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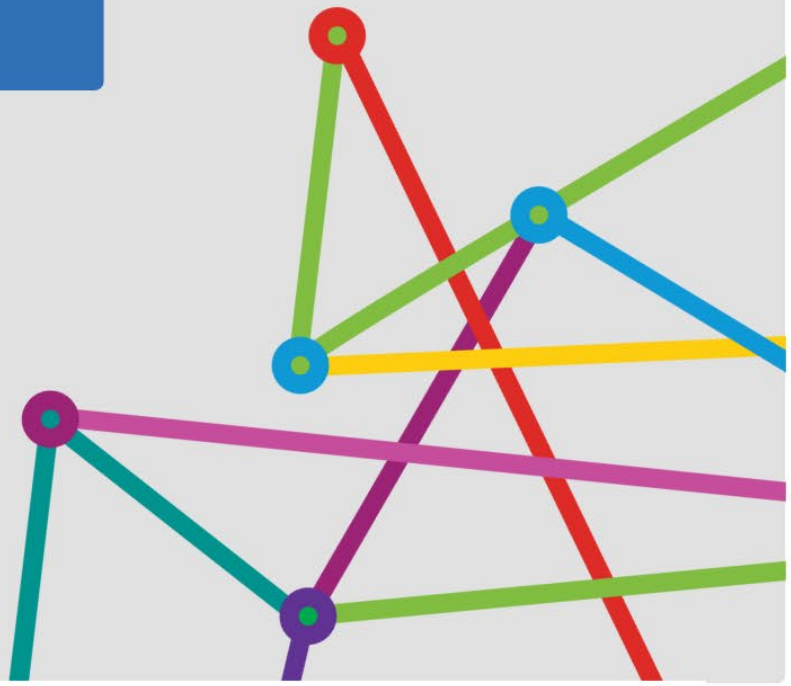
Perth North PHN

Needs Assessment 2025-2027



Content

Introduction

The Perth North Primary Health Network (PHN) has a population of more than a million Western Australians and spans 2,975 square kilometers. It comprises of inner-city high density living and outer metropolitan suburban and agricultural areas.

The purpose of PHNs is to streamline health services and optimise care coordination, particularly for those at risk of poor health outcomes, to ensure they receive the right care, in the right place, at the right time. As the operator of Western Australia's (WA's) three PHNs, WA Primary Health Alliance (WAPHA) aims to put health equity at the heart of all operations, to ensure everyone has access to the care they need regardless of their income, postcode, ethnicity or other demographic factors. We recognise that everyone has different needs and may require different resources and opportunities to overcome access barriers and reach their optimal health.

With the rising cost of living, health equity continues to pose a challenge. People defer or go without care if they can't afford it or easily access it, many of whom have complex health care needs and chronic health conditions. In WA, and the Perth North PHN, there are several population groups at greater risk of poorer health outcomes, including Aboriginal people, multicultural communities, lesbian, gay, bisexual, transgender, intersex, queer, asexual and other sexually or gender diverse (LGBTQIA+) communities, people experiencing socioeconomic disadvantage, people living with disability, older Australians and those with limited access to health care. While not every person in every group has the same experience, some groups as a whole are more likely to experience inequities in health and wellbeing due to social determinants including place-based disadvantage, stigma, discrimination and the unequal distribution of resources. Evidence also shows that, in general, the lower an individual's socioeconomic position the worse their health, and that these people tend to seek treatment later in the course of an illness, present to hospital emergency departments more frequently, face challenges in accessing preventative health care and have poor health literacy. Our under-served communities often face challenges accessing the health care they need, often made more difficult when they experience multiple social determinants of health. Health equity can only be achieved through addressing this wide range of interconnected issues.

The Perth North PHN Needs Assessment seeks to identify the nature and location of unmet health needs for under-served populations at heightened risk of poor health outcomes within the community. Guided by the principles of the PHN Program Needs Assessment Policy Guide[1] and governed by the Needs Assessment Steering Committee, it has been developed based on extensive analysis and triangulation of health and wellbeing-related information, service-related information, and local intelligence from internal and external consultations across WA.

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.'

