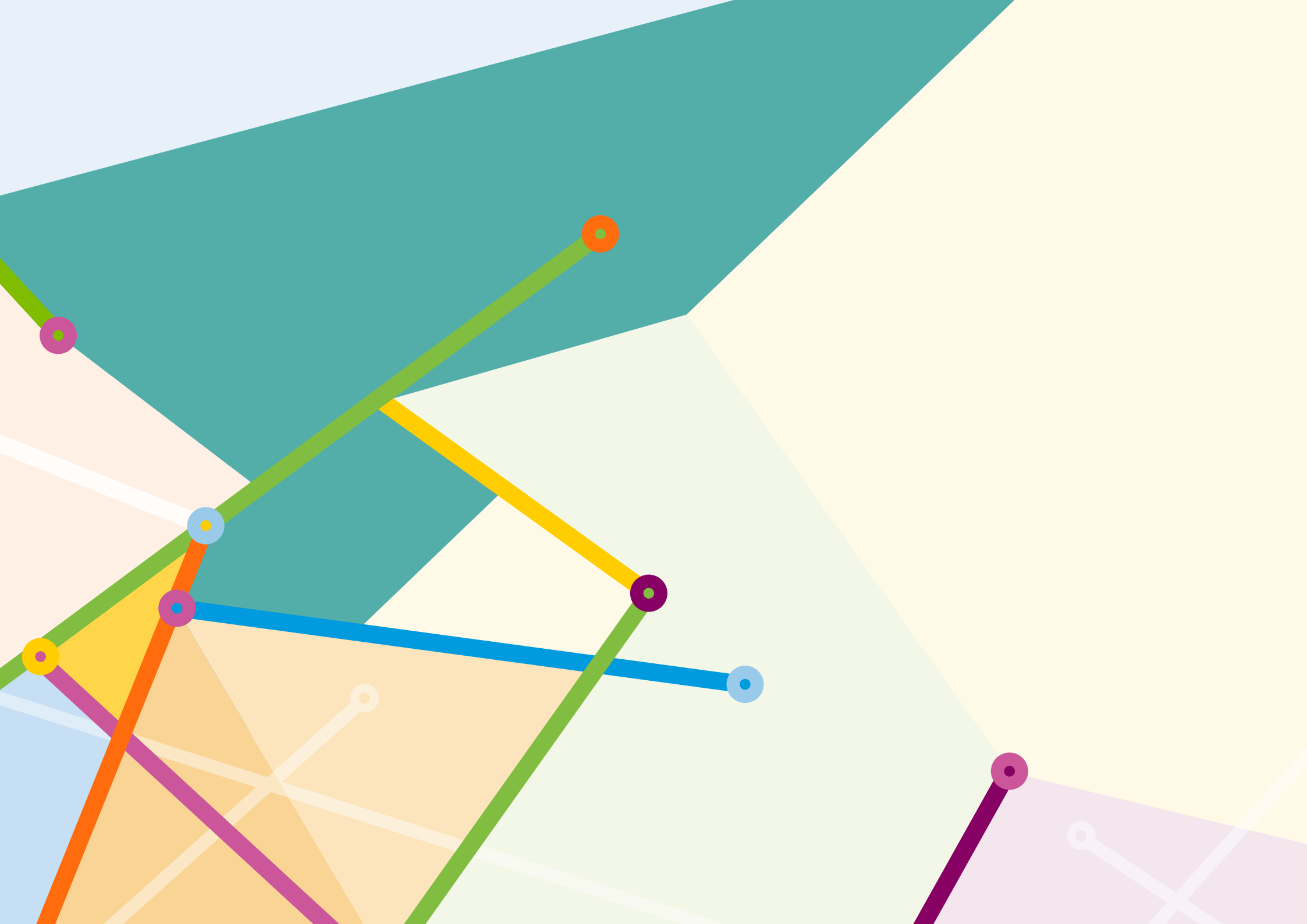




Perth South PHN

Needs Assessment 2022-2024



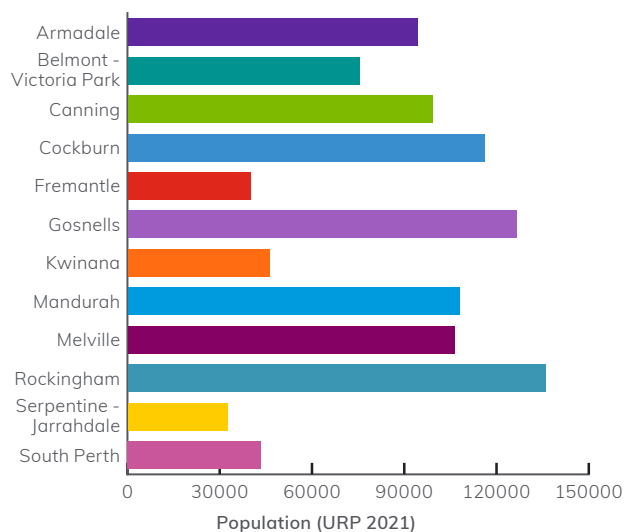
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Introduction

Perth South PHN has a population of about 974,000 people. This population lives in a 5,000 square kilometre area comprising inner suburban high density and outer metropolitan and agricultural communities.

Figure 1 - Population (URP 2021) in Perth South PHN by SA3.



The development of the Perth South PHN Needs Assessment 2022-2024 was governed by the Needs Assessment Steering Committee. A consultation plan was developed and included internal and external consultation processes to source qualitative data. This included the development of a digital portal for the collection of qualitative information from regional and metropolitan clinical committees. A wide range of data sources, available publicly or on request from data custodians informed the Needs Assessment. Where possible data was tested for statistical significance ($p < 0.05$), note that when the word “significant” is used throughout the document it means “statistically significant”.

This Needs Assessment has been updated with population and chronic condition data from the 2021 Australian Census of Population and Housing released in 2022.

Where possible, health and service needs analysis has been undertaken at Statistical Area Level 3 (SA3s). SA3s are designed to provide a regional breakdown of Australia. They generally have a population of between 30,000 and 130,000 people. In the major cities, SA3s represent the area serviced by a major transport and commercial hub and often closely align to large urban Local Government Areas. Throughout the Needs Assessment, comparisons have been made between state and national rates.

Priority Setting

A priority selection matrix was used to triangulate information about health and service needs and qualitative information provided by stakeholders. The matrix used a scoring system from 1 to 3 to determine the severity of identified needs and if the need is a priority for the Primary Health Network. The matrix was reviewed by the Needs Assessment Steering Committee and included an extensive internal review process.

Additional Data Needs and Gaps

COVID-19

All topics covered were informed by a broad review of publicly available data sets, data obtained from selected Western Australian government agencies, a review of the research literature, as well as internal and external consultation. A key issue in the development of the Perth South PHN Needs Assessment has been the reliance on publicly available datasets. The statistics included in these datasets are not current and are two to three years old. As a result, these datasets cannot be used to

provide an analysis of the substantial impact that the COVID-19 pandemic has had on the health system in WA.

Mental Health

Issues with accessing current suicide statistics have been a barrier to planning and implementing mental health services in Perth South PHN. Access to current suicide statistics is delayed by two to three years pending coronial inquest and submission of state suicide statistics to national data repositories.

Use of Long-Term Health Condition Data from the 2021 Census

The inclusion of a question about long-term health conditions in the 2021 Census now provides an additional data source for many of the conditions that PHNs seek to address. We note this is the first time this information has been collected and as such it should be interpreted with caution. All data sources have inherent biases and will result in a different estimate of prevalence depending on the method employed. In the case of the Census, the method is a household rather than an individual survey, which may result in under-reporting due to privacy concerns or a lack of knowledge of the respondent on behalf of other household residents. Additionally, the Census long-term health conditions question asks whether the respondent has been told by a doctor or a nurse that they have a particular condition, which requires the respondent to have accessed a health service and received a diagnosis. Within this document, we have chosen to use the Census prevalence estimates in favour of other data sources in most instances. Exceptions to this are mental health, where we have chosen to also cite the WA Health and Wellbeing Surveillance System estimates and dementia, where we have chosen to use estimates provided by the AIHW. In these two instances, we believe the methodology of these

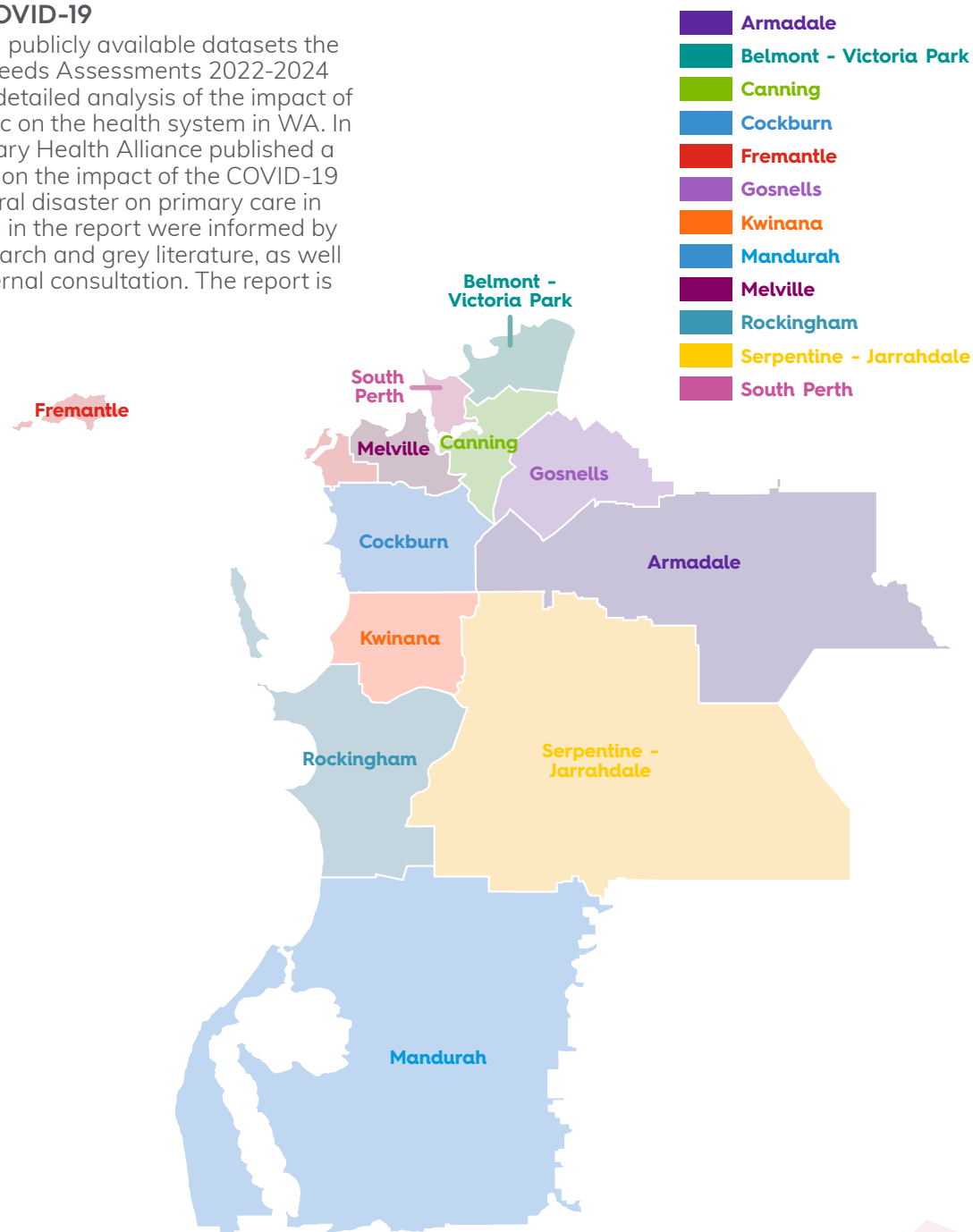
alternative data sources would better capture these conditions, but provide the ABS data as well, for completeness, as they are also included in the ABS non-specific long-term condition and aggregate condition counts we have cited. The choice of data sources is never clear cut and ultimately it must be acknowledged that all data sets will produce different results and are subject to limitations which must be considered when interpreting results.

Estimating Dementia Prevalence

In Australia, there is no single authoritative data source for deriving dementia prevalence. In the absence of an authoritative data source the Australian Institute of Health and Welfare have calculated synthetic dementia estimates based on a review of international dementia prevalence literature. We note that the 2021 Census included dementia as a selected long term health condition, however, we believe that the AIHW methodology provides a more accurate estimate of dementia prevalence in Australia. For instance, the AIHW methodology estimates that 386,200 people are living with dementia in Australia in 2021 while the Census results showed that 189,162 people living in Australia self-reported a dementia diagnosis. The Census is a household survey and it is unknown how individuals living with dementia supported at home or in a Residential Aged Care Facility were included in the Census on Census night. Acknowledging the limitations of different methodologies and their results gives us a better understanding of the complexities of estimating disease prevalence. Given the wide range of dementia prevalence estimates reported, the AIHW acknowledges that improvements in dementia data collection are needed to truly understand the number of people living with dementia in Australia.

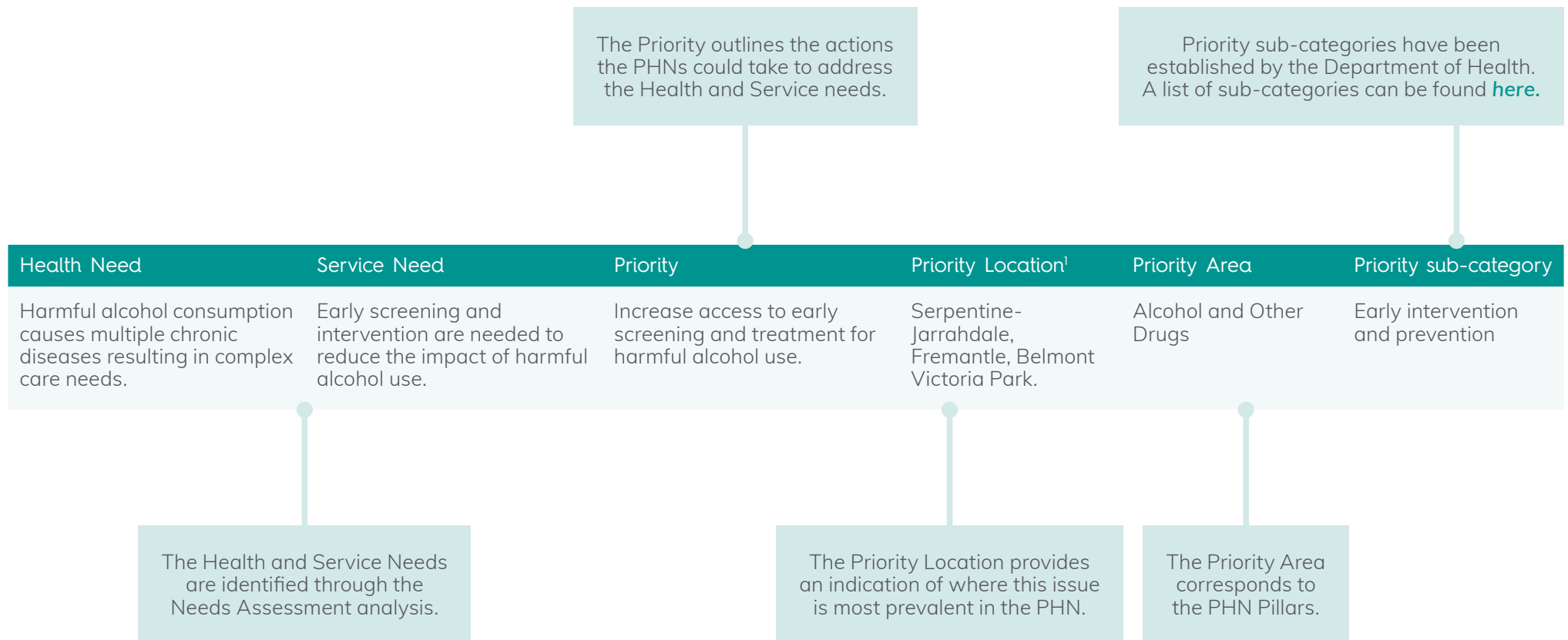
The impact of COVID-19

Due to a reliance on publicly available datasets the Perth South PHN Needs Assessments 2022-2024 does not provide a detailed analysis of the impact of COVID-19 pandemic on the health system in WA. In 2020, the WA Primary Health Alliance published a Needs Assessment on the impact of the COVID-19 pandemic and natural disaster on primary care in WA. Topics covered in the report were informed by a review of the research and grey literature, as well as internal and external consultation. The report is available [here](#).



How to read the Priorities table

Perth South PHN Needs Assessment 2022-2024 identifies priorities by each of the PHN Pillars (Population Health, Mental Health, Alcohol and Other Drugs, Aboriginal Health and Aged Care).



¹ The Priority Location only provides an indication of where an issue is most prevalent in the PHN. Analysis of preferred locations for specific programs may produce different results depending on program requirements.

How to read the Partnerships and Outcomes table

In addressing priorities that have been identified in the Needs Assessment, PHNs are asked to outline the outcomes to be expected from addressing the priority and the organizations the PHN might partner or collaborate with.

The Priority is sourced from the Priorities table above.

The partnerships column identifies organisations the PHN might partner with to address the identified Priority.

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Increase access to early screening and treatment for harmful alcohol use.	AOD1 Rate of drug and alcohol commissioned providers actively delivering services	General practice Mental Health Commission WANADA

The Expected Outcome of the Priority is linked to the Performance Indicators from the PHN Performance and Quality Framework found [here](#).

General Population Health

Description of evidence

1. Social determinants of health

Socio-economic Index for Areas (SEIFA) defines the relative social and economic disadvantage within a region. Indicators reflecting disadvantage include low income, low educational attainment, high unemployment, and reliance on welfare for income and housing support. Overall, Perth South PHN (IRSD=1013) has a similar level of socioeconomic disadvantage compared to the state (IRSD=1016), but there are pockets of disadvantage within the PHN (Public Health Information Development Unit, 2021b). Perth South PHN has the highest percentage of households receiving rent assistance from the government (15%) as well as the highest proportion of people over 65 years who are age pensioners (64%) in the state. The percentage of people accessing social housing (2.8%) was the lowest in the state.

There is considerable disparity in socioeconomic disadvantage across the PHN, with the highest levels of disadvantage in Mandurah SA3 (IRSD=970) and Kwinana SA3 (IRSD=974) and the lowest in Melville SA3 (IRSD=1074) (Public Health Information Development Unit, 2021b). Across the Perth metropolitan area, Mandurah SA3 has the highest percentage of disability support pensioners (7.0%) and people receiving an unemployment benefit (8.8%), while Kwinana SA3 has the highest percentage of low income, welfare-dependent families (13%) and proportion of people over 65 years who are age pensioners (72%). Serpentine – Jarrahdale SA3 has the lowest rate of secondary school participation in the Perth metropolitan area (<75%).

