35.8	Lung	53.7
Maroondah	5	Lymphoma	25.5	Lymphoma	40.5
Maroondah	6	Uterine	25.4	Headneck	23.3

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Maroondah	7	Pancreatic	19.2	Kidney	21.8
Maroondah	8	Leukaemia	15.3	Bladder	20.0
Maroondah	9	Thyroid	14.4	Leukaemia	18.4
Maroondah	10	Ovarian	8.8	Pancreatic	14.8
Nillumbik	1	Breast	154.4	Prostate	180.6
Nillumbik	2	Colorectal	61.1	Colorectal	62.0
Nillumbik	3	Melanoma	47.4	Melanoma	51.7
Nillumbik	4	Lung	28.1	Lymphoma	35.5
Nillumbik	5	Lymphoma	23.7	Lung	33.5
Nillumbik	6	Uterine	17.1	Leukaemia	22.2
Nillumbik	7	Leukaemia	16.6	Headneck	18.7
Nillumbik	8	Thyroid	15.6	Bladder	18.4
Nillumbik	9	Pancreatic	13.9	Kidney	16.0
Nillumbik	10	Ovarian	8.5	Pancreatic	10.8
Whitehorse	1	Breast	159.9	Prostate	171.8
Whitehorse	2	Colorectal	59.5	Colorectal	66.0
Whitehorse	3	Lung	33.3	Melanoma	46.6

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Whitehorse	4	Melanoma	31.8	Lung	41.7
Whitehorse	5	Lymphoma	26.6	Lymphoma	32.2
Whitehorse	6	Uterine	20.8	Headneck	21.4
Whitehorse	7	Leukaemia	14.8	Leukaemia	21.3
Whitehorse	8	Pancreatic	14.7	Kidney	21.1
Whitehorse	9	Thyroid	13.0	Bladder	17.8
Whitehorse	10	Ovarian	10.1	Pancreatic	14.3
Whittlesea	1	Breast	139.8	Prostate	124.0
Whittlesea	2	Colorectal	51.9	Colorectal	82.8
Whittlesea	3	Lung	41.4	Lung	67.1
Whittlesea	4	Uterine	29.4	Melanoma	29.4
Whittlesea	5	Lymphoma	27.7	Lymphoma	25.0
Whittlesea	6	Thyroid	24.4	Headneck	24.2
Whittlesea	7	Melanoma	23.7	Leukaemia	23.0
Whittlesea	8	Leukaemia	17.4	Kidney	22.4
Whittlesea	9	Pancreatic	16.1	Bladder	19.0
Whittlesea	10	Ovarian	8.0	Stomach	17.0

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Yarra	1	Breast	155.5	Prostate	141.2
Yarra	2	Colorectal	55.5	Colorectal	72.8
Yarra	3	Lung	39.8	Lung	48.8
Yarra	4	Melanoma	38.0	Melanoma	35.3
Yarra	5	Uterine	22.7	Lymphoma	32.4
Yarra	6	Lymphoma	17.3	Leukaemia	21.4
Yarra	7	Pancreatic	14.2	Headneck	21.3
Yarra	8	Thyroid	13.6	Kidney	20.2
Yarra	9	Leukaemia	10.6	Bladder	18.7
Yarra	10	Ovarian	7.4	Stomach	16.7
Yarra Ranges	1	Breast	147.6	Prostate	194.7
Yarra Ranges	2	Colorectal	53.9	Colorectal	70.6
Yarra Ranges	3	Lung	40.9	Melanoma	57.4
Yarra Ranges	4	Melanoma	40.4	Lung	56.2
Yarra Ranges	5	Lymphoma	23.8	Lymphoma	29.3
Yarra Ranges	6	Uterine	22.0	Leukaemia	28.4
Yarra Ranges	7	Thyroid	14.0	Headneck	24.2