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 and typically have a population of 30,000-130,000 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 this Needs Assessment, comparisons have been made between state and national rates, and unless otherwise stated, all areas mentioned are SA3s.

Priority setting

WAPHA identifies primary care priorities by triangulating health care supply and demand in the context of local intelligence. Where there is a high demand and low supply, WAPHA identifies a priority, either for the PHN as a whole, or for a defined geographic location. WAPHA takes a flexible approach to inputs, incorporating measures such as potentially preventable hospitalisations (PPH), GP type ED presentations, condition prevalence, burden of disease, avoidable deaths, social determinants of health, measures of socioeconomic

disadvantage, health care workforce supply, health care organisation supply, population size and structure, and contextual information from local communities. WAPHA focusses on priority population groups, including people experiencing socioeconomic disadvantage, people experiencing homelessness, Aboriginal people, older people, culturally and linguistically diverse communities and the LGBTIQA+ community.

Supply-side considerations are crucial in identifying areas of unmet community need and developing a comprehensive health needs assessment. This involves detailed analyses of the availability, distribution, and capacity of health services relative to the population's needs. Key supply-side indicators, such as the number of health care providers, service utilisation rates, and geographic accessibility, are systematically evaluated to determine the adequacy of current service provision. By mapping these supply metrics against population health needs, we can identify potential gaps in service delivery and highlight areas where current health services are insufficient to meet demand. This knowledge can be used to guide targeted interventions and resource allocation to address these deficiencies and improve overall health outcomes. Specific inputs for evaluate local supply across the pillars of this Needs Assessment include:

- Medicare Benefits Schedule (MBS) data, which includes mental health services.
- Potentially preventable hospitalisations.
- National Health Services Directory.
- National health workforce data set.
- Data from the Health Demand and Supply Utilisation Patterns Planning (HeaDS UPP) tool.
- Emergency department data.
- Data from the Primary Mental Health Care Minimum Data Set.
- headspace service and utilisation data.
- National mental health service data.
- Insights collected from extensive consultation, including cultural competency consultations, workforce planning and prioritisation consultation.
- Factors effecting health workforce supply, including housing availability and affordability.

For the 2025-2027 Needs Assessment, a prioritisation matrix was developed to triangulate health care supply and demand information, assigning a rating of low, moderate or high relative to state rates for each input variable in each SA3. This identified areas of unmet need and helped determine if the need is a priority for the PHN. The matrix included an extensive internal review process.

Please note, while this health needs assessment documents a range of community needs, due to resource limitations, WAPHA must focus on prioritising interventions for those needs that will provide the greatest benefit to Western Australians, particularly those at risk of poor health outcomes and avoidable health inequities. We remain committed to using available resources to make the most meaningful impact.

Incorporation of Indigenous Data Sovereignty Principles in the Perth North PHN Needs Assessment

With a significant Aboriginal population in WA, Aboriginal Health is an important pillar in the health of the community and within this PHN Health Needs Assessment. To robustly assess the health needs of Aboriginal Western Australians, detailed analyses of numerous data have been undertaken, sourced from bespoke Aboriginal and Torres Strait Islander surveys, community and sector consultation, and from reputable organisations including the Australian Bureau of Statistics (ABS), the Australian Institute of Health and Welfare (AIHW), and the Public Health Information Development Unit (PHIDU), all of whom are known for their rigorous data collection and reporting standards. These organisations adhere to ethical guidelines that respect Aboriginal rights and cultural practices. Notably, there have been collaborations with Aboriginal communities during data collection and interpretation phases, and efforts made to ensure their perspectives are incorporated into the data collection processes. The data are interpreted within the cultural, social, and historical context of Aboriginal communities, ensuring that findings respect and reflect Aboriginal perspectives and experiences, and were validated by WAPHA's Aboriginal Health Strategic Alignment Group

(AHSAG) and Aboriginal Empowerment Group. When undertaking direct consultation, WAPHA seeks respectful input and guidance from Elders, community leaders and members to reflect their needs, wisdom, cultural protocols, practices and the diversity of local communities in all activities[2]. We strive to represent their collective views and interests justly, respectfully and accurately. When available, indicators that align with the Aboriginal worldview of wellbeing[3] have been reported, including indicators relating to physical health, utilisation of health services and Aboriginal-specific health assessments, barriers to accessing health services, housing, and social and emotional wellbeing. Results are reported with the objective of benefiting Aboriginal communities, including to inform policies and commissioning of health care programs that directly benefit these communities. This Needs Assessment strives to align with Indigenous Data Sovereignty principles, and to use data in an ethical and respectful manner. We recognise the importance of these principles and are dedicated to ensuring our practices serve Aboriginal health needs.