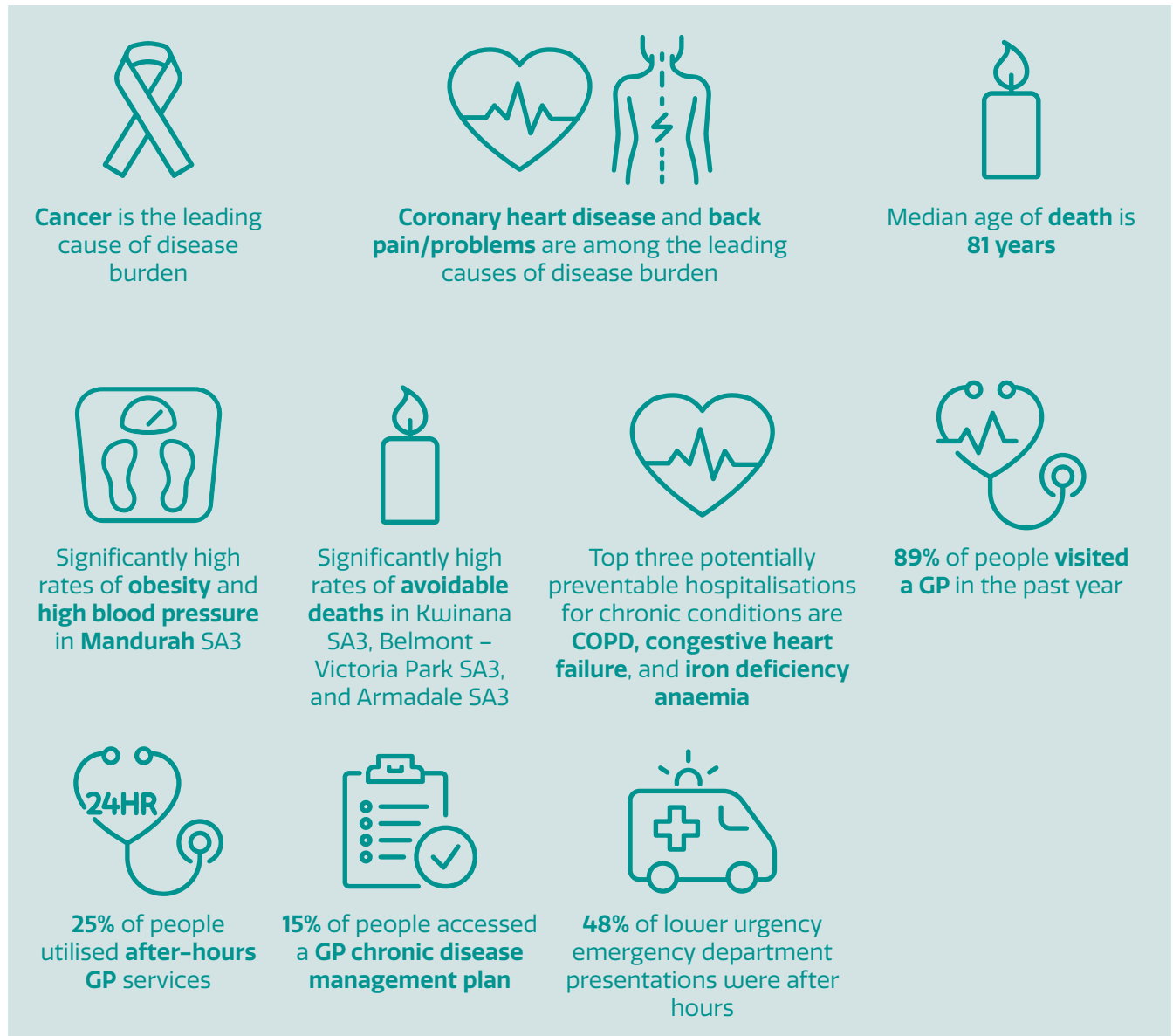
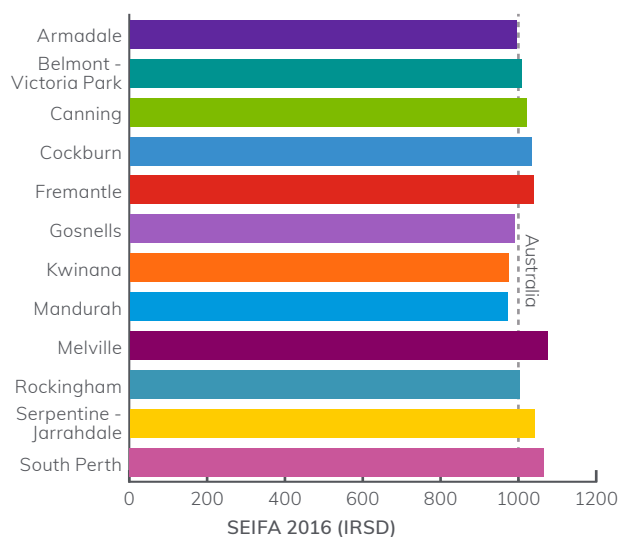


Figure 2 - SEIFA 2016 Index of Relative Socioeconomic Disadvantage (IRSD) score in Perth South PHN by SA3 (Public Health Information Development Unit, 2021)



2. Vulnerable population groups

People in vulnerable groups are more likely than the general population to experience poor health outcomes due to physical, social, and economic factors. Vulnerable groups include people who are: culturally and linguistically diverse (CALD); lesbian, gay, bisexual, transgender, intersex, or queer (LGBTIQ+); homeless; living with a severe disability or caring for someone with a disability; developmentally vulnerable; and victims of family, domestic or sexual violence.

2.1 Culturally and linguistically diverse (CALD) populations

In 2021, about one in five people in Perth South PHN (21%) were born in a non-English speaking country compared to 18% of people across the state. The most common countries of origin are India (3.2%), Malaysia (2.0%) and Philippines (1.8%). Around one in ten residents born in a non-English speaking country have poor English proficiency, representing 2.1% of the PHN population. Gosnells SA3 has the

highest number (41,670) and Canning SA3 has the highest proportion (41%) of the population born in a non-English speaking country, with 4.5% of residents in these SA3s having poor English proficiency.

2.2 LGBTIQ+ populations

LGBTIQ+ is an acronym commonly used to describe lesbian, gay, bisexual, trans/transgender, intersex, queer and other sexuality, gender, and bodily diverse people and communities. Many LGBTIQ+ people face discrimination and disparities connected to their gender identification and/or sexuality that impact their physical and mental health and access to healthcare and other services (Equality Australia, 2020). LGBTIQ+ people are known to have a higher risk of certain chronic diseases such as cancers, asthma, obesity, and cardiovascular disease (Conron et al., 2010; McKay, 2011; Simoni et al., 2017). Moreover, some members of LGBTIQ+ communities, particularly lesbian and bisexual women, have higher rates of smoking compared to the general population (Praeger et al., 2019), which increases their risk of developing a chronic disease.

Family violence is a significant concern and is compounded by isolation and reduced access to services (Rainbow Health Victoria, 2020). Studies indicate that the LGBTIQ+ people experience intimate partner violence at similar or higher rates compared to heterosexual people (Rollè et al., 2018). There is evidence that LGBTIQ+ people are more likely to experience homelessness (McNair et al., 2017) and that discrimination can lead to adverse outcomes in terms of employment and income, particularly for trans and gender diverse people (Mizock & Mueser, 2014). Please refer to the Mental Health section for further details about mental health and suicide prevention for LGBTIQ+ populations.

2.3 Disability and carers

Across the state, Perth South PHN has the highest proportion of people living with a profound or severe disability (4.8%) (Australian Bureau of Statistics, 2021a) as well as the highest proportion of people aged 15 years and over who provide unpaid assistance to those with a disability (11%) (Public Health Information Development Unit, 2022). Mandurah SA3 has the highest proportion of residents with a profound or severe disability in the state (6.6%) (Australian Bureau of Statistics, 2021a). In Fremantle, and Melville SA3s, about 13% of people aged 15 years and over provide unpaid assistance to those with a disability (Public Health Information Development Unit, 2022).

Carers may experience a decline in their physical, mental and emotional health, and adverse financial and social impacts as a result of their care-giving responsibilities. Carers frequently experience physical pain, chronic conditions and use more prescription medications than the general population. Physical pain may be more prevalent in carers due to the physically demanding nature of some caring roles and a lack of time to seek treatment for themselves (Brodaty & Green, 2002; Cummins et al., 2007).

2.4 Homelessness

In 2016, it was estimated that 3,302 people in Perth South PHN experienced homelessness, with the highest number in Cockburn SA3 (976) (Australian Bureau of Statistics, 2018a). In this instance, 'homeless' includes:

- 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, requiring at least four extra bedrooms to accommodate the people using living there.

Across the PHN, about 35% of homeless people (1,168) live in severely crowded dwellings. Gosnells SA3 had the highest number of people living in severely crowded dwellings (264) (Australian Bureau of Statistics, 2018a).

The Registry Week data collections ask the homeless cohort about their health on an annual basis. In WA, collections between 2010 to 2017 indicated that asthma, heat exhaustion and hepatitis C were the health conditions impacting most on people who were experiencing homelessness (Kaleveld et al., 2018).

2.5 Developmentally vulnerable children

The Australian Early Development Census (AEDC) measures the development of children across the nation during their first year of full-time school. Children's development is measured in five domains:

- Physical health
- Social competency
- Emotional maturity
- Language and cognitive skills
- Communication and general knowledge.

In 2018, about 20% of children in Perth South PHN were assessed as developmentally vulnerable on one or more domains compared to 19% across the state (Public Health Information Development Unit, 2021b). Kwinana SA3 had the highest percentage of children that were assessed as developmentally vulnerable on one or more domains (27%).

A consultation conducted in 2018 explored local young vulnerable mothers' perspectives, experiences and perceived barriers to using services. Barriers included lack of (or inconvenient) transport, lack of affordable services, services being located in hard to reach places, or difficulty finding parking or that when it was available, it was sometimes expensive. Levels of cultural awareness among service providers impacted Aboriginal and Torres Strait

Islander² and CALD mother's access to services (Saavedra et al., 2018).

2.6 Family, domestic and sexual violence

One in six Australian women and one in sixteen men (since the age of fifteen) have been subjected to physical and/or sexual violence by a current or previous cohabiting partner (Australian Bureau of Statistics, 2017). Moreover, one in six women and one in nine men were physically or sexually abused before the age of 15 years (Australian Institute of Health and Welfare, 2019c). The following groups have been identified as being more vulnerable to family, domestic and/or sexual violence (Australian Institute of Health and Welfare, 2019c):

- Children
- Young women
- Older people
- People with a disability
- People from culturally and linguistically diverse backgrounds
- LGBTIQ+ people
- People in rural and remote Australia
- People from socioeconomically disadvantaged areas
- Aboriginal people.

In 2015, partner violence was ranked as the third leading risk factor contributing to total disease burden for women aged 25-44, behind child abuse and neglect during childhood and illicit drug use (Australian Institute of Health and Welfare, 2019c). Family and domestic violence is also a leading cause of homelessness. In 2017-18, more than 121,000 (42%) of people assisted by specialist homelessness services had experienced family and domestic violence and of these, more than three in four (78%) were female.

² Throughout this document the word Aboriginal is used to denote both Aboriginal and Torres Strait Islander peoples.

WA Police statistics indicated that across the state between 1st July 2020 and 31st March 2021, recorded family related offences (assault and threatening behaviour) increased by 19% compared to the five-year average. In comparison, selected offences against property decreased by 36% and drug offences decreased by 20% compared to the corresponding five-year average over the same period (Western Australian Police Force, 2021).

Western Australia's Family and Domestic Violence Prevention Strategy to 2022 describes initiatives to prevent and respond to family, domestic and sexual violence in line with the National Plan to Reduce Violence against Women and their Children 2010-2022. The key outcomes of the state's plan are prevention and early intervention; safety for victims through timely and accessible services; and accountability for perpetrators and support to cease violent behaviour. In April 2019, the Prevention of Family and Domestic Violence Minister announced a two-year trial of electronic monitoring devices to track up to 100 high-risk domestic violence offenders. About \$15.5 million will be invested into a new unit to provide 24-hour electronic monitoring of offenders who have breached violence restraining orders.

3. Chronic disease

Chronic diseases are long-term, non-communicable conditions and play a significant part in mental and physical ill health, disability, and premature death. Moreover, people with chronic disease often have two or more conditions (multi-morbidity) such as a mental health condition as well as a physical condition, creating complex health needs and presenting challenges for treatment.

This section focuses on chronic conditions other than mental health conditions. Please refer to the Mental Health section for a detailed discussion about mental health conditions.

3.1 Risk factors

Established risk factors for chronic disease include having high blood pressure, being overweight or obese, smoking, doing little or no exercise and having high levels of stress. Psychosocial factors such as social isolation and loneliness also contribute to chronic ill health (Royal Australian College of General Practitioners, 2020). Risk factors for chronic disease tend to be more prevalent in the lowest socioeconomic areas and in regional and remote areas (Australian Institute of Health and Welfare, 2020b). In 2017-18, the rate of obesity among children in Perth South PHN (ASR=7.7%) (Public Health Information Development Unit, 2021b) was comparable to the state. Data from the Health and Wellbeing Surveillance System (HWSS) survey 2015-19 indicated that for adults aged 16 years and over, prevalence rates of obesity (31%), high blood pressure (17%), stress (11%), smoking (11%) and no leisure time physical activity (17%) were similar to state rates (Epidemiology Branch, 2021a). However, Mandurah SA3 had a significantly higher rate of obesity (42%) and high blood pressure (23%).

WAPHA is a steward of the WA Healthy Weight Action Plan 2019-24, which focuses on early intervention of people identified as at-risk of becoming overweight and management of people who currently live with obesity. This involves multi-component, multi-levelled strategies delivered as part of an integrated shared care model. Through the Healthy Weight GP project, WAPHA has committed to supporting GPs to provide options for patients who want to improve their health. Key deliverables include the development of a weight management 'hub' (website) with links to Health Pathways and local services for weight management, training for general practice staff, and tools to assist general practices in implementing weight management services as a quality improvement activity. The website is due for launch in the third quarter of 2021.

General Practice Incentives Program Quality Improvement Incentive (PIP QI)

The Practice Incentives Program Quality

Improvement incentive (PIP QI) is a payment to encourage practices to participate in quality improvement activities, aimed at improving patient outcomes through the delivery of quality care. Improvement measures include the proportion of patients with their weight classification recorded within the last 12 months, the proportion of patients with information available to calculate risk of cardiovascular disease (CVD), and the proportion of patients with diabetes that have a HbA1c measurement recorded.

PIP QI data indicated that across Perth South PHN (188 practices), 73% of general practice records for clients aged 15 years and over did not have a weight classification recorded within the last 12 months compared to 76% across the state (497 practices). Non-recording of weight was highest in Rockingham SA3 (79%) (21 practices) and Melville SA3 (77%) (19 practices).

Across Perth South PHN, 41% of general practice records for clients aged between 45-74 years did not have information available to calculate their absolute risk of cardiovascular disease (CVD) compared to 43% across the state. South Perth SA3 (51% across 4 practices) had the highest percentage of records in the PHN where CVD risk was not assessed.

About 29% of general practice records in Perth South PHN for clients with a diagnosis of diabetes did not have a HbA1c measurement result recorded within the last 12 months (28% across the state). South Perth SA3 (40% across 4 practices) had the highest percentage of records in the PHN where HbA1c was not recorded. We note that PIP QI data include private general practices only and do not include GP services provided by non-government organisations.

3.2 Burden of disease

Burden of disease measures the impact of different diseases or injuries on a population, including both physical and mental ill health and substance use disorders. It combines the years of healthy

life lost due to living with ill-health (non-fatal burden) with the years of life lost due to dying prematurely (fatal burden) to give a total burden reported using the disability-adjusted life years (DALYs) measure. Chronic disease accounted for a substantial proportion of the burden of disease in Perth South PHN. The Western Australian Burden of Disease Study 2015 (Department of Health Western Australia, 2021) indicated that in the East Metropolitan and South Metropolitan regions respectively, cancer (33% and 34%) and cardiovascular diseases (21% and 20%) made up more than half of the fatal disease burden (Years of Life Lost), while musculoskeletal (24% and 25%) and respiratory (11% for both) conditions accounted for more than a third of the non-fatal burden (Years of Life Disabled) in each region.

In the East Metropolitan region, the leading cause of disease burden for males was coronary heart disease and for females was back pain and problems, while in the South Metropolitan region, coronary heart disease was the leading cause for both males and females (Department of Health Western Australia, 2021). In both regions, males had higher rates of coronary heart disease, COPD, lung cancer, and type 2 diabetes, while females had higher rates of back pain/problems, osteoarthritis, and asthma.

3.3 Prevalence of chronic disease

The 2021 Census indicated that after adjusting for age, 19% of people in Perth South PHN had one long-term health condition (including both physical and mental health conditions) and 8.5% had two or more co-morbid conditions (Public Health Information Development Unit, 2022). The most common conditions were arthritis (ASR=8.1%), asthma (ASR=7.3%), and diabetes (ASR=4.9%).

Kwinana SA3 had the highest rate of co-morbidity (ASR=11%) as well as the highest rate of heart disease, stroke, lung conditions, dementia, diabetes, and kidney disease in the PHN (Public Health Information Development Unit, 2022). For a

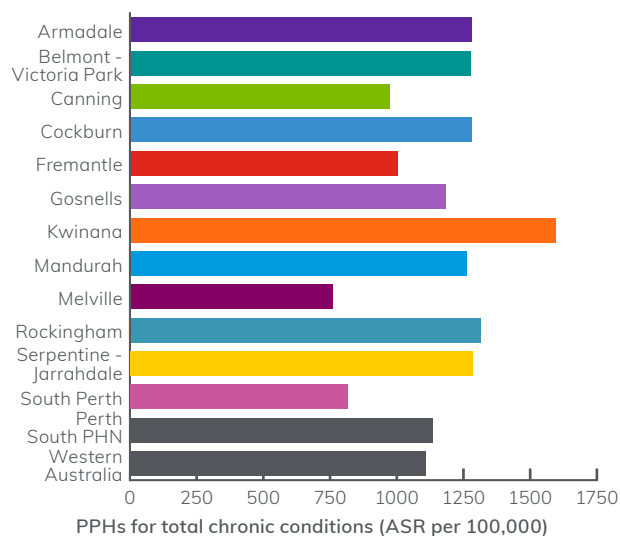
discussion on the methodologies of estimating the prevalence of long-term health conditions, please refer to the 'Additional Data Needs and Gaps' section in the Introduction.

3.4 Potentially Preventable Hospitalisations (PPHs) for chronic conditions

Potentially preventable hospitalisations (PPHs) are certain hospital admissions (both public and private) that potentially could have been prevented by timely and adequate health care in the community. There are 10 chronic conditions that are classified as potentially preventable through behaviour modification, lifestyle change and timely care: angina, asthma, bronchiectasis, COPD, congestive cardiac failure, diabetes complications, hypertension, iron deficiency anaemia, nutritional deficiencies, and rheumatic heart diseases.

Across the state in 2017-18, the age-standardised rate of PPHs per 100,000 for total chronic conditions was 1109 and the highest rates were for COPD (232), congestive cardiac failure (220), and iron deficiency anaemia (188) (Australian Institute of Health and Welfare, 2019e). Compared to the state, Perth South PHN had similar rates of PPHs for chronic conditions. The highest rates in the PHN for total chronic conditions were in Kwinana SA3 (1500) and Rockingham SA3 (1311).

Figure 3 - Potentially preventable hospitalisations for total chronic conditions in Perth South PHN by SA3 in 2017-18, ASR per 100,000 (Australian Institute of Health and Welfare, 2019)



In this report, we regard a PPH 'hotspot' as an area with a hospitalisation rate that is more than 50% above the Australian rate for at least four out of five consecutive years (Public Health Information Development Unit, 2020). In the five years from 2012-13 to 2016-17, the main hotspots in Perth South PHN were in Armadale – Wungong – Brookdale and Kwinana – West Population Health Areas (PHAs). Both areas had high rates of hospitalisations for COPD, congestive cardiac failure, and diabetes complications. Kwinana – West PHA also had high rates for iron deficiency anaemia. Other hotspots were in Willagee PHA for congestive cardiac failure and rheumatic heart diseases; Bull Creek/Leeming/Murdoch - Kardinya PHA and East Fremantle/Fremantle PHA for bronchiectasis and Coo loongup/Rockingham/Rockingham Lakes PHA and Safety Bay – Shoalwater/Waikiki/Warnbro PHA for nutritional deficiencies.

3.5 Management of chronic disease in primary care

Public health measures stemming from the COVID-19 pandemic did not substantially impact utilisation of chronic disease management plans (CDMPs) in Perth South PHN. Percentage-of-population utilisation was steady at 15% in 2019-20, increasing to 16% in 2020-21, while number of services per 100 grew from 36 in 2018-19 to 39 in 2020-21 (Australian Institute of Health and Welfare, 2021g).

Across Australia, areas with higher levels of socioeconomic disadvantage tended to have higher utilisation rates of CDMPs. In 2020-21, the following areas had a relatively low percentage of people utilising CDMPs compared to the corresponding national rate for their socioeconomic group:

- South Perth SA3 (12%) and Belmont – Victoria Park SA3 (13%) compared to SA3s in major cities with a medium SES (16%)
- Kwinana SA3 (13%) compared to SA3s in major cities with a lower SES (18%).

4. Avoidable mortality

In 2013-17, the median age of death in Perth South PHN was 81 years (50% of people who died were younger than 81 years) compared to 80 years across the state (Public Health Information Development Unit, 2021b). The median age of death was lowest in Kwinana SA3 (75).