LGA / VIC	Top rank order	Female		Male	
		Cancer type	Age-standardised rate per 100,000 population	Cancer type	Age-standardised rate per 100,000 population
Yarra Ranges	8	Leukaemia	13.0	Kidney	21.5
Yarra Ranges	9	Pancreatic	13.0	Bladder	19.2
Yarra Ranges	10	Ovarian	11.8	Pancreatic	14.7
VIC	1	Breast	143.1	Prostate	160.1
VIC	2	Colorectal	57.4	Colorectal	69.9
VIC	3	Lung	42.1	Lung	56.0
VIC	4	Melanoma	39.4	Melanoma	52.9
VIC	5	Uterine	24.5	Lymphoma	31.0
VIC	6	Lymphoma	22.9	Headneck	25.3
VIC	7	Thyroid	15.5	Leukaemia	24.6
VIC	8	Leukaemia	15.5	Kidney	20.2
VIC	9	Pancreatic	14.6	Bladder	18.3
VIC	10	Ovarian	10.0	Pancreatic	15.8

Data source: [PHIDU](#)

Injury

Table A80: Rate of transport related injuries by sex and LGA, 2021-2022

LGA / NEPHU / VIC	Female		Male	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population
Banyule	131	100.5	320	257.2
Boroondara	184	104.6	391	239.4
Darebin	207	134.5	419	285.2
Hume	444	178.5	804	320.2
Knox	197	121.1	339	215.5
Manningham	113	87.1	256	208.8
Maroondah	133	111.7	255	226.3
Nillumbik	70	109.8	209	333.1
Whitehorse	165	93.6	299	178.8
Whittlesea	294	125.1	647	276.8
Yarra	169	180.6	324	359.1
Yarra Ranges	211	133.2	532	340.2
NEPHU	2,318	125.5	4,795	268.1
VIC	9,557	143.5	19,204	294.9

Data source: [Victorian Injury Atlas](#)

Table A81: Rates of fall related injuries resulting in hospitalisation by sex and LGA, 2021-2022

LGA / NEPHU / VIC	Female		Male	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population
Banyule	1,495	1,147.3	995	799.8
Boroondara	1,952	1,109.3	1,212	742.1
Darebin	1,697	1,102.9	1,226	834.6
Hume	1,891	760.1	1,723	686.1
Knox	1,626	999.6	1,140	724.8
Manningham	1,540	1,187.2	985	803.5
Maroondah	1,365	1,146.4	899	797.7
Nillumbik	603	945.9	469	747.5
Whitehorse	1,893	1,073.4	1,209	723.1
Whittlesea	1,947	828.4	1,586	678.4
Yarra	848	906.0	675	748.1
Yarra Ranges	1,591	1,004.3	1,141	729.6
NEPHU	18,448	998.5	13,260	741.3
VIC	66,237	994.7	49,345	757.7

Data source: [Victorian Injury Atlas](#)

Table A82: Rate of fall related injuries resulting in hospitalisations by age group and LGA, 2021-2022

LGA / NEPHU / VIC	0 - 59 Years		60 and over Years	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population
Banyule	664	344.4	1,826	2,949.4
Boroondara	884	341.3	2,280	2,840.1
Darebin	941	386.8	1,982	3,447.7
Hume	1,759	415.0	1,855	2,439.8
Knox	830	340.9	1,936	2,531.0
Manningham	554	304.8	1,971	2,794.8
Maroondah	735	411.7	1,529	2,872.6
Nillumbik	412	427.4	660	2,193.6
Whitehorse	705	267.4	2,397	2,998.9
Whittlesea	1,375	354.3	2,158	2,673.7
Yarra	686	443.3	837	2,877.5
Yarra Ranges	1,084	451.4	1,648	2,206.8
NEPHU	10,629	370.9	21,079	2,735.9
VIC	38,532	375.0	77,050	2,658.7

Data source: [Victorian Injury Atlas](#)

LGA / NEPHU / VIC	0 - 59 Years		60 and over Years	
	Number	Rate per 100,000 population	Number	Rate per 100,000 population

Appendix 2.14: Mortality: Data Tables

Mortality

Table A83: Main causes of death in NEPHU, 2022

Cause of death	Number of deaths	% of total deaths
Dementia	1,173	9.5
Coronary heart disease	1,114	9.0
COVID-19	886	7.1
Cerebrovascular disease	567	4.6
Lung cancer	506	4.1
Accidental falls	374	3.0
COPD	371	3.0
Diabetes	365	2.9

Cause of death	Number of deaths	% of total deaths
Colorectal cancer	347	2.8
Heart failure and complications and ill-defined heart disease	291	2.3

Data source: [AIHW](#)

Produced by North Eastern Public Health Unit

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