We acknowledge any limitations or gaps in the data, particularly areas where Indigenous voices might be underrepresented. Future efforts will address these gaps through supplementary qualitative data collection and increased engagement with Indigenous communities.

In this Needs Assessment, community need for Aboriginal people has been assessed with insight from a wide range of health indicators, using rate-based comparisons (e.g.

per 10,000 Aboriginal residents) wherever possible. A rates-based approach allows for fair comparisons across different geographies, as it accounts for differences in population size and avoids potential over or under reporting of local health needs relative to other areas, which can occur when relying solely on raw numbers or proportions. Local rates are further compared to state rates to identify regions with comparatively higher or lower needs relative to Aboriginal people across WA.

Please note, within WA, the term Aboriginal is used in preference to Aboriginal and Torres Strait Islander, in recognition that Aboriginal people are the original inhabitants of WA. In accordance with this, WAPHA uses the term Aboriginal throughout this Needs Assessment.

Priority locations for people at risk of avoidable health inequities

To inform health planning and commissioning decisions, WAPHA has developed a new methodology for identifying key locations in WA for people at risk of avoidable health inequities. Deeply understanding and improving health care access for the people is critical to optimising their health outcomes, and evidence has shown they tend to have poor health literacy, seek treatment later in the course of an illness, present to hospital emergency departments more frequently and face challenges in accessing preventative health care.

The method triangulates socioeconomic disadvantage and location disadvantage as foundational indicators for those at risk of poor health outcomes and avoidable inequities related to social determinants of health, and has identified thirteen priority SA3s across WA, three of which are within the Perth North PHN: Wanneroo, Swan and Stirling SA3s. Other priority locations include the Armadale, Gosnells, Mandurah, Rockingham and Kwinana SA3s in the Perth South PHN, and the Albany, Bunbury, Kimberley, Mid West, and Wheatbelt-North SA3s in the Country WA PHN. Further work is planned to expand the methodology to specific priority population groups for whom there is reliable, robust and geographically granular data available, including Aboriginal people, people born in predominantly non-English speaking countries and older Australians.

Prevalence estimates utilising rich general practice data

WAPHA has developed a new methodology for estimating condition prevalence across WA using data extracted from general practices. This method represents clinician diagnoses recorded in approximately 70% of general practices across WA, giving these estimates improved validity and statistical power to detect differences in rates, compared to survey methods. The major limitation of this method is that patients are assumed to live in the same SA3 as the general practice they attend. Following a review of patient numbers, we suspect that some of the patients attending general practices in the Perth City SA3 may live elsewhere. Therefore, any results for Perth City should be interpreted with caution.

Rates of mental health condition 12-month period prevalence generated are somewhat lower than reported in the WA Health and Wellbeing Surveillance System (HWSS), collected through telephone and internet-based survey. It is difficult to explain why people may report these conditions at a higher rate on surveys than they are diagnosed in General Practice. Possible explanations may relate to respondent biases or interpretation of survey questions, or lower rates of diagnostic recording by GPs.

It is also important to note that people with a diagnosis of mixed anxiety and depression are included in estimates of both these conditions.

Emergency department data: Crude rates vs. age standardised rates

In analysing Emergency Department data, a comparison was made between crude rates and age standardised rates. The results were consistent across both approaches with regards to the top SA3s for each of the measures of interest and the order effect. From this, the decision was made to report crude rates in this Needs Assessment, as a more direct indication of need for the local population irrespective of its age structure.

Use of case studies

We recognise that some people and communities do not have the same access to quality health care and experience prolonged poor health outcomes. In WA there are several population groups at greater risk of poorer health outcomes., While not every person in every group has the same experience, some groups as a whole are more likely to experience inequities in health and wellbeing due to social determinants including place-based disadvantage, stigma, discrimination and the unequal distribution of resources. These case studies reflect the lived experience and challenges faced by our under-served communities and help convey the multiple and intersecting facets of disadvantage.