Avoidable mortality refers to deaths of people under 75 years that are potentially avoidable under the current health care system (primary or hospital care). In 2013-17, Perth South PHN had a similar age-standardised rate of total deaths from avoidable causes (ASR=117 per 100,000) compared to the state (ASR=122 per 100,000) (Public Health Information Development Unit, 2021b). However, Kwinana, Belmont - Victoria Park, and Armadale SA3s had significantly higher rates (ASR > 139 per 100,000). For selected causes, avoidable death

rates in Perth South PHN were comparable to or lower than state rates, as follows (ASR per 100,000) (Public Health Information Development Unit, 2021b):

- Circulatory system diseases (34), including ischaemic heart disease (22) and cerebrovascular diseases (6.6)
- Cancer (28), including breast cancer (15) and colorectal cancer (8.5)
- Selected external causes (17) including suicide and self-inflicted injuries (14)
- Other external causes (17) including transport accidents (4.9)
- Respiratory system diseases (8.3), including COPD (7.5)
- Diabetes (6.4).

For selected causes, the following areas had significantly higher rates (ASR per 100,000) (Public Health Information Development Unit, 2021b).

- Kwinana, Belmont - Victoria Park, and Armadale SA3 had higher rates for circulatory system diseases and ischaemic heart disease.
- Belmont - Victoria Park SA3 had a higher rate for diabetes (14), respiratory system diseases (14), and COPD (14).
- Armadale SA3 had a higher rate for cancer (34) and Kwinana SA3 for colorectal cancer (15).
- Rockingham SA3 had a higher rate for selected external causes (23) and suicide & self-inflicted injuries (21).
- Mandurah SA3 had a higher rate for other external causes, including transport accidents (25).

5. Lower urgency emergency department presentations

Across Australia, more than one-third of presentations to hospital emergency departments (EDs) are for lower urgency care, which in some cases may be managed more effectively in the

community (Australian Institute of Health and Welfare, 2020j). Areas with high rates of lower urgency presentations may indicate a lack of access to GPs and other primary health care in terms of cost and/or availability of services. In this report, lower urgency presentations are those where the person: was assessed as requiring semi-urgent or non-urgent care (triage category 4 or 5); did not arrive by ambulance, police or correctional vehicle; was not admitted to hospital, not referred to another hospital, and did not die. For the purposes of assessing after-hours presentations, business hours are defined as weekdays between 8am and 8pm (excluding public holidays) and Saturdays between 8am and 1pm.

Data from the AIHW (Australian Institute of Health and Welfare, 2020j) indicated that in 2018-19, there were 119,922 lower urgency presentations across Perth South PHN and 48% were after hours. The age-standardised presentation rate (ASR=122 per 1000 population) was above the metropolitan PHN rate (ASR=91 per 1000), but similar to the national rate (ASR=120 per 1000). Within Perth South PHN, Mandurah SA3 (170 per 1000) and Armadale SA3 (155 per 1000) had the highest rates, which were well above the national rate for SA3s in major cities with a lower SES (106 per 1000) (age-standardised rates were unavailable at the SA3 level). Rockingham SA3 also had a very high rate (154 per 1000) compared to SA3s in major cities with a medium SES (92 per 1000).

6. Utilisation of primary care services

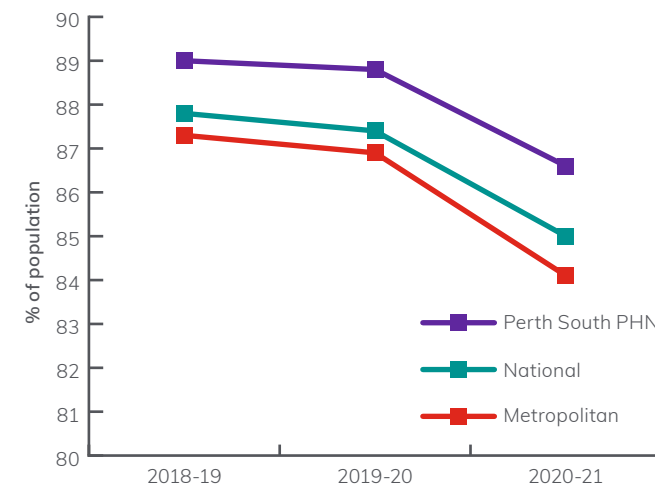
6.1 General Practitioner (GP) services

Public health measures due to COVID-19 impacted the utilisation of primary care services in Perth South PHN. Although fewer people visited GPs, a higher number of services was provided to those that utilised GP services. The percentage of the population visiting a GP in the last year decreased from 89% in 2018-19 to 87% in 2021-21, while the number of services increased from 619 to 644 per

100 people over the same period (Australian Institute of Health and Welfare, 2021g).

There was a substantial decrease in utilisation of after-hours services. The percentage of the population utilising after-hours GP services decreased from 25% in 2018-19 to 20% in 2020-21, while the number of services also decreased from 47 to 35 per 100 people.

Figure 4 - Percentage of the population that utilised GP services in Perth South PHN from 2018-19 to 2020-21



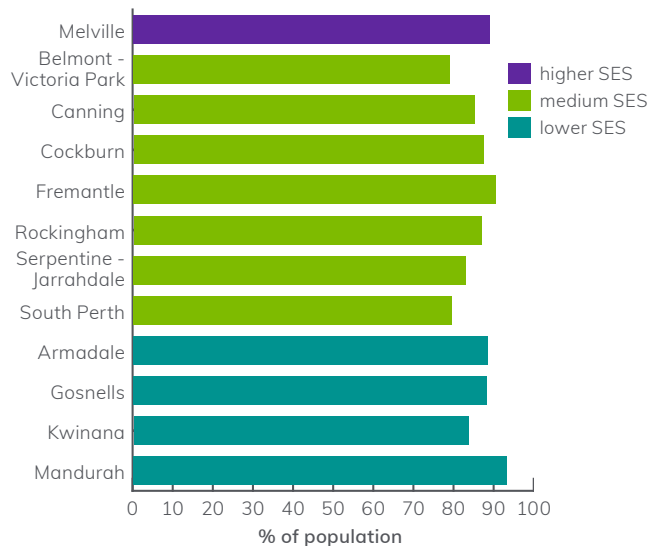
Across Australia, areas with higher levels of socioeconomic disadvantage tended to have higher utilisation rates of GP services including after-hours services. In 2020-21, the following SA3s had a relatively low percentage of people utilising after-hours GP services compared to the corresponding national rate for their socioeconomic group::

- Melville SA3 (12%) compared to SA3s in major cities with a higher SES (15%)
- Fremantle SA3 (12%) and South Perth SA3 (13%) compared to SA3s in major cities with a medium SES (19%)

- Mandurah SA3 (17%) compared to SA3s in major cities with a lower SES (25%).

Health assessments provide a structured clinical framework to comprehensively assess the health of patients and to identify any medical interventions that may be required. GPs may perform MBS-subsidised health assessments for certain categories of patients including Aboriginal and Torres Strait Islander people, people aged 75 years and over, and people aged 45-49 years who are at risk of developing a chronic disease. The utilisation rate of GP health assessments in Perth South PHN increased from 3.7% in 2013-14 to 4.3% in 2018-19 and was higher than the metropolitan PHN rate (3.4%). Mandurah SA3 had the highest rate in the PHN (7.5%). In contrast, only 2.5% of people in Serpentine – Jarrahdale SA3 utilised a GP health assessment compared to 3.6% of people in major cities with a medium SES. We note that these data include Medicare-subsidised services only and it is not currently possible to obtain data by type of health assessment.

Figure 5 - Percentage of the population that utilised GP services in Perth South PHN by SA3 in 2020-21.



6.2 Allied health services

Percentage-of-population utilisation of Medicare-subsidised allied health services fell from 36% in 2018-19 to 35% in 2019-20 before rebounding to 38% in 2020-21 (Australian Institute of Health and Welfare, 2021g). In 2020-21, only 34% of people in Belmont – Victoria Park SA3 and 32% of people in Serpentine – Jarrahdale SA3 utilised allied health care compared to 39% of people in SA3s in major cities with a medium SES. Kwinana SA3 also had a relatively low rate (32%) compared to people in SA3s in major cities with a lower SES (38%). We note that optometry services are more likely to be subsidised by Medicare compared to other types of allied health services. These data also do not include allied health care provided by Aboriginal health services and other non-government organisations.

6.3 Nurse practitioner, practice nurse and Aboriginal health worker

There was an increase in utilisation of nurse and Aboriginal health worker services across the PHN. Percentage-of-population utilisation increased from 7.7% in 2018-19 to 8.9% in 2020-21 and the number of services increased from 13 to 16 per 100 people over the same period (Australian Institute of Health and Welfare, 2021g).

7. Consumer Views on Access to General Practice

To better understand how people experiencing social and economic disadvantage access General Practice the WA Primary Health Alliance funded a consumer research survey in 2021.

The research revealed that most people experiencing disadvantage are still able to access a General Practitioner when needed. Although 31 per cent of respondents encountered barriers when visiting a GP, 92 per cent of health consumers experiencing disadvantage had visited a GP in the last year.

The most common reason to visit a GP was to get a prescription with over half (53%) the cohort visiting

a GP for this reason, followed by managing a chronic condition (28%) and general check-up (25%).

Accessibility factors such as appointment availability were the most cited barrier to accessing a GP, followed by transportation issues and conflicting commitments. Women, people with young children, young people, CALD, people living with a disability and Aboriginal people were most likely to experience barriers.

Cost did not appear to play a large role in limiting access to a GP, with only 1 in 10 mentioning it as a barrier. This finding is attributed to over 80% of the survey cohort indicating that their GP service was bulk billed. If the availability of bulk billed appointments decreased this would seriously impact access to a GP for people experiencing social and economic disadvantage.

The benefit of having a regular GP to the quality of a patient’s experience was clear. Respondents with a regular GP reported finding it significantly easier to visit their GP and were significantly more likely to have had a positive experience, even compared to those with a regular GP practice, but not a regular GP.

8. Access Relative to Need (ARN) Index

The Access Relative to Need (ARN) Index measures access to primary health care relative to predicted need and is based on methodology developed by the Australian Institute of Health and Welfare in 2014. The ARN index is based on the following information:

- The location of health services and the populations they serve
- The number of GP (FTE) working at each location (estimated using data at SA2 level – demand weighted distribution)
- The demographic and socioeconomic characteristics of the population.

In early 2021, WAPHA updated the ARN Index for SA2s in Western Australia to identify areas with a low access to GPs relative to need. In Perth South PHN, the SA2s with the poorest access relative to need for GPs (including bulk billing GPs) were: Mandurah – South SA2, Mandurah SA2, Dawesville – Bouvard SA2, and Falcon – Wannanup SA2 (Mandurah SA3) and Rockingham SA2 (Rockingham SA3). These SA2s were in the first decile meaning that access relative to need was lower than 90% of SA2s in the state. This concentration of poor access relative to need for general practice services in the southern end of the Perth South PHN highlights the need for more GP workforce in this region.

9. Childhood Immunisation Rates

The National Immunisation Program (NIP) aims to increase national immunisation coverage to reduce the number of vaccine-preventable diseases in Australia. A key priority of the program is to work towards achieving immunisation coverage rates of at least 95% for children aged 1, 2 and 5 years. Data from the Australia Immunisation Register from 1st April 2020 to 31st March 2021 indicated that in Perth South PHN, immunisation coverage was relatively low for children aged 2 years at only 92.1% (Department of Health, 2021c).

At the SA3 level, Fremantle SA3 had the lowest immunisation coverage rates in the PHN, with only 91.7% of children fully vaccinated at 1 year, 88.3% at 2 years, and 91.6% at 5 years (Department of Health, 2021c). The following areas had the second lowest rates: Mandurah SA3 for children at 1 year (93.4%), South Perth SA3 for children at 2 years (91.1%), and Belmont – Victoria Park SA3 for children at 5 years (92.4%).

10. Cancer screening rates

There are three national cancer screening programs in Australia: BreastScreen Australia, National Cervical Cancer Screening Program (NCSP), and National Bowel Cancer Screening Program (NBCSP). In 2018-19, the cancer screening participation rates

in Perth South PHN were similar to state rates at 46% for bowel cancer (people aged 50-74 years), 55% for breast cancer (women aged 50-74 years), and 47% for cervical cancer (women aged 25-74 years) (Australian Institute of Health and Welfare, 2021c). Within Perth South PHN, the eastern areas had the lowest cancer screening rates: Armadale SA3 and Gosnells SA3 had the lowest participation rate for bowel cancer screening (43%), Serpentine – Jarrahdale SA3 and Armadale SA3 had the lowest rate for breast cancer screening (50%), and Serpentine – Jarrahdale SA3 had the lowest rate for cervical cancer screening (39%). We note that participation in the new five-year program for cervical cancer screening cannot be accurately reported until there are 5 years of data available (2018-22).

11. Digital health

Digital health includes a broad range of innovative technologies for the purposes of providing care and sharing information to enhance patient outcomes. Telehealth can deliver health services and facilitate communication between specialists and patients, whilst electronic medical records such as the national My Health Record can facilitate communication and coordinated care across multiple practitioners. In 2018, every Australian established a 'My Health Record' unless they choose to opt out. Information available through My Health Record can include a patient's health summary, medication prescribing and dispensing history, pathology reports, diagnostic imaging reports and discharge summaries.

Given the large geographical size of WA, COVID-19 saw a very rapid adoption of virtual methods of consultation of WA's hospital-based outpatient clinics. Rates that were previously in low 10 to 15% rapidly moved to the 60 to 80% across a range of clinics and hospitals (Koh, 2020). It appears that the focus on digital health including telehealth consultations during COVID-19 is helping fast track the adoption of technology and more providers are seeing the My Health Record as a valuable

repository of health data as it is accessible to all healthcare providers without the need for fax machines or postal services. As of March 2021, there are now 22.93 million My Health Records Australia-wide and more than 20.4 million or 89 per cent of them have data in them (My Health Record, 2021).

A survey by The Royal Australian College of General Practitioners (RACGP) revealed more than 99% of surveyed GPs were offering patients consultation via telehealth, including phone and video options (The Royal Australian College of General Practitioners, 2020). More than 4.3 million health and medical services have been delivered to a total of more than three million patients through the telehealth items introduced by the Australian Government for the COVID-19 pandemic (Department of Health Western Australia, 2020).

According to the Household Impacts of COVID-19 Survey conducted from 16-25 April 2021, 14% of Australians used a telehealth service in the previous four weeks, with the most common reasons being for convenience (68%), saving time (42%) and not needing to travel (38%) (Australian Bureau of Statistics, 2021b). The April 2021 telehealth usage (14%) in was a decrease from November 2020 (18%), June 2020 (20%) and May 2020 (17%) (Australian Bureau of Statistics, 2021b). The survey also revealed that 30% of Australians now preferred to access telehealth services more compared to before COVID-19, particularly family households with children (39%), people aged 18 to 34 years (38%), women (34%) and men (26%) (Australian Bureau of Statistics, 2021b).

11.1 Whole of PHN

Pre-COVID (2018-19) rates of MBS utilisation of telehealth were very low across Australia. During this time the MBS utilisation for telehealth services in Perth South PHN was 0.03 per 100 resident population. Perth South PHN has a slightly higher rate than Perth North PHN (0.01) and a lower rate than Country WA PHN (0.42) and the national rate (0.21).

COVID-19 MBS telehealth items have been made available to GPs and other health professionals since March 2020 to help reduce the risk of community transmission of COVID-19. Data on GP COVID-19 consultations are only available at the state level. In the first year to February 2021, there were 80,661 telehealth consultations and 2,568,383 phone consultations across the state (Services Australia, 2022). These decreased to 62,589 telehealth and 1,959,459 phone consultations in the second year (to February 2022).

12. Workforce

12.1 General practitioners (GPs)

In 2020, Perth South PHN had 1183 GP full-time equivalent (FTE) or 1.2 FTE per 1000 residents, similar to the state (1.1 per 1000)³. Across the PHN, relative supply was lowest in Kwinana SA3 (0.8 FTE per 1000) and South Perth SA3 (0.7 FTE per 1000). In contrast, Fremantle SA3 had the highest relative supply in the state at 1.6 FTE per 1000. The ratio of vocationally registered (VR) to non-VR GPs in Perth South PHN was equal to the state (12). Mandurah SA3 had the lowest ratio in the PHN (3.3) and the third lowest in WA. Since VR GPs are eligible for a higher level of Medicare rebates, patients may incur lower out-of-pocket expenses for visits to VR GPs.

12.2 Primary care nurses

In 2019, Perth South PHN had 1406 primary care nurse full-time equivalent (FTE) or 1.4 FTE per 1000 residents compared to 1.7 FTE per 1000 across the state². Across the PHN, relative supply was lowest in Serpentine – Jarrahdale SA3 (0.8 FTE per 1000) and Cockburn SA3 (0.9 FTE per 1000).

³ Commonwealth Department of Health HealthDS UPP Tool, PHN Needs Assessment WPP, extracted 10/09/2021

Priorities

General Population Health

Health Need	Service Need	Priority	Priority Locations	Priority Area	Priority sub-category
Burden of disease and avoidable deaths from cancer especially breast cancer and colorectal cancer	Some regions have low rates of cancer screening.	Improve the rates of cancer screening and reduce avoidable deaths from cancer.	Serpentine-Jarrahdale, Armadale, Gosnells	Population health	Early intervention and prevention
Burden of disease and avoidable deaths from circulatory system diseases.	Cardiac failure was one of the top three PPHs in Perth South PHN.	Increase access to best-practice management for people with chronic heart failure.	Kwinana, Armadale, Rockingham, Mandurah.	Population health	Chronic conditions
Diabetes has a lower disease burden and lower prevalence compared to other chronic conditions.	There are PPH hotspots for diabetes complications in PHN North.	Support primary health care providers to manage chronic disease populations and build capacity for patient self-management.	Kwinana, Armadale	Population health	Chronic conditions
COPD was the second leading cause of disease burden for men.	COPD was one of the top three PPHs in Perth South PHN.	Support primary health care providers to manage chronic disease populations and build capacity for patient self-management.	Kwinana, Rockingham	Population health	Chronic conditions
Obesity is an ongoing issue, however, people living in Perth South PHN are less likely to be obese.	Support General Practice to provide options for weight management.	Support Primary Health Care providers to implement effective health interventions for those living with overweight and obesity.	Whole PHN	Population health	Practice support
Some regions within Perth South PHN have low childhood immunisation coverage.	Some regions have low childhood immunisation coverage.	Increase childhood immunisation rates for regions not meeting national immunisation targets.	Mandurah, South Perth, Belmont-Victoria Park	Population health	Immunisation
Some regions within Perth South PHN had high rates of lower urgency ED presentations.	Some regions have low utilisation after hours GP MBS items.	Improve access to primary healthcare services to reduce non-urgent emergency department attendances.	Mandurah, Armadale, Rockingham.	Population health	Access

Partnerships and Outcomes

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Improve the rates of cancer screening and reduce avoidable deaths from cancer.	PH2 Increase in specified population participation rates of cancer screening. Where the rate has been stable for at least three years, the performance criteria is to maintain the existing participation rate.	Cancer Council WA BreastScreen Cancer screening organisations General Practice
Increase access to best-practice management for people with chronic heart failure.	P2 Health system improvement and innovation.	General Practice Local Hospital Networks
Support primary health care providers to manage chronic disease populations and build capacity for patient self-management.	P9 Increase in the rate of people diagnosed with chronic conditions who receive GP team care arrangement and case conferences. P4 PHN delivers a range of support activities to general practices and other health care providers.	General Practice Allied Health Providers
Support Primary Health Care providers to implement effective health interventions for those living with overweight and obesity.	P4 Support provided to general practices and other health care providers.	General Practice Allied Health Service Providers
Increase childhood immunisation rates for regions not meeting national immunisation targets.	PH1 95% national immunisation target or increase in immunisation rate for region.	General Practice
Improve access to primary healthcare services to reduce non-urgent emergency department attendances.	P8 Decrease in GP not available or waiting time too long as reasons for why patient attended ED.	General Practice Local Hospital Networks

Mental Health

Description of Evidence

Mental health is a key component of overall health and wellbeing (Who 2013). In Australia the National Survey of Mental Health and Wellbeing 2007 estimated that 45% of Australians aged 16 – 85 years had experienced a mental disorder during their lifetime (Australian Bureau of Statistics, 2008).