Emerging issues

WAPHA continually assesses community need to inform population health planning and commissioning decisions, including who should receive care, what care, from whom, and in which locations. Two emerging issues for further investigation include environmental factors affecting health (as relevant within the PHN remit) and palliative care for people aged under 65 years.

Additional data needs and gaps

LGBTIQA+

LGBTIQA+ is an acronym commonly used to describe lesbian, gay, bisexual, trans/transgender, intersex, queer/questioning, asexual, and other sexuality, gender, and bodily diverse people and communities.

Reliable data on LGBTIQA+ people is severely limited, particularly at a geographically granular level. WAPHA is committed to ensuring the health services we fund are safe, and general practices are welcoming and inclusive of the needs of LGBTIQA+ people. To ensure we are directing our efforts and funding in the right direction, data on LGBTIQA+ health trends is needed to ensure the services we fund, and existing primary care services meet the needs of people of diverse sex, sexuality and/or gender. However, the scarcity and inconsistency of data is problematic. Without robust data, we don't have the full picture of health needs and service utilisation required to help our funded service providers and general practice meet the needs of LGBTIQA+ communities[6]. To overcome this, along with our funded service providers, WAPHA has improved the way we capture data on service provision and outcomes for people of diverse sex, sexuality and/ or gender, and have sought to influence external data sets to include sexual orientation and gender identity, lobbying for the collection, analysis and interpretation to be formulated in consultation with LGBTIQA+ communities to avoid inadvertently causing additional stigmatisation. Inclusiveness in data collection represents, at a system level, the first step towards breaking down the barrier to service access for LGBTIQA+ people.

In this Needs Assessment, WAPHA has made most of the available information by presenting a discussion of relevant national data sets and research literature. This does not provide localised insight for LGBTIQA+ people, and as a result in most instances the discussion of the health needs of LGBTIQA+ people are uniform across geographies. Insights relating to LGBTIQA+ people are dispersed across several sections of the documents, including Under-served Population Groups, Family Domestic and Sexual Violence, Mental Health, Alcohol and Other Drug.

Mental health

Issues with accessing current suicide statistics has been a barrier to planning and implementing mental health services in the Perth North 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.

General population health

Priorities

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
Cancer is the leading cause of disease burden and accounts for one third of fatal disease burden. Some areas have high rates of avoidable deaths from cancer.	Cancer places additional burden on the health care system. Cancer screening rates are below target and state averages in some locations, particularly for breast and bowel cancer.	**Improve the rates of cancer screening to reduce avoidable deaths from cancer, particularly in in locations with increased risk of poor health outcomes related to social determinants of health.**	Swan, Wanneroo, Bayswater-Bassendean	Population health	Early intervention and prevention
Mental and substance use disorders are the second leading cause of disease burden in WA overall, and the leading cause among Western Australians aged 15-44 years. Disease burden caused by mental and substance use disorders has increased over time, to account for one quarter (26%) of non-fatal burden. Some areas have high levels of clinician-diagnosed anxiety, depression and chronic alcohol misuse, but low	Some areas with high mental health needs have low utilisation of available mental health services, and a low supply of psychologists. There are high levels of self-harm hospitalisations in some locations. In 2023, there were nearly 1,000 mental-health related GP type ED presentations in the Perth North PHN, equating to 8.2 presentations in every 10,000 and placing burden on hospital emergency departments that could be	**Enable timely access to community-based support services and primary mental health care for people experiencing anxiety, depression, psychological distress or engaging in self-harm.** **Support primary health care providers to refer to appropriate mental health services, including telehealth-enabled services.**	Swan, Wanneroo	Population health	Access

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
utilisation of available mental health services.	managed in a primary health care setting.				
Chronic diseases account for two thirds of disease burden in WA, of which cardiovascular diseases account for a significant proportion.	Chronic congestive cardiac failure is the leading cause of PPHs due to chronic conditions in the Perth North PHN.	**Enable access to best-practice management for people with chronic heart failure.**	Swan, Wanneroo, Bayswater-Bassendean	Population health	Chronic conditions
Diabetes is less prevalent in the Perth North PHN than other areas in WA, but there are areas within the Perth North PHN with high rates of diabetes prevalence.	Complications from chronic diabetes is the second leading cause of PPHs due to chronic conditions in the Perth North PHN.	**Support primary health care providers to deliver best-practice management to people with diabetes and build capacity for patient self-management, by enabling access to multidisciplinary, integrated and allied health care.**	Swan, Bayswater-Bassendean, Kalamunda	Population health	Chronic conditions Practice support
One in three residents in the Perth North PHN are obese, and a similar proportion are overweight.	Obesity increases risk for a number of chronic conditions, including leading causes of PPHs.	**Support primary health care providers to implement effective health interventions for those living with overweight and obesity.**	Swan, Wanneroo, Mundaring	Population health	Practice Support
Some areas have high levels of demand for after-hours services, including high rates of after-hours GP-type Emergency Department presentations, suggesting unmet community need.	GP-type ED presentations place avoidable burden on Emergency Departments.	**Enable access to after-hours primary health care.**	Mundaring, Swan, Wanneroo	Population health	Access

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
All regions within the Perth North PHN are below the 95% immunisation target for children aged 1, 2 and 5.	Under-vaccination increases risk of vaccine-preventable illnesses and creates avoidable burden on hospital care.	**Increase childhood immunisation rates for regions not meeting national immunisation targets, particularly in locations with increased risk of poor health outcomes related to social determinants of health.**	Stirling, Mundaring, Perth City	Population health	Immunisation
Mental and physical health conditions often co-occur and can mean people with mental and physical comorbidity have complex care needs.	Some areas have high rates of people living with three or more long term health conditions. Mental health conditions (including anxiety and depression) are the leading chronic condition reported by Perth North PHN residents. Co-occurrence of mental and physical conditions increases care complexity for primary health care providers.	**Enable access to integrated care pathways that address both mental and physical health concurrently.** **Support primary health care providers in managing complex care cases for patients with mental and physical comorbidities.**	Swan, Wanneroo, Bayswater-Bassendean	Population health	Access Chronic conditions Practice support
More people are experiencing homelessness within the Perth North PHN. Evidence shows that people experiencing homelessness often also experience mental health issues, substance use issues and/or at least one chronic condition.	Existing homeless health care services are under considerable strain and unable to expand their services due to resource constraints.	**Increase the capacity of homeless health care services to respond appropriately to the primary care needs of people experiencing or at risk of experiencing homelessness.**	Swan, Perth City, Wanneroo	Population health	Chronic conditions

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
Some areas in the Perth North PHN have large populations of people born in predominantly non-English speaking countries and people with poor English proficiency. People from multicultural communities face challenges navigating the Australian health care system as well as financial and linguistic barriers to making appointments. Limited access to translator/language services is creating significant difficulties for consumers to articulate their health concerns. Mental health, vaccines and psychosocial support are key areas with unmet need for multicultural people.	Some areas in the Perth North PHN have high rates of GP-type ED presentations by people born in predominantly non-English speaking countries. There is only one primary health care service in the Perth North PHN specialising in care for multicultural people, located in the Perth City SA3. Service providers require more training to effectively and appropriately communicate with, and support, multicultural patients.	**Improve access to primary care services, early intervention, cultural safety and health literacy for multicultural communities through a care navigation service.**	Wanneroo, Swan, Stirling	Population health	Access Appropriate care (including cultural safety)

General population health

Description of evidence

1. Overview

While the Perth North PHN is relatively advantaged compared to other parts of WA, there is variation within, with some areas experiencing considerable unmet need. For example, though the median age of death in the Perth North PHN is slightly above the state (82 vs. 81 years)[4], Swan and Wanneroo SA3s are below the state median at 78 and 79 years respectively[5].

In triangulating a wide range of population health measures, the areas of greatest unmet need overall are Bayswater-Bassendean, Kalamunda, Mundaring, Stirling, Swan and Wanneroo SA3s. Greater detail is given in the sections that follow.