A mental illness can be defined as 'a clinically diagnosable disorder that significantly interferes with a person's cognitive, emotional or social abilities' (Australian Institute of Health and Welfare, 2019d). The term itself covers a range of illnesses including anxiety disorders, affective disorders, psychotic disorders and substance use disorders.

However, a person does not need to meet the criteria for a mental illness or mental disorder to be negatively affected by their mental health (Australian Institute of Health and Welfare, 2019d). Mental health is affected by multiple socioeconomic factors, including a person's access to services, living conditions and employment status, and affects not only the individual but also their families and carers (Australian Institute of Health and Welfare, 2019d).

1. Burden of disease

Burden of disease analysis is the best measure of the impact of different diseases or injuries on a population. It combines the years of healthy life lost due to living with ill health (non-fatal burden) with the years of life lost due to dying prematurely (fatal burden). Fatal and non-fatal burden combined are referred to as total burden, reported using the disability-adjusted life years (DALYs) measure (Department of Health Western Australia, 2021).

Mental health was the second leading cause of total disease burden in Western Australia contributing to 13% of the total disease burden for West



Australians. In the Perth South metropolitan region mental health was the fourth leading cause of disease burden contributing 12% of the total disease burden (Department of Health Western Australia, 2021).

2. Prevalence of mental health conditions

The WA Health and Wellbeing Surveillance System (HWSS) survey was established in 2002 to monitor the health status of Western Australians. The data collected includes population-weighted estimates of the prevalence of mental health conditions such as anxiety, depression, psychological distress, and suicide ideation (Epidemiology Branch, 2021b). For a discussion on the methodologies of estimating the prevalence of mental health conditions, please refer to the 'Additional Data Needs and Gaps' section in the Introduction.

2.1 Anxiety & depression

The WA Health and Wellbeing Surveillance System (HWSS) collects data on the prevalence of anxiety and depression among adults aged 16 years and over. Survey participants are asked if a doctor has provided them with a diagnosis of anxiety or depression in the past 12 months (Epidemiology Branch, 2021b). In Perth South PHN, the proportion of the population with anxiety was 9.4% and 9.1% for depression, consistent with rates for the rest of the state (after adjusting for age in the Census data, 8.5% of people and 10% of people aged 15 years and over in Perth South PHN reported that they had a mental health condition, including anxiety and depression (Public Health Information Development Unit, 2022)). There were no local areas in Perth South PHN with prevalence rates of anxiety and depression that were statistically significantly higher than state rates.

2.2 Psychological distress

The Kessler 10 (K10) scale is a 10-item questionnaire that provides a global measure of psychological distress based on questions about anxiety and depressive symptoms. Based on data from the WA Health and Wellbeing Surveillance System (HWSS), the prevalence of high and very high psychological distress among adults aged 16 years and over in Perth South PHN was 8.9%, similar to the state rate (8.8%) (Epidemiology Branch, 2021b). There were no local areas in Perth South PHN with prevalence rates of high psychological distress that were statistically significantly higher than the state rate.

3. Suicide and self-harm

3.1 Suicide

Globally, for every suicide, there are approximately 20 suicide attempts (Australian Institute of Health and Welfare, 2014b). Since 2014, the number of Australians who died by suicide has averaged around 3,000 annually (Australian Bureau of Statistics, 2020b); while for over a decade, more than 20,000 Australians have been admitted to hospital annually as a result of intentionally self-inflicted injuries (Australian Institute of Health and Welfare, 2014b).

Mental health conditions such as major depression, psychotic illnesses and eating disorders are associated with an increased risk of suicide (Joiner et al., 2009) especially after discharge from hospital or when treatment has been reduced, and people with harmful alcohol or drug use have a higher risk of dying by suicide than the general population (Australian Institute of Health and Welfare, 2014b).

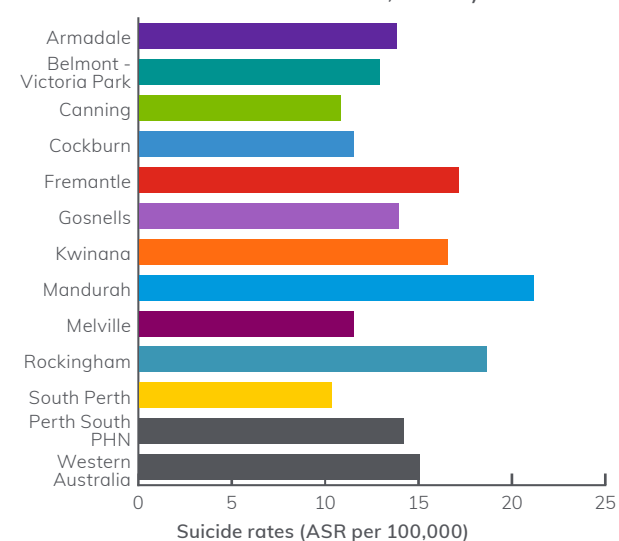
Several psychosocial risk factors have also been associated with suicide. These include a personal history of self-harm, separation and divorce, legal circumstances, housing and economic circumstances (Australian Institute of Health and Welfare, 2020h).

From 2014 to 2018, 1,931 people died from suicide in Western Australia. This was a rate of 15 people per

100,000 population. This is above the Australian rate which is 12.3 per 100,000 (Australian Institute of Health and Welfare, 2020h).

Suicide accounted for 2.5% of deaths from all causes in Perth South PHN (ASR=14.3 per 100,000) (Australian Institute of Health and Welfare, 2020h). The SA3 of Mandurah, Rockingham, Fremantle and Kwinana had suicide rates above both the State rate and the rate for Perth South PHN (Australian Institute of Health and Welfare, 2020h).

Figure 6 - Suicide rates (ASR per 100,000) in Perth South PHN by SA3 (2014-18) (Australian Institute of Health and Welfare, 2020b)



These figures are likely an underestimate of the impact of suicide. Access to current suicide statistics is delayed by two to three years pending coronial inquest and submission of state suicide statistics to national data repositories. Issues with accessing current suicide statistics have been a barrier to planning and implementing mental health services.

The HWSS collects data on suicidal ideation among adults aged 16 years and over. Survey participants are asked if they thought seriously about ending their own lives (Epidemiology Branch, 2021b). Between

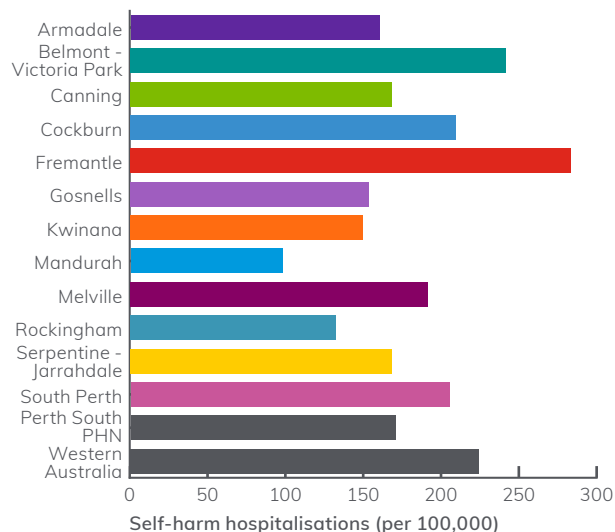
2015 and 2019 in Perth South PHN, 6.3% of people thought seriously about ending their own life, but this was not statistically significantly higher than the state rate (5.5%) (Epidemiology Branch, 2021b). Suicidal ideation was statistically significantly higher in Armadale at 14%, but this result should be interpreted with caution due to a high degree of variability around the estimate (Epidemiology Branch, 2021a).

3.2 Self-harm

Intentional self-harm is often defined as deliberately injuring or hurting oneself, with or without the intention of dying. Intentional self-harm comes in many forms, and affects people from different backgrounds, ages and lifestyles (Australian Institute of Health and Welfare, 2020h). The reasons for self-harm are different for each person and are often complex. Most people who self-harm do not go on to end their lives—but previous self-harm is a strong risk factor for suicide (Australian Institute of Health and Welfare, 2020h).

In 2018-19, Perth South PHN had a lower rate of self-harm hospitalisations (170 per 100,000) than the State (224 per 100,000) (Australian Institute of Health and Welfare, 2020h). The SA3s of Fremantle (282 per 100,000) and Belmont Victoria Park (241 per 100,000) had self-harm hospitalisation rates above both the State and South Perth PHN rate (Australian Institute of Health and Welfare, 2020h).

Figure 7 - Self-harm hospitalisations (per 100,000) in Perth South PHN by SA3 in 2018-19 (Australian Institute of Health and Welfare, 2020b)



4. Youth mental health

One in seven young people aged 4 to 17 years, experience mental illness in any given year (Lawrence et al., 2015). Three quarters of all mental illness manifests itself in people under the age of 25 (Lawrence et al., 2015). Intervention early in life and at an early stage of illness can reduce the duration and impact of mental illness. Primary mental health care services have a significant role to play in addressing signs of mental illness in children and young people (Department of Health and Ageing, 2013). A recent survey of WA school children found that mental health was a critical issue with a substantial number of Year 7 to 12 students reporting poor life satisfaction, low self-esteem, high levels of stress and the feeling they can't cope with life's challenges (Commissioner for Children and Young People WA, 2020).

Both the WA survey and national survey of child and adolescent mental health indicate a higher prevalence of mental illness in female children and adolescents (Lawrence et al., 2015). For instance, 17% of female year 7 to 12 students in WA rated their life satisfaction as 0 to 4 with '0' being the worst possible life compared to only 10% of males (Commissioner for Children and Young People WA, 2020). In a national survey 12% of females between the ages of 12- 17 years reported self-harm in the previous 12 months compared to 4% of males (Lawrence et al., 2015).

In WA, mental health services for young people are provided through General Practice, the public mental health system such as the Child and Adolescent Mental Health Service, not for profit organisations like Headspace and private providers such as psychologists.

The 'missing middle' is a term used to describe clients who are too unwell to be effectively treated in the primary mental health system but are not unwell enough to be treated in the state-based mental health system (Orygen and headspace, 2019).

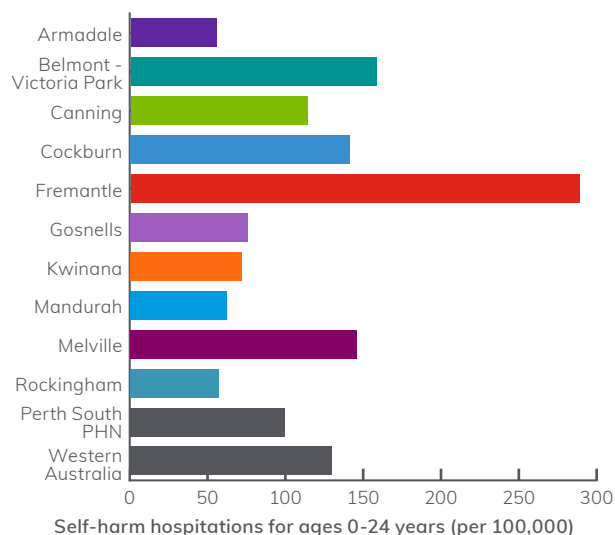
Orygen and headspace indicated that, of the 26% of young people in any given year with a mental health condition, around 12% are likely to be experiencing a more moderate-to-severe and complex mental health issue and may be missing out on care (Orygen and headspace, 2019).

An inquiry into the mental health of children and young people in WA found many cases of individuals being forced to wait until their mental illness had become severe before they were able to access a service (Commissioner for Children and Young People WA, 2011).

The increasing level of complexity and severity of presentations has placed existing primary care services under strain, with about 90% of headspace centres nationally reporting that wait times are a major concern (Orygen and headspace, 2019).

Hospital admissions for self-harm may also indicate a lack of access to mental health services. In Perth South PHN people aged between 0-24 years were hospitalised for self-harm at a lower rate (99 per 100,000) than the State (129 per 100,000). The highest rates for self-harm hospitalisations for this age group were in Fremantle (288), Belmont-Victoria Park (158), Melville (145) and Cockburn (141) (Australian Institute of Health and Welfare, 2020h).

Figure 8 - Self-harm hospitalisations among people aged under 25 years (per 100,000) in Perth South PHN by SA3 in 2018-19 (Australian Institute of Health and Welfare, 2020b)



5. Complex and severe mental health

Mental disorders can vary in severity and be episodic or persistent in nature. An estimated 2–3% of Australians have a severe mental disorder, as judged by diagnosis, intensity and duration of symptoms, and degree of disability caused (Australian Institute of Health and Welfare, 2019d). This group is not confined to those with psychotic disorders and it also includes people with severe and disabling forms of depression and anxiety (Australian Institute of Health and Welfare, 2019d).

The WA Mental Health Commission estimates that 79,991 West Australians experience complex and severe mental illness (Mental Health Commission, 2020b).

6. Vulnerable populations

6.1 Culturally and linguistically diverse (CALD)

The prevalence of mental health conditions is lower for people born in non-English speaking countries (8.4% for males and 16% for females) compared to people born in Australia (20% for males and 24% for females) (Slade et al., 2009). However, research shows that the mental health of migrants tends to deteriorate after the first year in Australia due to stress caused by acculturation, language and social difficulties and difficulties in finding employment (Anikeeva et al., 2010). Moreover, many culturally and linguistically diverse (CALD) residents will have difficulty accessing mental health services because of these barriers. Canning SA3 has the highest number of CALD residents (36,418) in the PHN (Public Health Information Development Unit, 2021b).

6.2 Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex (LGBTIQ+) populations

LGBTIQ+ is an acronym commonly used to describe lesbian, gay, bisexual, trans/transgender, intersex, queer and other sexuality, gender, and bodily diverse people and communities. A disproportionate number of LGBTIQ+ people experience poorer mental health outcomes and have a higher risk of suicidal behaviours than their peers due to stigma, prejudice, discrimination, and abuse – all of which are key determinants of health (LGBTIQ+, 2021).

Studies indicate a high prevalence of mental health disorders among LGBTIQ+ people. Compared to the general population, LGBTIQ+ people are more likely to experience and be diagnosed with depression and anxiety, specifically:

- LGBTIQ+ people are nearly six times more likely to be diagnosed with depression and three times as likely to report having an anxiety-related condition.
- Transgender and gender diverse people aged 14 to 25 are over seven times more likely to be

diagnosed with depression and five and a half times more likely be diagnosed with anxiety in their lifetime.

- Transgender and gender diverse people aged 18 and over are five and a half times more likely to be diagnosed with depression.
- People with an intersex variation are over twice as likely to experience and be diagnosed with depression (LGBTIQ+, 2021).

Studies indicate a high prevalence of mental health disorders among LGBTIQ+ people, with at least 57.2% of transgender and gender diverse people aged 18 and over and 21.3% of intersex Australians reporting having been diagnosed with depression in their lifetime, compared with 10.4% of the general population (LGBTIQ+, 2021). 30.5% of lesbian, gay, bisexual and transgender and gender diverse people aged 16 and over reported having been diagnosed or treated for depression in the last three years (LGBTIQ+, 2021). Rates of depression, anxiety and poor mental health are highest among transgender and bisexual people, especially bisexual women (Leonard et al., 2012).

7. Older adult mental health

In Western Australia, older adults (aged 65 years and over) were significantly more likely to have used a primary, hospital based or allied health service than younger adults (aged 16 to 64 years) but were significantly less likely to have used mental health services (Radomiljac et al., 2017).

A report by SANE identified a shortage of mental health services for older adults, especially those living in supported accommodation (SANE, 2013). The report indicated that there is a need for targeted mental health services for the elderly and for easily accessible information about these services for both patients and carers (SANE, 2013).

In the 2018-19 budget, it was announced that the federal government will provide funding to support the mental health of older adults. In the

first initiative, PHNs will be funded to deliver mental health services for patients with a diagnosed mental disorder who are in residential aged care facilities (RACFs). Services commenced in January 2019 in each PHN and it is intended that all RACFs will have access to psychological therapies by 2022.

8. Service utilisation

Accessing mental health services can be difficult. It is important that patients and carers know how to access the right care early on, to prevent the need for hospitalisation.

In WA, mental health services are provided through General Practice, the public mental health system, not for profit organisations and private providers.

Most people who experience mental health issues and/or mental illness and who access services, do not receive services from the public specialist mental health system but do so from primary health care services including GPs, psychiatrists, psychologists, social workers and allied health workers (Mental Health Commission, 2020a).

The primary health care sector is ideally placed to identify mental health issues at their early stages including disorders such as anxiety, depression and co-occurring issues like physical issues, health and alcohol and drug issues (Mental Health Commission, 2020a).

8.1 Medicare-subsidised services

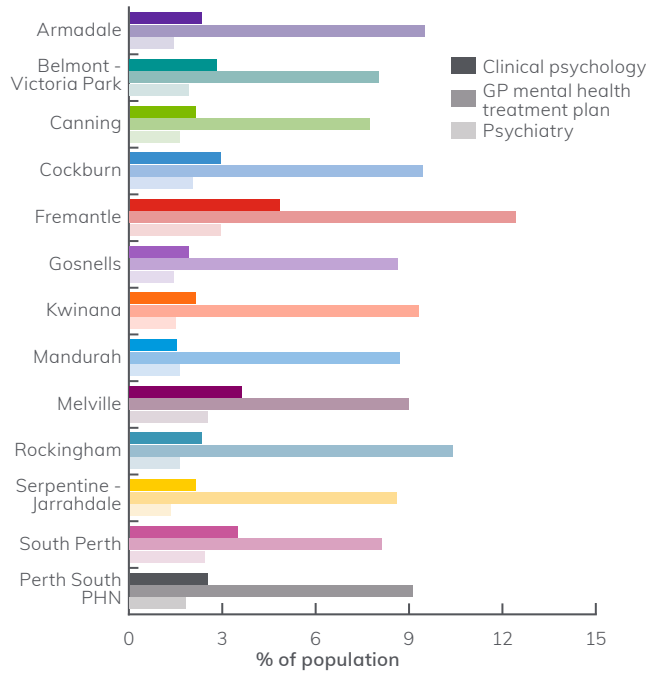
Medicare-subsidised services (MBS) are provided in non-hospital settings and enable eligible Australians to access the mental health services they need. MBS services enable access to a wide range of mental health services provided by general practice, psychologists, social workers and occupational therapists at no or partial cost.

A GP mental health plan identifies treatments and goals for people experiencing mental health issues. The COVID-19 pandemic impacted mental health service utilisation in Perth South PHN, with 9.1%

of residents accessing a GP mental health plan in 2020-21, up from 8.4% in 2018-19 (Australian Institute of Health and Welfare, 2021g). Almost all SA3s in Perth South reported increased utilisation except Serpentine – Jarrahdale and Mandurah SA3s. Fremantle (12%), Rockingham (10%) and Armadale (9.5%) had the highest proportions of people accessing a GP mental health plan. Utilisation was lowest in Canning (7.7%) (Australian Institute of Health and Welfare, 2021g).

A GP mental health treatment plan can be used to refer patients to psychiatrists, psychologists, counsellors, social workers and occupational therapists. In 2020-21, 2.5% of the population in Perth South PHN accessed a Clinical Psychologist and only 1.8% accessed Psychiatry services. Utilisation of MBS rebated Clinical Psychology services were highest in Fremantle SA3 but lowest in Mandurah SA3. MBS rebated Psychiatry services were also highest in Fremantle but lowest in Serpentine – Jarrahdale SA3 (Australian Institute of Health and Welfare, 2021g).

Figure 9 - Percentage of the population that utilised MBS mental health services in Perth South PHN by SA3 in 2020-21.



NOTE: The location of services can confound utilisation data. For instance, Fremantle SA3 has the highest utilisation of mental health MBS services. This is likely due to the location of mental health services closely located to hospital precincts.

Priorities

Mental Health

Health Need	Service Need	Priority	Priority Location	Priority Area	Priority sub-category
Mental health is the second leading cause of burden of disease in WA.	Despite a high need workforce and service availability in outer-metropolitan regions is limited.	Increase access to low-cost local mental health services in outer-suburbs and areas with limited-service availability but high demand.	Mandurah, Rockingham	Mental health	Access
Recent reports and surveys indicate mental ill-health is a critical issue affecting young people.	There is poor access to mental health services for the 'missing middle' (people whose mental health needs are not being met in either primary care or the state funded mental health systems).	Ensure integrated and stepped care services are available for people experiencing mental health issues, including younger people.	Whole PHN	Mental health	System integration
Some regions within Perth South PHN have high suicide rates.	Some regions have high hospitalisations for self-harm.	Improve access to early intervention suicide prevention services.	Mandurah, Rockingham, Fremantle, Kwinana	Mental health	Early intervention and prevention
There is a shortage of mental health services for older adults, especially in supported accommodation.	Psychological services are needed to support the mental health of older adults.	Support the mental health of older people and assist primary care providers to identify older people who may need additional support or referrals to services.	Whole PHN	Mental health	Aged care
People with complex and severe mental health issues require continuing support.	There is a need to support integrated services for people with complex and severe mental health.	Improve coordinated and integrated care for people experiencing complex and severe mental health who can be managed in within primary care settings.	Whole PHN	Mental health	Care coordination

Partnerships and Outcomes

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Increase access to low-cost local mental health services in outer-suburbs and areas with limited-service availability but high demand.	<p>MH1 Rate of regional population receiving PHN commissioned low intensity psychological interventions.</p> <p>MH6 Clinical outcomes for the regional population receiving services – low intensity psychological interventions.</p>	<p>Non-Government Organisations</p> <p>Community Mental Health Services</p>
Ensure integrated and stepped care services are available for people experiencing mental health issues.	MH4 Formalised partnerships with other regional service providers to support integrated regional planning and service delivery.	<p>Local Hospital Networks</p> <p>General practice</p>
Improve access to early intervention suicide prevention services.	<p>MH5 Proportion of people referred to PHN commissioned services due to a recent suicide attempt or because they were at risk of suicide followed up within 7 days of referral.</p> <p>MH4 Formalised partnerships with other regional service providers to support integrated regional planning and service delivery.</p>	<p>Community Mental Health Services</p> <p>General practice</p> <p>Non-Government Organisations</p> <p>Mental Health Commission</p>
Support the mental health of older people and assist primary care providers to identify older people who may need additional support or referrals to services.	MH4 Formalised partnerships with other regional service providers to support integrated regional planning and service delivery.	<p>Community Mental Health Services</p> <p>General practice</p> <p>Local Government</p>
Improve coordinated and integrated care for people experiencing complex and severe mental health who can be managed in within primary care settings.	<p>MH4 Formalised partnerships with other regional service providers to support integrated regional planning and service delivery.</p> <p>MH6 Clinical outcomes for the regional population receiving services – low intensity psychological interventions.</p>	<p>Community Mental Health Services</p> <p>General practice</p> <p>Local Hospital Networks</p>

Glossary

illicit drugs:	<p>Illegal drugs, drugs and volatile substances used illicitly, and pharmaceuticals used for non-medical purposes.</p> <ul style="list-style-type: none">• painkillers/pain-relievers and opioids^• tranquillisers/sleeping pills^• steroids^• meth/amphetamines^• cannabis• heroin• methadone or buprenorphine^• cocaine• hallucinogens• ecstasy• ketamine• GHB• synthetic cannabinoids• emerging psychoactive substances• inhalants• (any) injected drug. <p>Note ^ used for non-medical purposes Excludes the use of cannabis for medical purposes that was prescribed by a doctor only.</p>
Non-Medical Use:	<p>Use of drugs either alone or with other drugs to induce or enhance a drug experience, for performance enhancement or for cosmetic purposes. In this report, this includes painkillers/analgesics, tranquilisers/sleeping pills, steroids, methadone or buprenorphine and meth/amphetamines and other opioids such as morphine or pethidine.</p>
Standard drink:	<p>Containing 10 grams of alcohol (equivalent to 12.5 millilitres of alcohol); also referred to as a full serve</p>

Alcohol and Other Drugs

Description of Evidence

1. Alcohol use (risky drinking)

Alcohol is a risk factor for chronic disease. Areas with higher rates of alcohol consumption are likely to have greater health needs due to chronic diseases attributable to alcohol.

Alcohol use contributed to 4.5% of the total disease burden in Australia in 2015 and was the leading risk factor for males aged 25-44 (11.9% compared to females 3.4%) (Australian Institute of Health and Welfare, 2020f). Alcohol use was responsible for 40% of liver cancer burden, 28% of chronic liver disease burden, 22% of Road traffic injuries—motor vehicle occupant burden and 14% of suicide burden (Australian Institute of Health and Welfare, 2019a).

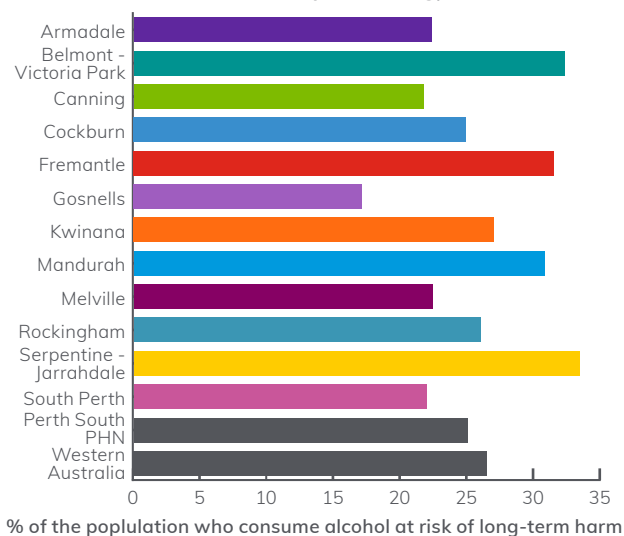
Alcohol use has both long-term and short-term risks. Avoiding single occasion heavy drinking (no more than four standard drinks on a single occasion) is recommended to reduce short term harm (National Health and Medical Research Council, 2009). The Australian safe drinking guidelines suggest no more than two standard drinks per day to prevent chronic harm from alcohol consumption (Mudd et al., 2020).


The National Drug Strategy Household Survey (NDSHS) found that 17% of Australians consumed more than two standard drinks per day (Australian Institute of Health and Welfare, 2020f). Additionally, 25% of persons aged 14 and over consumed more than four standard drinks on one occasion at least once a month, exceeding the lifetime risk guidelines (Australian Institute of Health and Welfare, 2020f). Older people were also the most likely to drink alcohol daily, with the highest rates seen among people aged over 70 (12.6%) (Australian Institute of Health and Welfare, 2020f).

The WA Health and Wellbeing Surveillance System (HWSS) provides estimates for adults aged 16 years


and over in WA from 2015 to 2019 (Epidemiology Branch, 2021b). In Perth South PHN 25% of the population were at risk of long-term harm from their alcohol consumption, slightly lower than the state rate (26.5%) (Epidemiology Branch, 2021b) Residents in Serpentine – Jarrahdale (33.4%), Belmont – Victoria Park (32.3%) and Fremantle (31.5%) SA3s were at greatest risk of long-term harm from alcohol consumption (Epidemiology Branch, 2021b).

Figure 10 - Percentage of the population who consume alcohol at risk of long-term harm in Perth South PHN by SA3 from 2015 to 2019. (Epidemiology Branch, 2021)







25% are at risk of long-term harm from alcohol consumption




10.6% of people are current smokers




Kwinana had the highest proportion of current smokers (15%)




37% of people in Australia use cannabis once a week




43% of Australians have used illicit drugs at some point in their life



People in their 40s have most likely used illicit drugs in their lifetime



There were 2,070 drug related deaths in Australia in 2018



WA has the highest rate of unintentional drug induced death in Australia

In WA, a study was conducted to evaluate the effectiveness of ED-based alcohol screening and brief intervention (ASBI) strategies on ED readmissions with alcohol-related events (Hazeldine, 2021). The study revealed that following discharge from hospital, individuals that are at risk alcohol consumption and readmission must engage effectively with a GP to benefit from ASBI (Hazeldine, 2021). This highlights the effectiveness of ASBI delivered in primary care and the crucial role GP have in management of alcohol related issues (Hazeldine, 2021).

The Practice Incentives Program Quality Improvement Incentive (PIP QI) is a payment to encourage practices to participate in quality improvement activities, aimed at improving patient outcomes through the delivery of quality care. Improvement measures include the proportion of patients with an alcohol consumption status. In Perth South PHN, the percentage of GP patient records that did not have an alcohol consumption status recorded was highest in Melville SA3 (53% across 19 practices), Belmont-Victoria Park SA3 (50% across 15 practices) and Fremantle SA3 (48% across seven practices) compared to 46% across the state. We note that these data include only private general practices and do not include health services provided by non-government organisations.

1.1 FASD

Current Australian guidelines to reduce health risks from drinking state:

“For women who are pregnant or planning a pregnancy, or are breastfeeding, not drinking is the safest option. Maternal alcohol consumption can harm the developing foetus or breastfeeding baby.” (National Health and Medical Research Council, 2009).

Research suggests that only 45 per cent of health professionals routinely asked about a pregnant woman’s alcohol use, and only 25 per cent provided information about the implications of drinking

alcohol, suggesting that health professionals are acting on a presumption that a woman has stopped drinking alcohol (Community Affairs References Committee, 2021). In 2021, the Community Affairs References Committee recommended that the medical profession, including the various medical colleges, acknowledge the critical role they play in education and awareness-raising of the dangers of consumption of alcohol for both women and men, particularly as it relates to consumption in relation to pregnancy (Community Affairs References Committee, 2021).

In WA, a data linkage study has shown that exposure to alcohol during pregnancy increases the risk of contact with the youth justice system (Community Affairs References Committee, 2021). This is the case even adjusting for risk factors such as social disadvantage, Aboriginal status and poor academic performance (Community Affairs References Committee, 2021). A study conducted in the Banksia Hill Detention Centre in Perth, the only youth detention centre in WA, found a high prevalence of FASD (36 per cent) among detainees, most of which identified as First Nations peoples (Community Affairs References Committee, 2021). This is the highest reported prevalence of FASD in a youth setting in the world (Community Affairs References Committee, 2021).

1.2 Underage drinking

Current Australian guidelines to reduce health risks from drinking state: “To reduce the risk of injury and other harms to health, children and people under 18 years of age should not drink alcohol (National Health and Medical Research Council, 2020). Drinking alcohol at an early age may increase the risk of developing problems with alcohol, which can appear in early adulthood” (National Health and Medical Research Council, 2020).

The Australian School Students Alcohol and Drug Survey has surveyed Western Australian school students aged twelve to seventeen at three yearly intervals since 1984 on their drug and alcohol use.

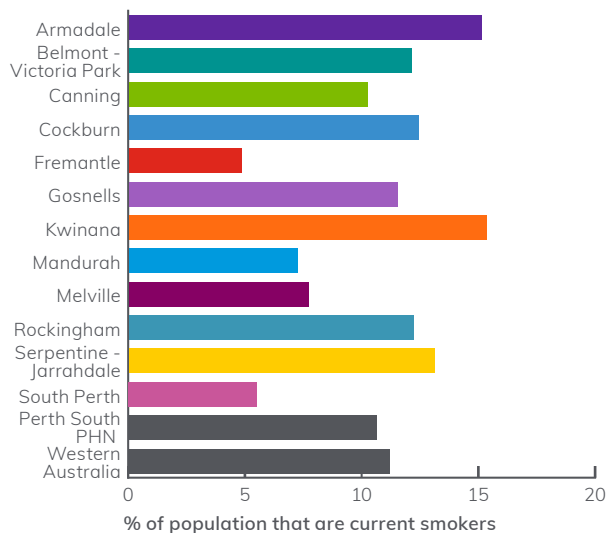
In the last few decades there has been a trend of declining rates of students that drink (WA Mental Health Commission, 2017). In 1999 around 36% of students surveyed reported having used alcohol in the past week, in comparison to 15% in the 2017 survey. Over this time period the number of students reporting never having consumed alcohol increased from 10% to 38% (WA Mental Health Commission, 2017). Of the students who reported consuming alcohol in the last week, there has been a general trend of increasing single occasion risk drinking (more than 4 standard drinks on a single occasion) over the lifetime of the survey (WA Mental Health Commission, 2017).

2. Smoking

Smoking introduces harmful chemicals to the lungs which spread through the body. This can increase the risk of many conditions and diseases as well as premature death. In 2015, the Australian Burden of Disease Study reported 9% of the total burden of disease in Australia can be attributed to tobacco use – the greatest single risk factor contributing to disease burden (Australian Institute of Health and Welfare, 2019b). Twenty-two percent of the burden of cancer, 12% of the burden of cardiovascular disease, 36% of respiratory disease, 3.5% of endocrine disease and 0.5% of infections were attributed to tobacco use. Smoking rates in Australia have been steadily reducing and in 2016, 13% of Australians smoked daily compared to 25% in 1991 (Australian Institute of Health and Welfare, 2020i).

In Perth South PHN 10.6% of the population smoked, consistent with the state rate. For those in Perth South PHN, Kwinana (15.3%) had the highest proportion of current smokers, however there is some statistical uncertainty around this measure, which should be interpreted cautiously (Epidemiology Branch, 2021a).

Figure 11 - Percentage of the population that are current smokers in Perth South PHN by SA3 from 2015 to 2019. (Epidemiology Branch, 2021)



Smoking rates among people receiving alcohol and other drug treatment are very high (87%) (Skelton et al., 2017). Tobacco accounts for the highest rate of mortality among people with alcohol and other drug and mental health conditions (Marel et al., 2016). The 2019 National Drug Strategy Household Survey (NDSHS) found that daily smokers were more than twice as likely to have high/very high levels of psychological distress compared with people who had never smoked (25% compared with 12%, respectively) (Australian Institute of Health and Welfare, 2020f). Conversely, smoking rates among those with mental illness are roughly double those among people without mental illness (Greenhalgh et al., 2020).

The Practice Incentives Program Quality Improvement incentive (PIP QI) is a payment to encourage practices to participate in quality improvement activities, aimed at improving patient outcomes through the delivery of quality care. Improvement measures include the proportion of patients with a smoking status. In Perth South

PHN, the percentage of GP patient records that did not have a smoking status recorded was highest in Belmont-Victoria Park SA3 (42% across 15 practices), Armadale SA3 (39% across 17 practices) and Rockingham SA3 (38% across 21 practices) compared to 37% across the state. We note that these data include only private general practices and do not include health services provided by non-government organisations.

3. Illicit drugs and misuse of pharmaceutical drugs

For the purposes of this document, the term drug use includes both illegal drugs and the misuse of pharmaceuticals. The 2019 NDSHS estimated that 43 percent of Australian's aged fourteen and over had used drugs at some point in their life, and 16.4 % had used drugs in the past 12 months (Australian Institute of Health and Welfare, 2020f). Lifetime and recent use continue to be highest in older age groups with people in their 40s being the most likely age group to ever use an illicit drug (Australian Institute of Health and Welfare, 2020f).

The most common drug used at least once a week was cannabis (37% of people aged 14 and over), followed by meth/amphetamines (16.9%), ecstasy (6.7%), and cocaine (4.5%) (Australian Institute of Health and Welfare, 2020f). Ecstasy use was the only illicit drug which had a statistically significant change between 2016 and 2019, an increase of 4.8% (Australian Institute of Health and Welfare, 2020f).

The median age of those who had recently use pain-killers/pain relievers and opioids for non-medical purposes is around 42 years compared to the median age of people who use illicit drugs excluding pharmaceutical (31 years) (Australian Institute of Health and Welfare, 2020f).

Despite the overall number being small, there has been a growing trend in non-medical steroid use in the previous decade. Only 0.3% of people had done so in their lifetime from 2001 to 2007, but the

proportion rose to 0.6% by 2016 and increased again to 0.8% in 2019. However, only 0.2% of people had used steroids for non-medical purposes in the previous 12 months (Australian Institute of Health and Welfare, 2020f).

The National Wastewater Drug Monitoring Program (NWDMP), which commenced in August 2016, provides leading-edge, coordinated national research and intelligence on illicit drugs and licit drugs that can be abused. Data is collected and analysed quarterly.

During COVID-19 the use of cocaine, cannabis, heroin and nicotine was at record high consumption in Australian cities. Oxycodone, fentanyl, methylamphetamine and alcohol consumption were at record lows (Australian Criminal Intelligence Commission, 2021).

3.1 Drug use among the LGBTIQ+ community

There is evidence that intravenous use of steroids is particularly high among gay and bisexual men (Australian Bureau of Statistics, 2020a). A study of 2,733 gay and bisexual men in Australia found that 4.4% used anabolic androgenic steroids, consistent with international studies finding higher use among gay and bisexual men in comparison to heterosexual men (Griffiths et al., 2017). Given that gay and bisexual men are already at a higher risk of blood borne viruses, safe-injecting practices among anabolic steroid users are particularly important.

Between 2010 and 2019, for people aged 14 and over who identified as being gay, lesbian or bisexual, the proportions for substance use have consistently been higher than for heterosexual people (Australian Bureau of Statistics, 2020a). After adjusting for differences in age, compared with heterosexual people gay, lesbian or bisexual people were 9 times as likely to have used inhalants in the previous 12 months, 3.9 times as likely to have used meth/ amphetamines in the previous 12 months, and 2.6 times as likely to have used ecstasy (Australian Bureau of Statistics, 2020a).

4. Burden of disease due to alcohol

Of the diseases linked to alcohol use, alcohol dependence is the greatest single cause of disability-adjusted life year (DALY) burden, accounting for 32% of Australia's burden of disease due to alcohol. Overall, alcohol dependence accounts for 1.5% of Australia's burden of disease (Australian Institute of Health and Welfare, 2018d). Dependence was mostly experienced by adolescents and adults aged 15–44 (72% of total DALY) (Australian Institute of Health and Welfare, 2018d). Males experience three times the amount and rate of burden from alcohol dependence compared with females (Australian Institute of Health and Welfare, 2018d).

Regular consumption of alcohol at high levels contributes to the development of chronic diseases such as liver disease, oral health conditions and cardiovascular disease and some cancers (Australian Institute of Health and Welfare, 2017b). Increased health needs associated with chronic diseases caused by alcohol consumption are commonly seen in areas with an older population which have a lower need for alcohol and other drug services targeting dependence. In those aged 65–84, cancers accounted for the highest share of the burden of disease (41% of the total burden due to alcohol in men and 48% in women) (Australian Institute of Health and Welfare, 2018d). The burden of cardiovascular diseases due to alcohol increases with age (Australian Institute of Health and Welfare, 2020a).

Chronic disease	% of burden due to alcohol use
Liver cancer	40.0
Mouth and pharyngeal cancer	36.9
Chronic liver disease	28
Laryngeal cancer	22.5
Oesophageal cancer	21.1
Pancreatitis	11.1
Breast cancer	10.3
Hypertensive heart disease	9.5
Bowel cancer	5.4

5. Burden of disease due to illicit drug use and misuse of pharmaceuticals

5.1 Illicit drug dependence

Drug use was estimated to have accounted for 2.7% of Australia's burden of disease and injury, making it an important health issue (Australian Institute of Health and Welfare, 2019b). For illicit drug use the burden of disease and injury was attributed to drug dependence.

Australia wide, accidental poisoning is responsible for one third of illicit drug use burden, accounting for 33% of the total burden (Australian Institute of Health and Welfare, 2018d). This is mainly attributed to opioid use, which accounts for 51% of accidental poisonings due to illicit drugs. Western Australia had a higher rate of burden of accidental poisoning due to drug use compared to other states (Penington Institute, 2020). Amphetamines, cannabis, and cocaine account for smaller components of the

burden of accidental poisonings, at 7.3%, 5.4%, and 1.1% respectively (Penington Institute, 2020).

5.2 Accidental overdose

Australia's Annual Overdose Report, produced by the Penington Institute, reported 2,070 drug-related deaths in 2018 of which 1,556 were unintentional (Penington Institute, 2020). Of this, males were more than three times as likely than females to suffer an unintentional drug-induced death (71.5% of deaths) (Penington Institute, 2020). Middle-aged people were found to be most at-risk of overdose (Penington Institute, 2020).

Opioids continued to be the largest overall drug group identified in drug-induced deaths (Penington Institute, 2020). In recent years, the greatest increase of unintentional drug-induced deaths has occurred in WA, increasing from 6.4 per 100,000 in 2012 to become the highest rate Australia-wide in 2018 at 8.8 per 100,000 (Penington Institute, 2020).

From 2014–2018, the rate of unintentional drug-induced deaths in Perth South PHN was the third highest in Australia at 8.9 per 100,000 (Penington Institute, 2020). In 2014–2018, Belmont-Victoria Park, Fremantle, Kwinana, Armadale and Mandurah SA3s recorded a rate of more than 10.0 deaths per 100,000 of unintentional drug-included deaths, having the highest rates in Perth South PHN (Penington Institute, 2020).

5.3 Hepatitis B and C

S Hepatitis B and C are bloodborne viruses. Hepatitis B is spread between people by body fluids while Hepatitis C is spread through blood-to-blood contact from a person with hepatitis C (Department of Health, 2021a; Victoria State Government, 2021). Hepatitis C is commonly spread through unsafe injecting practices. Untreated Hepatitis B and C can lead to liver disease (including cirrhosis), liver cancer and death.

Since 1982, a vaccine has been developed for hepatitis B with the recommendation that babies and adolescents are vaccinated (Hepatitis Australia, 2017). Currently there is no vaccination available for hepatitis C, although antiviral treatment is available. Treatment is now more than 95% effective at curing hepatitis C and available to most people via prescription from their general practitioner (Hepatitis Australia, 2021). The World Health Organization (WHO) has developed elimination targets of treating 80% of people living with hepatitis C virus and 80% reduction in hepatitis C virus incidence by 2030 (Cross, 2019).

In Australia, notifications of hepatitis B and C have been declining. Between 1996 and 2003, notification rates of hepatitis B fell (from 44 to 31 notifications per 100,000 people), then remained relatively steady until 2009. Notification rates have since declined slowly to the current rate of 25 in 2017 (Australian Institute of Health and Welfare, 2018b). Hepatitis C notification rates decreased (from 102 to 64 notifications per 100,000 people) between 1996 and 2004. Since 2004, the rate has continued to decrease, but at a slower rate, and was 44 notifications per 100,000 people in 2017 (Australian Institute of Health and Welfare, 2018b).

The proportion of people with hepatitis B in Perth South was 0.9% with highest proportion in the SA3 of Perth South at 2%. The proportion of people with a hepatitis C diagnosis was 0.6% in Perth South PHN. The highest proportion of people with a diagnosis of hepatitis C was in Fremantle at 1.5% of the population (The Doherty Institute).

6. Link between AOD and mental health

There is a complex relationship between mental health and alcohol and other drug use, and it is often difficult to determine if substance use preceded mental illness or vice versa (Australian Institute of Health and Welfare, 2021a). A mental illness may make a person more likely to use drugs to provide

short-term relief from their symptoms, while other people have drug problems that may trigger the first symptoms of mental illness (Australian Institute of Health and Welfare, 2021a).

A study by AIHW reported 7.8% of the total burden of disease attributable to alcohol use was due to suicides and self-inflicted injuries, and greater for males (9.4%) than for females (3.7%) (Australian Institute of Health and Welfare, 2018d).

6.1 Suicide and self-inflicted injuries

Australia wide, there were 3,318 suicide deaths in Australia in 2019 (Australian Bureau of Statistics, 2020c). The ABS reported in its most recent release on the proportion of suicides with co-morbidities mentioned as factors contributing to death (Australian Bureau of Statistics, 2020c). Findings of alcohol and other drugs in the blood were noted in 14% of suicides (Australian Bureau of Statistics, 2019a). Mental and behavioural problems due to alcohol and drugs were recorded in 30% of suicides, peaking at 42% in people aged 25-44 (Australian Bureau of Statistics, 2019a).

Broken down by drug type, cocaine accounted for 3.9% of the burden of suicide and self-harm, opioids accounted for 2.9%, and amphetamines accounted for 2.7% (Australian Institute of Health and Welfare, 2018d).

The burden of suicide and self-inflicted injuries due to alcohol and other drug use is highest in very remote regions and lower socioeconomic populations.

7. Alcohol and other drug treatment and rehabilitation services

In Perth South PHN, alcohol and other drug services are provided by the State and for profit, primary and tertiary care services. WA Primary Health Alliance funds outreach, early intervention and counselling programs in Perth South PHN for vulnerable communities.

The Mental Health Commission purchases services for the State from a range of providers including public Health Service Providers, a wide range of non-government organisations and private service providers. Some of these are The Alcohol and Drug Support Service, The Serenity Lodge Therapeutic Community and The Fresh Start Recovery Program.

At publicly funded alcohol and other drug treatment services, nicotine is rarely the principal drug of concern, accounting for just 0.2% of clients in Perth South PHN from 2016 to 2017 (Australian Institute of Health and Welfare, 2018a). Although nicotine was the principal drug of concern in 0.3% of episodes, it is listed as an additional drug of concern in 20% of episodes (Australian Institute of Health and Welfare, 2018a).

How particular health needs are already being addressed by current services:

As relevant, a short summary of how a particular health need is being addressed by current services, highlighting where:

- PHNs currently fund services that address the identified health need
- While specific health needs might have been identified within the PHN region, it will not translate into a priority as it is already adequately addressed by other existing non-PHN funded services.

An analysis of alcohol and other drug health and service needs has identified health and service issues that are outside the scope of the PHN program. For instance, the impact of Foetal Alcohol Syndrome (FASD) on vulnerable populations has been consistently raised by Stakeholders. Stakeholders have indicated that people with a diagnosis of FASD are not adequately supported via the disability support sector or the health sector. This has been identified as a priority but not included in this document as disability support services are out of scope for PHNs.

Priorities

Alcohol and Other Drugs

Health Need	Service Need	Priority	Priority Locations	Priority Area	Priority sub-category
Harmful alcohol consumption causes multiple chronic diseases resulting in complex care needs.	Early screening and intervention are needed to reduce the impact of harmful alcohol use.	Increase access to early screening and treatment for harmful alcohol use.	Serpentine-Jarrahdale, Fremantle, Belmont Victoria Park.	Alcohol and Other Drugs	Early intervention and prevention
Drug and alcohol use and mental health disorders often co-occur.	Services that meet the needs of people with alcohol and other drug problems comorbid with mental illness.	Promote integration and coordinated care pathways for clients with mental health condition and harmful alcohol and other drug use.	Whole PHN	Alcohol and Other Drugs	System integration
The misuse of pharmaceutical drugs including overdose and accidental poisoning is a growing problem.	There is a need for treatment services for addictions to pharmaceutical drugs.	Ensure WAPHA AOD commissioned services have treatment pathways for pharmaceutical drug addictions.	Whole PHN	Alcohol and Other Drugs	HealthPathways

Partnerships and Outcomes

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Increase access to early screening and treatment for harmful alcohol use.	AOD1 Rate of drug and alcohol commissioned providers actively delivering services	General practice Mental Health Commission WANADA
Promote integration and coordinated care pathways for clients with mental health condition and harmful alcohol and other drug use.	AOD2 Partnerships established with local key stakeholders for drug and alcohol treatment services.	WANADA Mental Health Commission
Ensure WAPHA AOD commissioned services have treatment pathways for pharmaceutical drug addictions.	AOD1 Rate of drug and alcohol commissioned providers actively delivering services.	Alcohol and other drug treatment service providers General practice WANADA

Aboriginal Health

Description of Evidence

1. Demographics

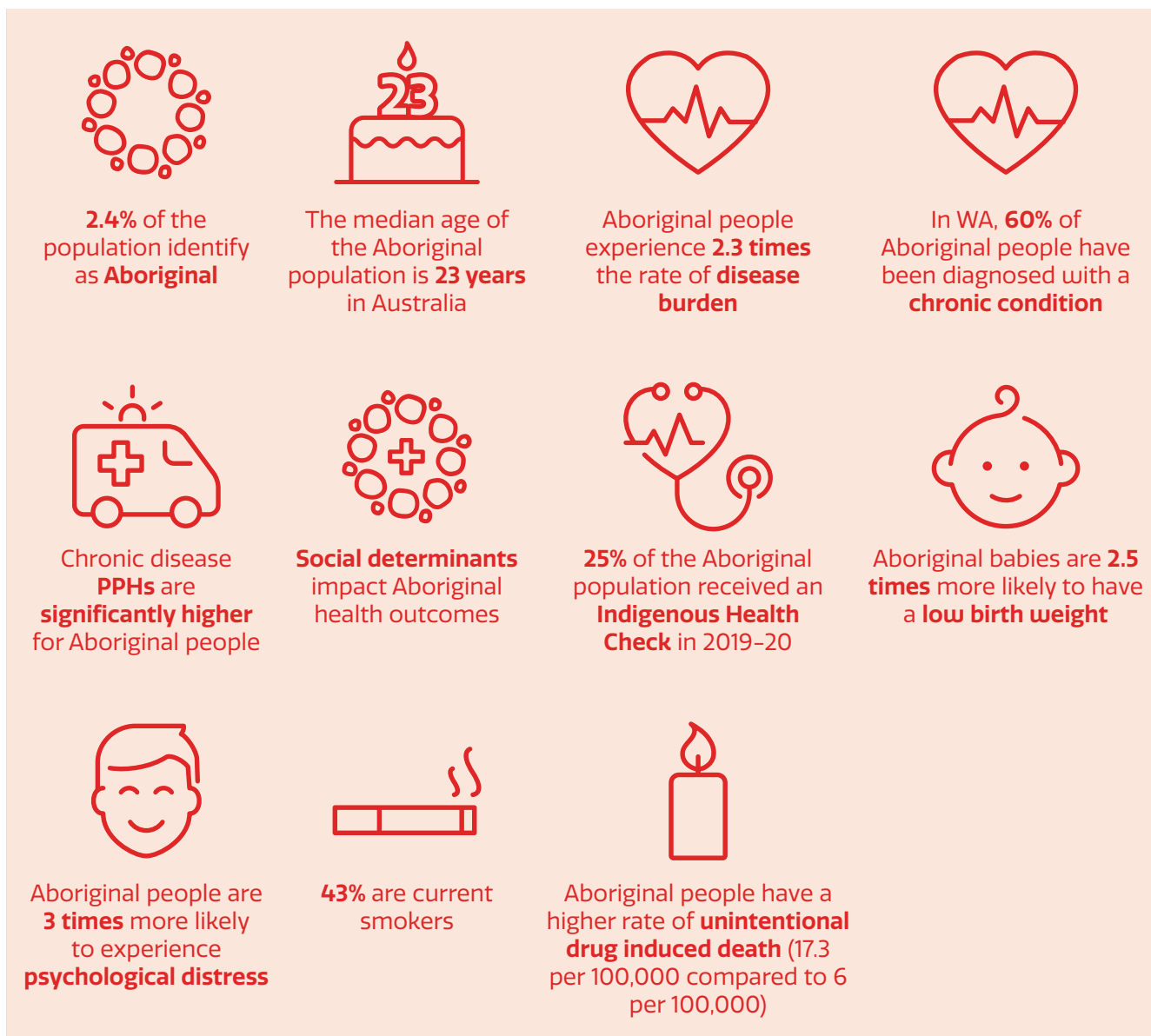
1.1 Socio-economic disadvantage

Socio-economic factors including poor rates of educational attainment, financial and housing instability, and low rates of employment continue to impact the health outcomes of Aboriginal West Australians.

The Indigenous Relative Socio-economic Outcome Index (IRSEO) represents the Indigenous Areas (IAREs) of social and economic disadvantage among Aboriginal people. Indicators reflecting disadvantage include low income, low educational attainment, high unemployment, and reliance on welfare for income and housing support (Public Health Information Development Unit, 2021a)

Aboriginal people living in the Greater Perth area are relatively less socio-economically disadvantaged (IRSEO=37) than state (IRSEO=56) and national (IRSEO=43) Aboriginal populations. However, the indicators of disadvantage are consistently poorer for Aboriginal people living in Perth South PHN, with one in five (21%) Aboriginal people unemployed, and nearly half of families solo-parented (49%) and more than one third jobless (37%) (Public Health Information Development Unit, 2021a).

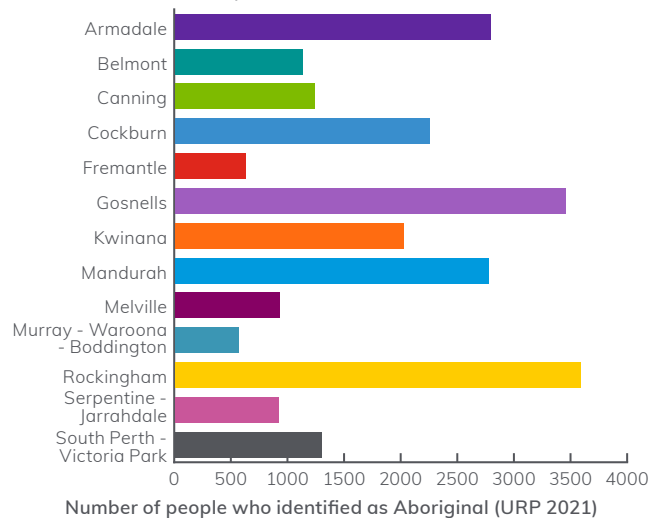
Belmont and Kwinana had the highest Indigenous Relative Socioeconomic Outcome Index (IRSEO) score (59), reflecting the highest disadvantage in the Perth South PHN. However, Fremantle reported the highest rate in the PHN of Aboriginal single-parent families with children (63%), Aboriginal low-income families (22%), houses rented by the Government Housing Authority (40%), and South Perth – Victoria Park reported the highest rate in dwellings without internet connection (29%) (Public Health Information Development Unit, 2021a).



1.2 Aboriginal population

A total of 23, 439 Aboriginal people live in Perth South PHN making up 2.3% of the population . The IAREs with the highest proportion of Aboriginal residents are located in Kwinana (4.4% of total IARE population), Murray-Waroona-Boddington (3.3% of total IARE population) and Armadale (3.0%), with the highest number of Aboriginal people living in Rockingham (3,579), Gosnells (3,448), and Armadale (Australian Bureau of Statistics, 2021a).

Figure 12 - Number of people who identified as Aboriginal in Perth South PHN by SA3 (URP 2021).



In 2021, the median age of the Aboriginal population was 24.0 years old, compared to 38.0 years for the whole Australian population (Australian Bureau of Statistics, 2021a). The younger age structure in the Aboriginal population is reflective of higher fertility rates and mortality rates than the non-Aboriginal population (Australian Bureau of Statistics, 2018b).

2. Aboriginal health

Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non-Aboriginal people. Aboriginal people experience 2.3 times the rate of disease burden, with an age standardised death rate for chronic disease 3.8 times the rate among non-Aboriginal people (Australian Institute of Health and Welfare, 2017a). In WA, 28.9% of Aboriginal people have been diagnosed with at least one chronic condition (Australian Institute of Health and Welfare, 2017a).

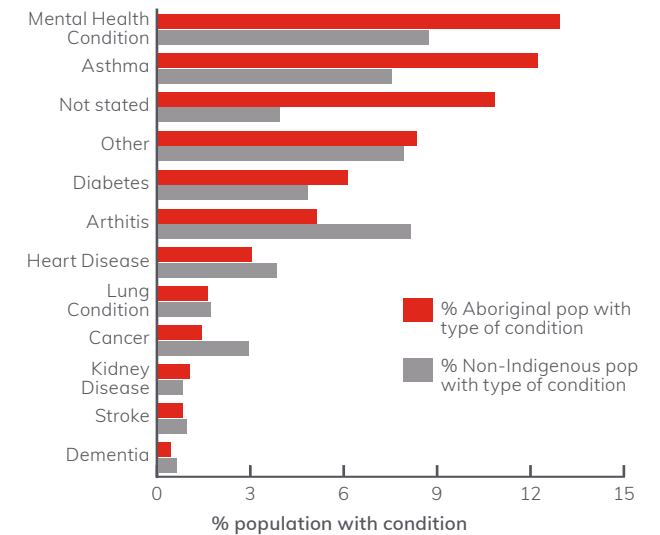
For the first time, data on Chronic (Long Term Health) conditions were captured in the 2021 Census using a single question “Has the person been told by a doctor or nurse that they have any of these long-term health conditions?”.

In Perth South, more Aboriginal people reported having the following conditions compared to non-Aboriginal people:

- 12.2% of Aboriginal people reported having Asthma compared to 7.5% of non-Aboriginal people.
- 6.1 % of Aboriginal people reported having Diabetes compared to 4.8% of non-Aboriginal people.
- 1% of Aboriginal reported having Kidney Disease compared to 0.8% of non-Aboriginal people.

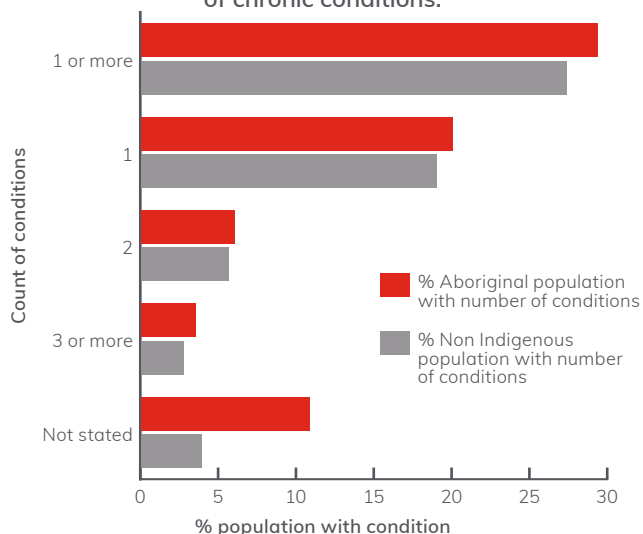
It should be noted that 10.8% of Aboriginal people in Perth South did not answer the Health Conditions question in the Census compared to only 3.9% of Non-Aboriginal people. Therefore, these figures should be interpreted with caution. (Australian Bureau of Statistics, 2021a). The rates for the Aboriginal and non-Aboriginal populations are compared in Figure 13.

Figure 13 - The proportion of Aboriginal population versus non-Indigenous population with listed type of chronic conditions.



In Perth South as well, 20% of Aboriginal persons and 19% non-Aboriginal persons responded as having 1 Chronic condition, 6% Aboriginal and 5.6% non-Aboriginal persons reported having two Chronic conditions, while 3.5% Aboriginal and 2.7% non-Aboriginal persons reported they had three or more Chronic conditions (Australian Bureau of Statistics, 2021a). The numbers and rates comparison between the Aboriginal and non-Aboriginal populations is presented in Figure 14.

Figure 14 - The proportion of Aboriginal population versus non-Indigenous population with listed number of chronic conditions.



In 2020, the Australian and state and territory governments approved the new Closing the Gap agreement which outlines targets to close the gap in life expectancy, child mortality, education and employment between Aboriginal and non-Aboriginal people (Department of Prime Minister and Cabinet, 2021).

Aboriginal and Torres Strait Islander people can access specific services aimed at Closing the Gap in Aboriginal and Torres Strait Islander health outcomes. It is important that General Practices ask all patients if they identify as Aboriginal and/or Torres Strait Islander. This assists with ensuring patients are provided with the option of accessing information and services specifically designed to meet their needs.

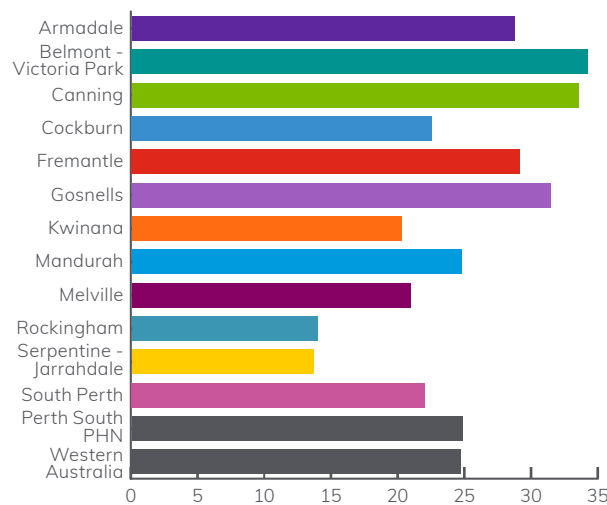
Through Medicare, Aboriginal and Torres Strait Islander people can receive Indigenous-specific health checks from their doctor, as well as referrals for Indigenous-specific follow-up services. In March 2020, telehealth items for Indigenous health checks

were introduced in response to COVID 19 and associated restrictions (Australian Institute of Health and Welfare, 2021f).

In 2020-21, the proportion of the Aboriginal population that received an Indigenous Health Check was 24.8% in Perth South PHN with higher rates seen across Belmont – Victoria Park (34.2%), Canning (33.5%), Gosnells (31.4%) and Armadale (28.7%) SA3s. Low rates were evident in the SA3s of Serpentine – Jarrahdale (13.6%), Rockingham (13.9%), and Kwinana (20.2%). Face-to-face Indigenous health checks was the preferred method (24.5%), with only 0.2% utilising telehealth, similar to WA rate (0.3%).

In 2019-20, the SA3s of Kwinana (24.7%) and Serpentine – Jarrahdale (25.9%) had a low proportion of patients who received a follow up service compared to the State (45%) (Australian Institute of Health and Welfare, 2021g).

Figure 15 - The proportion of the Aboriginal population who have received an Indigenous Health Check in Perth South PHN by SA3 in 2020-21.



The Practice Incentives Program Quality Improvement incentive (PIP QI) is a payment

to encourage practices to participate in quality improvement activities, aimed at improving patient outcomes through the delivery of quality care. In Perth South PHN (188 practices), 64% of general practice records for Indigenous clients aged between 35-44 years did not have information available to calculate their absolute risk of cardiovascular disease (CVD) compared to 62% across the state (497 practices). South Perth SA3 (100% across 4 practices) and Mandurah SA3 (77% across 23 practices) had the highest percentage of records in the PHN where CVD risk was not assessed. We note that these data include only private general practices and do not include health services provided by non-government organisations.

In Perth South PHN, the highest percentage of GP patient records with Aboriginal status not recorded was in Belmont – Victoria Park SA3 (54% across 15 practices), Melville SA3 (41% across 18 practices) and Armadale SA3 (37% across 18 practices) compared to 33% across the state.

2.1 Aboriginal mortality

In the five-year period between 2008 to 2012, 65% of deaths among Aboriginal people occurred before the age of 65, compared with 19% of deaths among non-Aboriginal people. The mortality rate for Aboriginal people was 1.6 times that of non-Aboriginal people (age-standardised rates of 981 and 596 deaths per 100,000 population, respectively). The largest difference between Aboriginal and non-Aboriginal mortality rates was for people aged 35-44, with male and female Aboriginal death rates 3.9 and 4.5 times the non-Aboriginal rates, respectively (Australian Institute of Health and Welfare, 2014a).

The leading specific cause of death for Aboriginal Australians overall in 2018 was ischaemic heart disease, accounting for 390 deaths (12.1% of all deaths). Diabetes was the second leading specific cause of death, accounting for 232 deaths (7.2% of all deaths) at a rate of 72.1 deaths per 100,000 in 2018 (Australian Bureau of Statistics, 2019a).

In 2015–17, life expectancy at birth for Aboriginal Australians was estimated to be 71.6 years for males and 75.6 years for females. These expectancies are 8.6 years and 7.8 years less than non-Aboriginal males and females, respectively (Australian Institute of Health and Welfare, 2020d).

2.2 Avoidable deaths by selected conditions: Aboriginal persons aged 0-74 years

Avoidable deaths by selected conditions for Aboriginal persons aged 0 to 74 years were significantly higher than the rest of the Aboriginal population in the following regions (Public Health Information Development Unit, 2021a).

Avoidable deaths from circulatory system disease were significant in the following areas:

- Armadale (ASR=119 per 100,000)
- South Perth – Victoria Park (ASR=144 per 100,000).

Rates of avoidable deaths from diabetes were significant in the following areas:

- Belmont (ASR=79 per 100,000)
- Cockburn (ASR=77 per 100,000).

Gosnells (ASR=68 per 100,000) had significant avoidable deaths from external causes (falls, fires, burns, suicide and self-inflicted injuries). Kwinana (ASR=80 per 100,000) had significant avoidable deaths from other external causes (transport accidents, accidental drowning, and submersion) (Public Health Information Development Unit, 2021a).

2.3 Potentially Preventable Hospitalisations for Aboriginal hospital admissions

The potentially preventable hospitalisations (PPHs) indicator is a proxy measure of primary care effectiveness. PPH are certain hospital admissions (both public and private) that potentially could have been prevented by timely and adequate health care in the community (Public Health Information

Development Unit, 2021a).

For 2015/16 to 2017/18, chronic condition PPHs were significantly higher compared to the state Aboriginal rate in the following regions:

- Chronic angina in Canning (500 per 100,000), South Perth – Victoria Park (390), Cockburn (338), Belmont (334) and Kwinana (331)
- Congestive cardiac failure in South Perth – Victoria Park (933 per 100,000) and Melville (537)
- Diabetes in Belmont (900 per 100,000), Fremantle (865), South Perth – Victoria Park (943), Canning (832), Cockburn (790)
- Iron deficiency anaemia in Fremantle (467 per 100,000), Gosnells (295) and Perth South (234)
- COPD in South Perth – Victoria Park (945 per 100,000)
- For 2015/16 to 2017/18, acute PPH conditions were statistically significantly when compared to the state Aboriginal rate in the following regions:
 - Acute convulsions and epilepsy in Melville (844 per 100,000) and South Perth – Victoria Park (748)
 - Acute dental conditions in Fremantle (855 per 100,000)
- For 2015/16 to 2017/18, PPH vaccine preventable conditions were statistically significantly when compared to the state Aboriginal rate in the following regions:
 - Pneumonia and influenza in Belmont (403 per 100,000) and South Perth – Victoria Park (398)
 - Vaccine Preventable (Other) in South Perth – Victoria Park (1,391 per 100,000).

Note: Vaccine Preventable (Other) includes diseases such as hepatitis B, measles, mumps, and chicken pox (Public Health Information Development Unit, 2021a).

2.4 Emergency department (ED) presentations

High rates of non-urgent ED attendances indicate

there may be a gap in primary care services (Public Health Information Development Unit, 2021a). Perth South PHN had a lower rate of total non-urgent ED presentations (ASR=3,440 per 100,000 people per year) in Aboriginal and Torres Strait Islander people compared to WA (7,742). Top major diagnosis chapters included factors influencing health status (ASR=1,126 per 100,000) and injury and poisoning (ASR=1,078 per 100,000). Factors influencing health status includes persons impacted by socioeconomic and psychosocial circumstances (Public Health Information Development Unit, 2021a).

High age standardised rates (ASR) for non-urgent ED attendances were identified for the following diagnosis chapters by Aboriginal area (Public Health Information Development Unit, 2021a).

Non-urgent attendance for factors influencing health status were high in the following areas:

- Belmont
- South Perth – Victoria Park
- Gosnells.

Non-urgent ED attendances were high for injury, poisoning and other consequences of external causes in the following areas:

- Fremantle
- Melville
- Cockburn.

2.5 Aboriginal maternal and child health

Compared to the population state rate, Aboriginal mothers living in Greater Perth are over five times more likely to smoke during pregnancy. Aboriginal babies are 2.5 times more likely than non-Aboriginal babies to be of low birth weight and Aboriginal children are twice as likely to be developmentally vulnerable on one or more domains, and nearly three times as likely on two or more domains (Public Health Information Development Unit, 2021a).

Within the Perth South PHN, Fremantle (61%),

Canning (45%), Melville (44%) and Cockburn (43%) had higher proportions of Aboriginal women who smoked during pregnancy. Higher proportions of low-birth-weight babies are in IAREs of Fremantle (18%) and Belmont (15%). More than half of Aboriginal children in Kwinana (56%), Fremantle (53%) and Bassendean (52%) are developmentally vulnerable across one or more physical, social, cognitive and emotional indicators (Public Health Information Development Unit, 2021a).

***Note: The impact of alcohol consumption and Foetal Alcohol Syndrome is discussed in the alcohol and other drug section.*

2.6 Childhood immunisation rates

A key priority of the National Immunisation Program Schedule is to work towards achieving immunisation coverage rates of at least 95% for children aged 1, 2 and 5 years. All Perth South IAREs, in particular, Cockburn (73%), South Perth – Victoria Park (75%), Fremantle (76%) and Serpentine – Jarrahdale (79%) had childhood immunisation rates below target for children aged two years (Public Health Information Development Unit, 2021a). This suggests that interventions should be targeted to increase immunisation coverage for this age group.

2.7 Domestic violence

One in six Australian women and one in 16 men have been subjected, since the age of 15, to physical and/or sexual violence by a current or previous cohabiting partner (Australian Bureau of Statistics, 2017). Domestic violence occurs at higher rates for Aboriginal Australians and is known to have negative mental, emotional and physical implications on victims, including increasing the risk of homelessness. In 2014 to 2015, Aboriginal women were 32 times more likely to be hospitalised due to domestic violence than non-Aboriginal women, while Aboriginal men were 23 times more likely to be hospitalised than non-Aboriginal men (Australian Institute of Health and Welfare, 2018c).

3. Mental health

The 2014-15 National Aboriginal and Torres Strait Islander Social Survey reported that Aboriginal and Torres Strait Islander people with a mental health condition were almost three times as likely to have experienced high or very high psychological distress levels (60%) as those with other long-term health conditions (21%) or no long-term health condition (22%) (Australian Bureau of Statistics, 2016).

3.1 Suicide and self-harm

Rates of suicide among Aboriginal people are substantially higher than those for non-Aboriginal people, particularly among youth. In WA, between 2016 and 2020, the age-specific rate (per 100,000) of suicide deaths among Aboriginal people was 3.9 times, 4.6 times, and 2.8 times higher than the rate for non-Indigenous Australians for ages 0-24 years, 25-34, and 35-44 years, respectively (Australian Institute of Health and Welfare, 2020g). However, the age-specific rate (per 100,000) of suicide deaths among non-Aboriginal was 1.1 times higher than that of Aboriginal people for ages 45+. In WA, Aboriginal females had three times the rate of suicide compared to their non-Indigenous counterparts, while males had about double the rate.

Rates of suicide among Aboriginal people are substantially higher than those for non-Indigenous people, particularly among youth. Between 2016 and 2020, the rate of suicide deaths among Aboriginal people was 3.2 times and 2.8 times the rate for non-Indigenous Australians for ages 0-24 years and 25-44 years, respectively (Australian Institute of Health and Welfare, 2020g). In Western Australia, Aboriginal females had three times the rate of suicide compared to their non-Indigenous counterparts, while males had about double the rate.

The 2014 state Ombudsman's investigation into 36 suicide deaths by youth aged 13-17 years discussed several factors associated with suicide, these include demographic characteristics (such as being male and homeless), mental health conditions, suicidal ideation and behaviour, harmful alcohol and other

drug use, experiencing child maltreatment and adverse family experiences. One or more of these factors was prevalent in the suicide deaths of the 36 young people (Ombudsman Western Australia, 2014).

Across Australia, rates of hospitalisations per 100,000 population for self-harm among Aboriginal people increased from 203 in 2008-9 to 348 in 2019-20 (Australian Institute of Health and Welfare, 2020g). In comparison, rates for non-Indigenous Australians remained relatively steady (from 114 to 104). The largest increase was for Aboriginal females aged 15-19 years, where rates more than doubled over this period.

4. Substance use

4.1 Alcohol consumption

The disease burden due to alcohol experienced by Aboriginal people is 3.1 times that of non-Aboriginal people, accounting for 8.1 per cent of the health gap (Australian Institute of Health and Welfare, 2016).

For Aboriginal Australians, alcohol use disorders account for 8% of the total burden of disease and injury. Most of the burden attributable to alcohol use was seen in Aboriginal males (Australian Institute of Health and Welfare, 2016). For Aboriginal males aged 15-24, alcohol use was the leading cause of disease burden accounting for around one-fifth (21%) of total.

While the proportion of Aboriginal people who consume alcohol at levels that exceed lifetime risk guidelines has decreased overall since 2008, this proportion increased from 14.7% in 2014 to 18.4% in 2018-19 (Australian Institute of Health and Welfare, 2021b).

4.2 Smoking

Ninety-three per cent of the burden of lung cancer, 86.8% of COPD, 70.5% of oesophageal cancer, 63.8% of mouth/pharyngeal cancer and 49% of coronary heart disease (CHD) were attributed to

tobacco use in Aboriginal Australians. The disease burden due to tobacco use experienced by Aboriginal people is 4.6 times that of non-Aboriginal people, and accounts for 23 per cent of the health gap (Australian Institute of Health and Welfare, 2016).

There has been a gradual decline in the proportion of Aboriginal and Torres Strait Islander people smoking. The prevalence of smoking for Aboriginal people declined from 55% in 1994 to 43% in 2018–19 (Australian Institute of Health and Welfare, 2021b).

4.3 Drugs

In 2019, just under 1 in 4 (23%) of Aboriginal Australians had used an illicit drug in the last 12 months. This was 1.4 times higher than for non-Aboriginal Australians (16.6%). In 2019, 15.5% of Aboriginal Australians reported recent use of cannabis and 7.7% reported recent use of pharmaceuticals for non-medical purposes (Australian Institute of Health and Welfare, 2021b).

The Aboriginal population is at high risk of contracting hepatitis B and C. In 2018, 7.2% of Australians living with chronic hepatitis B were Aboriginal (Hepatitis Australia, 2020).

4.4 Accidental overdose

Australia's Annual Overdose Report, produced by the Penington Institute, reported the rate of unintentional drug-induced death continued to remain higher for Aboriginal Australians than non-Aboriginal Australians (Penington Institute, 2020). In 2018 the rate of death per 100,000 population for Aboriginal Australians was 17.3 compared to 6.0 for non-Aboriginal Australians. Opioids are the largest group of drugs identified in unintentional drug-induced deaths for both groups, accounting for more than half of these deaths among Aboriginal (51.6%) and non-Aboriginal (56.1%) people during 2014-2018 (Penington Institute, 2020).

How particular health needs are already being addressed by current services:

As relevant, a short summary of how a particular health need is being addressed by current services, highlighting where:

- PHNs currently fund services that address the identified health need
- While specific health needs might have been identified within the PHN region, it will not translate into a priority as it is already adequately addressed by other existing non-PHN funded services.

The analysis of health and service needs for Aboriginal Health found that Aboriginal people had significantly high rates of death and hospitalisations from injury and accident. Preventing external injury and deaths from accidents is outside the scope of PHNs and is managed by injury prevention organizations, Department of Transport and WA Police.

Priorities

Aboriginal Health

Health Need	Service Need	Priority	Priority Locations	Priority Area	Priority sub-category
Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non- Aboriginal people.	Chronic disease PPHs were statistically significantly higher for Aboriginal populations in Perth South PHN indicating a potential failure of primary care.	Support primary health care providers to provide culturally appropriate chronic disease management for Aboriginal populations and build capacity for patient self-management.	Canning, Belmont-Victoria Park, Kwinana, Fremantle, Gosnells.	Aboriginal health	Chronic conditions
Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non- Aboriginal people.	There are regions with large Aboriginal populations but low uptake of the GP Aboriginal Health Assessment.	Support Aboriginal people to navigate the primary care system and access appropriate services.	Rockingham, Kwinana.	Aboriginal health	Access
Social determinants impact Aboriginal health outcomes.	Non-urgent emergency department attendances are high for factors influencing health status which include persons impacted by socioeconomic and psychosocial circumstances.	There is a need for alternative options to Emergency Department for Aboriginal people presenting with socioeconomic and psychosocial circumstances.	Belmont-Victoria Park, Melville, Gosnells, Fremantle, Cockburn	Aboriginal health	Social determinants
Aboriginal people are more vulnerable to poor mental health.	There is a lack of culturally appropriate mental health services.	There is a need for culturally appropriate mental health services for Aboriginal populations.	Whole PHN	Aboriginal health	Appropriate care (including cultural safety)
Ensure Aboriginal children are up to date with their immunisation program.	Some regions have low childhood immunisation coverage.	Increase Aboriginal childhood immunisation rates for regions not meeting national immunisation targets.	Cockburn, Fremantle, Belmont-Victoria Park, Serpentine-Jarrahdale.	Aboriginal health	Immunisation
Aboriginal people are impacted by vaccine preventable diseases.	Vaccine preventable conditions PPH continue to impact Aboriginal populations.	Ensure Aboriginal people are accessing immunisations (i.e., Influenza)	Belmont-Victoria Park	Aboriginal health	Immunisation

Partnerships and Outcomes

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Support primary health care providers to provide culturally appropriate chronic disease management for Aboriginal populations and build capacity for patient self-management.	IH5 ITC improves the cultural competency of mainstream primary health care services. IH7 ITC processes support Aboriginal and Torres Strait Islander people enrolled on the program to access coordinated care.	Aboriginal Community Controlled Health Services Local Hospital Network Aboriginal Non-Government Organisations General Practice
Support Aboriginal people to navigate the primary care system and access appropriate services.	P2 Health system improvement and innovation.	Aboriginal Community Controlled Health Services Aboriginal Non-Government Organisations General Practice
There is a need for alternative options to Emergency Department for Aboriginal people presenting with socioeconomic and psychosocial circumstances.	P2 A health system improvement, innovation or commissioning best practice.	Aboriginal Non-Government Organisations Local Hospital Network
There is a need for culturally appropriate mental health services for Aboriginal populations.	IH4 Proportion of PHN commissioned mental health services delivered to the regional Aboriginal and Torres Strait Islander population that were culturally appropriate.	Community Mental Health Services General practice Aboriginal Non-Government Organisations
Increase Aboriginal childhood immunisation rates for regions not meeting national immunisation targets.	PH1 95% national immunisation target or increase in immunisation rate for region.	General Practice
Ensure Aboriginal people are accessing immunisations (i.e., Influenza).	P12 Decrease in PPH rates / Where the rate has been stable for at least 3 years, the performance criteria is to maintain the existing rate of PPH.	Aboriginal Community Controlled Health Services

Aged Care

Description of Evidence

Age is an important determinant of health as ageing is accompanied by increased risk of declining health and functional limitations. Australia's older generations – those aged 65 years and over – continue to grow in number and as a increasing proportion of our total population. In 2018, 3.9 million Australians were aged 65 or over. This represented 16% of the total population and is expected to increase to approximately 23% of the population by 2066 (Australian Institute of Health and Welfare, 2020c).

These changing demographics, together with changes in the patterns of disease and dependency, and changes in the expectations of older people and society, will impact on the demand for aged care into the future (Royal Commission into Aged Care Quality and Safety, 2021).

The 2021 Federal Budget includes a \$17.7bn package of new aged care funding. The Government describes its package as a “once-in-a-generation investment” to respond to the Royal Commission into Aged Care Quality and Safety Final Report: Care, Dignity and Respect. The package includes specific funding for PHNs to commission programs to support older Australians as well as improve public awareness and planning for aged care needs.

1. The ageing population

In 2021, there were over 162,000 people aged 65 years and over in Perth South PHN, representing about 16% of its population, similar to the state rate (Australian Bureau of Statistics, 2021a). The proportion aged 65 years and over ranged from 10% in Kwinana and Serpentine - Jarrahdale SA3s to 25% in Mandurah SA3 (Australian Bureau of Statistics, 2021a).



15% of people are aged **65 years and over**

The proportion of people aged **65 years and over is projected to increase to 17%** or 218,000 people by 2030



Coronary heart disease, dementia and COPD are among the leading causes of disease burden for people aged 65 years and over



There are **4969** people utilising a **home care package**



24% of people waiting for a home care package require the **highest level of care**



Belmont – Victoria Park and Canning SA3s have the largest number of home care providers



40% of people aged 80 years and over had a **GP Health Assessment**



There are **97** residential aged care facilities

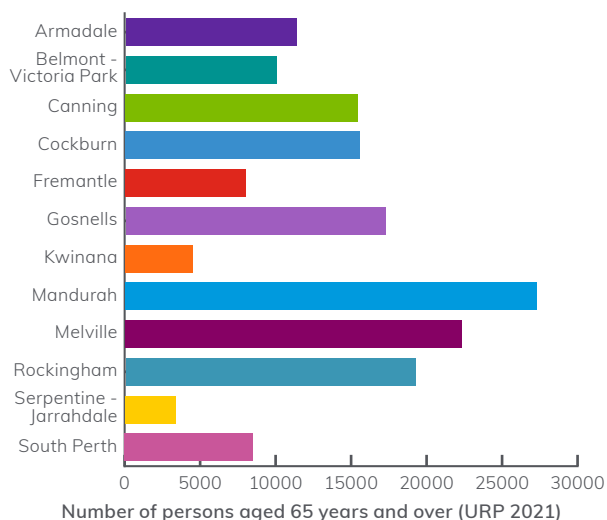


There were **16.3 GP attendances per patient** in residential aged care facilities



54% of people using permanent residential aged care had a diagnosis of **dementia**

Figure 16 - Population (URP 2021) aged 65 years and over in Perth South PHN by SA3.



Age is an important determinant of health and people aged 65 years and over are more likely to have complex and/or chronic conditions as well as comorbidities. Moreover, geriatric syndromes later in life (usually after the age of 85 years) including pressure ulcers, incontinence, falls, and delirium have substantial implications for quality of life as well as health care utilisation (Brown-O'Hara, 2013). The Western Australian Burden of Disease Study 2015 (Department of Health Western Australia, 2021) indicated that in the South Metropolitan health region, dementia, coronary heart disease, COPD, and lung cancer were among the leading causes of disease burden in men and women aged 65 and over. In the East Metropolitan health region, coronary heart disease was the leading cause of disease burden for both men and women; dementia ranked second in females and fourth in their male counterparts; while COPD ranked third in females and second in their male counterparts.

Data from the 2021 Census (Australian Bureau of Statistics, 2021a) indicated that across the state,

31% of adults aged 65 years and over had one long-term health condition (including both physical and mental health conditions) and 26% had two or more co-morbid conditions. These rates were similar in Perth South PHN, at 31% and 27%, respectively. The most common types of conditions among older adults in Perth South PHN were arthritis (28%), heart disease (16%), and diabetes (15%). Kwinana SA3 had the highest rate of co-morbidity, at 32%. For a discussion on the methodologies of estimating the prevalence of long-term health conditions, please refer to the 'Additional Data Needs and Gaps' section in the Introduction.

The Dementia in Australia 2022 report from the Australian Institute of Health and Welfare contains up-to-date information on the prevalence of dementia (Australian Institute of Health and Welfare, 2022). In 2021, it was estimated that there were 33,364 people in Western Australia living with dementia, with 13,068 in Perth South PHN. Around 60% of people with dementia were female. At the local area level, the following SA2s had the highest number of people with dementia in the PHN: Halls Head – Erskine (464), Rivervale – Kewdale – Cloverdale (405), and Rockingham (399) (in the Census, 6,362 people self-reported living with dementia in Perth South PHN (Public Health Information Development Unit, 2022)). For a discussion on the methodologies of estimating dementia prevalence please refer to the 'Additional Data Needs and Gaps' section in the Introduction.

Older adults may also face barriers in accessing and engaging with services. Groups at risk include people who are culturally or linguistically diverse; people who are alone or homeless; and people who need assistance with daily living or housing (Australian Institute of Health and Welfare, 2020c).

2. Utilisation of health services

Australians aged 65 years and over are more likely to be admitted to hospital and to utilise health services including GPs and specialists. In 2018, compared to their younger counterparts, people aged 65 years

and over were (Australian Bureau of Statistics, 2019b):

- more likely to have seen a GP (98% compared to 90%);
- more likely to have seen a medical specialist (70% compared to 59%);
- more likely to have been admitted to hospital (28% compared to 21%); and
- less likely to have seen a dental professional (48% compared to 51%).

In 2020-21, 39% of people aged 80 years and over had a GP Health Assessment in Perth South PHN, similar to the rate for 2018-19 (40%) (Australian Institute of Health and Welfare, 2021g). There were 17.3 GP attendances per residential aged care patient, up from 16.3 in 2018-19 and in line with the national rate (17.8), but below the metropolitan PHN rate (19.2).

The Royal Commission into into Aged Care Quality and Safety noted that people receiving aged care, particularly those in residential aged care, do not consistently receive the health care they need. This includes doctor visits, mental health services, oral and dental health care, and preventative and holistic care (Royal Commission into Aged Care Quality and Safety, 2021).

Medicare items are available for in-depth assessment of a patient 75 years and over. This provides a structured way of identifying health issues and conditions that are potentially preventable or amenable to interventions to improve health and quality of life. Data for participating practices in Perth South PHN had a wide range of uptake of over 75 health assessments. Melville had the highest rate with 31% of patients over 75 undertaking an assessment, followed by Cockburn and Gosnells at 25%. The SA3s with the lowest coverage included Rockingham at 14%, and Mandurah and South Perth at 16%. This is despite Mandurah having a high older adult population so highlights this as an area for improvement.

3. Palliative care

The goal of palliative care is to improve the quality of life of patients with an active, progressive disease that has little or no prospect of a cure (Australian Institute of Health and Welfare, 2021h).

Most Australians would prefer to die at home, rather than in hospital or residential aged care (Swerissen & Duckett, 2015). However, many older people use both hospital and aged care services in their final years of life and often die in one of these settings (Australian Institute of Health and Welfare, 2021h).

The rate of permanent aged care residents with an Aged Care Funding Instrument (ACFI) appraisal indicating the need for palliative care was 11.7 per 100,000 in WA. This was lower than the national rate of 17.2 per 100,000 (Australian Institute of Health and Welfare, 2021h).

The Australian Institute of Health and Welfare collects data on the utilization of palliative care in hospital settings. Palliative care-related hospitalisations are separated into two groups: palliative care hospitalisations and other end-of-life care hospitalisations. The term palliative care refers to specialist palliative care. The term other end-of-life care refers to hospitalisations where a diagnosis of palliative care was recorded, but that care was not necessarily delivered by a palliative care specialist (Australian Institute of Health and Welfare, 2021h).

In WA, people were hospitalized for palliative care at a rate of 17.5 per 10,000 population. The national rate is 18.4 per 10,000. Other end of life hospitalisations were below national rates 9.2 per 10,000 in WA compared to 13.9 per 10,000 nationally (Australian Institute of Health and Welfare, 2021h).

The Royal Commission into Aged Care Quality and Safety (Royal Commission into Aged Care Quality and Safety, 2021) made key recommendations for palliative care including:

- compulsory palliative care training for aged care workers,
- comprehensive sector funding specifically including palliative care and end-of-life care,
- a review of the Aged Care Quality Standards to regulate high quality palliative care in residential aged care,
- access to multidisciplinary outreach services; and
- A new Aged Care Act that includes the right to access palliative care and end-of-life care.

Through the Greater Choice Palliative Care Measure Primary Health Networks will receive funding to improve palliative care coordination in their local communities.

4. Aged care services

The aged care system in Australia offers three main types of service: the Commonwealth Home Support Program, Home Care Packages, and residential care. Across Australia, more than two-thirds of people using aged care services access support from home (Royal Commission into Aged Care Quality and Safety, 2021).

4.1 Commonwealth Home Support Programme (CHSP)

The CHSP provides entry-level support for older people so that they can continue to live independently at home. In 2018-19 in WA, the highest expenditure and number of clients was for domestic assistance; however, social support group had the highest number of hours (Australian Institute of Health and Welfare, 2021d).

4.2 Home Care Packages (HCP) program

The Home Care Packages (HCP) program provides support to older people with complex needs to help them live independently in their own home. Support provided includes help with household tasks, equipment, minor home modifications, personal care, and clinical care such as nursing and allied health services. There are four levels of HCPs from level 1

(basic care needs) to level 4 (high care needs). Across Australia, wait times for approved HCPs range from 3-6 months for level 1 to at least 12 months for level 2 and above (Department of Health, 2021b).

As at December 2020, there were 4969 people across Perth South PHN in a HCP (Department of Health, 2021b). In addition, there were 2842 people waiting for a HCP at their approved level who had yet to be offered a lower level HCP and 24% of these required the highest level of care (level 4).

Home care providers in Perth South PHN included aged care facilities, religious and charitable organisations and local government. The SA3s of Belmont - Victoria Park and Canning had the largest number of home care providers.

4.3 Residential aged care

Perth South PHN has 97 Residential Aged Care Facilities (Australian Institute of Health and Welfare, 2021e). The SA3's of Canning (15) and Melville (14) and Mandurah (10) had the largest number of facilities. Armadale SA3 had only six facilities while Kwinana and Serpentine each had only one facility.

In 2020, Perth South PHN had a similar rate of beds to population aged 70 years and over (76 beds per 1000) compared to Perth North PHN (73 beds per 1000), but higher than Country WA PHN (63 beds per 1000) (Australian Institute of Health and Welfare, 2021e). Within Perth South PHN, about 15% of beds were located in Canning SA3 (1221 beds). The highest rate of beds to population was in South Perth SA3 (184 beds per 1000) and the lowest was in Serpentine – Jarrahdale SA3 (37 beds per 1000). Although it has the largest elderly population, Mandurah SA3 had a very low rate (47 beds per 1000) compared to the state (72 beds per 1000).

Figure 17 - Number of residential aged care beds per 1000 population aged 70 years and over in Perth South PHN by SA3.



As at 30th June 2019, Perth South PHN had a similar rate of residential aged care recipients per 1000 target population (41%) compared to the state (38%) (Australian Institute of Health and Welfare, 2020e) and the occupancy rate for residential care was 91%. More than half (54%) of people using permanent residential aged care in Perth South PHN had a diagnosis of dementia.

4.4 Aged care workforce

In 2019, Perth South PHN had 1267 aged care nurse full-time equivalent (FTE) or 12 FTE per 1000 people aged 70 years and over, equal to the state rate². Gosnells SA3 (7.1 FTE per 1000) and Mandurah SA3 (8.0 FTE per 1000) had the lowest relative supply in the PHN. Mandurah SA3 also had the lowest average weekly hours of nurses in aged care (30 hours per week) in the PHN.

The Royal Commission into Aged Care Quality and Safety (Royal Commission into Aged Care Quality and Safety, 2021) reported that the number of older people in Australia is expected to grow significantly

in the next 30 years, leading to an undersupply of aged care workers. Modelling by Deloitte Access Economics estimated that the number of direct care workers needed to maintain current staffing levels throughout Australia would be around 316,500 full-time equivalent by 2050, based on demographic trends and rates of use of aged care (Royal Commission into Aged Care Quality and Safety, 2021). This represents a 70% increase compared with the current baseline number of 186,000 full-time equivalent in 2020. This number will be significantly higher if the recommendations made by the Royal Commission are implemented.

The Royal Commission reported that workforce shortages as well as inadequate skill mix, low pay and lack of training contributed significantly to substandard care in residential aged care facilities. Between 2003 and 2016, the number of registered nurses in the residential direct care workforce fell from 21% to 15%. At the same time, the proportion of residential direct care workforce who were personal care workers increased from 58% to around 70%. This indicates a shift from a highly trained and skilled workforce to lower paid, semi-skilled personal care workers. There is therefore a need to increase both the supply and quality of the aged care workforce to support the growing ageing population.

5. COVID-19 vaccine rollout

The COVID-19 pandemic has had a significant impact on older people, who are at particularly high risk of severe illness from COVID-19. The World Health Organisation states that in many countries, over 40% of COVID-19 related deaths have been linked to long-term care facilities, with figures being as high as 80% in some high-income countries (World Health Organisation, 2020). In Australia, the elderly and residents of aged care facilities have been identified as priority groups for phase 1 of the COVID-19 vaccine rollout. The phase 1a rollout began in residential aged care facilities on 22nd February 2021 and phase 1b commenced a month later in primary care clinics for adults aged 70 years

and over. Across Australia, PHNs are providing assistance with coordination, planning, and delivery of the rollout. Although a safe and effective vaccine is now available, problems with vaccine supply as well as risks posed by COVID-19 variants remain an ongoing and challenging issue for governments worldwide.

Priorities

Aged Care

Health Need	Service Need	Priority	Priority Locations	Priority Area	Priority sub-category
Older people are more likely to have one or more chronic condition.	Older people need support to manage multiple conditions.	Improve the management of chronic conditions for ageing populations and promote healthy ageing at home.	Whole PHN	Aged care	Chronic conditions
Older people are more likely to present to ED with acute health needs.	Perth South PHN had relatively low number of GP attendances in residential aged care facilities and over 75 health care assessments.	<p>People living at home or in RACFs need support to manage conditions to prevent escalating acuity.</p> <p>Increase utilisation of the GP aged care MBS items to provide GP care to aged care residents.</p>	Whole PHN	Aged care	Access
Most Australians would prefer to die at home rather than in a hospital or aged care facility.	There is a lack of home care palliative care providers.	There is a need to increase access to at home palliative care services.	Whole PHN	Aged care	Palliative care
There are regions within the PHN that are projected to have high older adult populations.	These regions have limited access to aged care facilities.	Promote early intervention and monitoring activities to support older adults to live at home and reduce early entry into residential care.	Mandurah	Aged care	Access
More than half of people using permanent residential aged care in Perth South PHN had a diagnosis of dementia.	People living with dementia rely heavily on aged care services for support. This will continue to increase.	Support people living with dementia and their carers to navigate the aged care system and access appropriate services.	Whole PHN	Aged care	Access

Partnerships and Outcomes

Priority	Expected Outcome	Potential lead agency and/or opportunities for collaboration and partnership
Improve the management of chronic conditions for ageing populations and promote healthy ageing at home.	<p>P12 Rate of potentially preventable hospitalisations - for older people.</p> <p>AC2 Rate of people aged 75 and over with a GP health assessment.</p> <p>P4 Support provided to general practices and other health care providers – aged care.</p>	<p>General Practice</p> <p>Aged Care providers</p> <p>Local Governments</p>
<p>People living at home or in RACFs need support to manage conditions to prevent escalating acuity.</p> <p>Increase utilisation of the GP aged care MBS items to provide GP care to aged care residents.</p>	<p>AC1 Rate of MBS services provided by primary care providers in residential aged care facilities.</p>	<p>Residential Aged Care Facilities</p> <p>General Practice</p>
There is a need to increase access to at home palliative care services.	P2 Health system improvement and innovation.	<p>Aged Care Providers</p> <p>Local Hospital Networks</p>
Promote early intervention and monitoring activities to support older adults to live at home and reduce early entry into residential care.	<p>AC2 Rate of people aged 75 and over with a GP health assessment.</p> <p>P4 Support provided to general practices and other health care providers – aged care.</p>	<p>General Practice</p> <p>Aged Care Providers</p> <p>Local Hospital Network</p>
Support people living with dementia and their carers to navigate the aged care system and access appropriate services.	P2 Health system improvement and innovation	<p>General Practice</p> <p>Aged Care Provider</p>

Needs Assessment Priority Sub-Categories

Aboriginal and Torres Strait Islander Health	Practice support
Access	Workforce
Safety and quality of care	Vulnerable population
After hours	Emergency response
Aged care	Other (free-text description required)
Allied health	
Care coordination	
Chronic conditions	
Appropriate care (including cultural safety)	
Early intervention and prevention	
Social determinates	
Health literacy	
HealthPathways	
Immunisation	
System integration	
Multi-disciplinary care	
Continuity of care	
Palliative care	
Potentially preventable hospitalisations	

Definitions

Term	Definition
Aged Care Planning Region (ACPR)	The current Western Australia Aged Care Planning Regions became effective in April 2018. Aged Care Planning Regions are based on Statistical Area Level 2 (SA2) boundaries.
Age Standardised Rate (ASR)	Age-standardisation is a method of adjusting a crude rate to eliminate the effect of differences in population age structures when comparing crude rates for different periods of time, different geographic areas and/or different population sub-groups (e.g., between one year and the next and/or States and Territories, Indigenous and non-Indigenous populations).
Avoidable Deaths	The number of deaths each year of people under 75 from conditions that are potentially preventable through individualized care and/or treatable through existing primary or hospital care.
Australian Statistical Geography Standard (ASGS)	ASGS provides a framework of statistical areas used by the Australian Bureau of Statistics (ABS) and other organisations to enable the publication of statistics that are comparable and spatially integrated. Include: ABS Structures e.g. Statistical areas and non-ABS Structures e.g. Local government areas (LGA)
Burden of Disease	Burden of disease studies provide a comprehensive assessment of the impact of diseases, injuries and risk factors on a population. This impact is measured as 'disability-adjusted life years' (DALY); that is, the sum of 'years of life lost prematurely' (YLL) and 'years lived with disability' (YLD).
Indigenous Areas (IAREs)	IAREs are medium sized geographical areas designed to facilitate the release of more detailed statistics for Aboriginal and Torres Strait Islander Peoples. IAREs are medium sized geographical units designed to facilitate the release and analysis of more detailed statistics for Aboriginal and Torres Strait Islander Peoples.
Indigenous Relative Socioeconomic Outcomes index (IRSEO)	The IRSEO reflects relative advantage or disadvantage at the Indigenous Area level, where a score of 1 represents the most advantaged area and a score of 100 represents the most disadvantaged area.
Lower urgency presentations	Lower urgency presentations are those where the person: had a visit type classified as an emergency presentation; was assessed as requiring semi-urgent or non-urgent care (triage category 4 or 5); did not arrive by ambulance, police or correctional vehicle; was not admitted to hospital, not referred to another hospital, and did not die.
Potentially Preventable Hospitalisations (PPHs)	The potentially preventable hospitalisations (PPH) indicator is a proxy measure of primary care effectiveness. PPH are certain hospital admissions (both public and private) that potentially could have been prevented by timely and adequate health care in the community. There are 22 conditions for which hospitalisation is considered potentially preventable, across 3 broad categories: chronic, acute, and vaccine-preventable conditions.

Term	Definition
Population Health Areas (PHA)	Population Health Areas were developed by the Public Health Information Development Unit at Torrens University in South Australia. Population Health Areas (PHA) are comprised of a combination of whole SA2s and multiple (aggregates of) SA2s. These were developed to address the potential for data not to be available from data custodians at an SA2 level, because of their need to maintain confidentiality of the data.
Primary Health Networks (PHNs)	PHNs comprise 31 primary health care organisations across Australia. In WA there are three PHNs- Perth North, Perth South and Country WA.
Remoteness Areas	The Australian Bureau of Statistics' (ABS) Australian Statistical Geography Standard (ASGS): Volume 5 - Remoteness Structure ¹ is a framework for statistical geography, which defines locations in terms of remoteness ² . Geographic remoteness is essentially a measure of a physical location's level of access to goods and services ³ . Large population centres tend to have a greater range of goods and services available than small centres.
Statistical Areas (SAs)	<p>Statistical Areas Level 1 (SA1s) are designed to maximise the spatial detail available for Census data. Most SA1s have a population of between 200 to 800 persons with an average population of approximately 400 persons. SA1s aim to separate out areas with different geographic characteristics within Suburb and Locality boundaries. In rural areas they often combine related Locality boundaries.</p> <p>Statistical Areas Level 2 (SA2s) are designed to reflect functional areas that represent a community that interacts together socially and economically. The SA2 include the Estimated Resident Population (ERP), Health & Vitals and Building Approvals data. SA2s generally have a population range of 3,000 to 25,000 persons and have an average population of about 10,000 persons. SA2s are aggregations of whole SA1s.</p> <p>Statistical Areas Level 3 (SA3s) generally have populations between 30,000 and 130,000 persons. They are often the functional areas of regional towns and cities with a population in excess of 20,000, or clusters of related suburbs around urban commercial and transport hubs within the major urban areas. SA3s are aggregations of whole SA2s.</p> <p>Statistical Areas Level 4 (SA4s) have a population above 100,000 persons to provide sufficient sample size for Labour Force estimates. In regional areas, SA4s tend to have lower populations (100,000 to 300,000). In metropolitan areas, the SA4s tend to have larger populations (300,000 to 500,000). SA4s are aggregations of whole SA3s.</p>
Statistical significance	Statistical significance is the likelihood that the difference in conversion rates between a given variation and the baseline is not due to random chance.
The Index of Relative Socio-economic Disadvantage (IRSD)	IRSD index has a base of 1000 for Australia: scores above 1000 indicate relative lack of disadvantage and those below indicate relatively greater disadvantage.
The Kessler psychological distress scale (K10)	The Kessler psychological distress scale (K10) is a widely used, simple self-report measure of psychological distress which can be used to identify those in need of further assessment for anxiety and depression. This measure was designed for use in the general population; however, it may also serve as a useful clinical tool. The K10 comprises 10 questions that are answered using a five-point scale (where 5 = all of the time, and 1 = none of the time).

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