2. Social determinants of health

Social determinants of health are the conditions in which people are born, grow and live, including factors such as a person's socioeconomic position, education, neighbourhood and physical environment. These factors underpin a wide range of health and quality of life outcomes and can contribute to avoidable inequities in health care access.

The Socio-economic Index for Areas (SEIFA) provides a measure of the relative social and economic disadvantage within a region based on a wide range of indicators reflecting disadvantage including low income, low educational attainment, high unemployment, and reliance on welfare for income and housing support. In the state of WA, the Perth North PHN is the least socioeconomically disadvantaged PHN (IRSD=1033, compared to 1012 for WA overall), further evidenced by a smaller proportion of low income, welfare-dependent families (3.8% vs. 5.1%) and a higher rate of participation in secondary school (88% vs. 83%)[4].

However, there is disparity within the PHN region, with the Swan and Wanneroo SA3s experiencing considerable socioeconomic disadvantage. Swan has the highest level of disadvantage (IRSD=997)[4], and nearly 33,000 people in the most disadvantaged quintile. This is followed by Wanneroo (IRSD=1005), with nearly 28,000 people in the most disadvantaged quintile[4]. In both Swan and Wanneroo, 6% of families with children are low income and welfare-dependent and 12% of households receive rent assistance from the government[4]. At least one in three low-income households in Perth City, Wanneroo and Swan experience financial stress from a mortgage or rent (41%, 33% and 33% respectively vs. 28% across WA)[4]. Stirling is relatively advantaged (IRSD index=1025), but it is an area with considerable variation, and has the third highest number of people within the most disadvantaged quintile at nearly 27,000[4].

3.Under-served population groups

3.1 Multicultural populations

Approximately one in five people in the Perth North PHN (20%) were born in a non-English speaking country; compared to 18% of people across WA[4]. The SA3s with the highest concentration of people born in a non-English speaking country are Stirling, Wanneroo, Swan, Perth City and Bayswater-Bassendean[4]. People born in a non-English speaking country within these SA3s also have the highest levels of poor English proficiency in the Perth North PHN and high levels of GP-type emergency department presentations[4].

	People born in non-English speaking countries		People born in non-English speaking countries with poor English proficiency		GP-type ED presentations by people born in non-English speaking countries (annual average from 2019-2023)[6]	
SA3	**No.**	**%**	**No.**	**%**	**No.**	**Per 10,000**
Stirling	53,557	26%	6,509	3%	3859	721
Wanneroo	37,770	18%	4,989	3%	3489	924
Swan	31,454	21%	3,474	3%	2803	891
Perth City	28,300	26%	2,268	2%	1868	659
Bayswater-Bassendean	20,793	25%	2,726	3%	1431	688

A bespoke review into the needs of multicultural people in WA identified that they face significant challenges accessing primary health care, including difficulties navigating the health care system, financial barriers, and linguistic barriers when making appointments, articulating their health concerns and understanding medical terminology. Service providers require more training to effectively and appropriately support multicultural patients, including greater understanding of different cultures and the importance of using plain language or interpreters[7-9]. Mental health,

psychosocial support and vaccinations were identified as key needs for multicultural people[7].

For many multicultural communities, mental health is a significant issue, including comorbidity with alcohol and other drugs, and trauma. Some multicultural patients hesitate in seeking health care related to psychological concerns for fear of stigma, and difficulties in articulating their concerns[7].

Vaccinations can be difficult to for migrants to plan on arrival, as patient medical records are often inaccessible or need to be translated. This is significant for all migrants, particularly children, whose vaccinations must be aligned to the appropriate vaccine schedule.

Psychosocial strategies to provide a sense of connection and build independence are important for many people within multicultural communities, including support to set up a bank account, access Centrelink, improve English and obtain a driving license. These skills are critical in overcoming some of the barriers multicultural people face in accessing health care. There is a need to provide this connection and support in a safe and culturally appropriate setting and in a targeted manner to aid the transition to life in Australia. Gender-based psychosocial support is a cornerstone of assistance for many multicultural communities.

There is only one primary health care service specialising in care for the multicultural population in the Perth North PHN, located in Perth City, but Wanneroo, Swan and Stirling have the greatest need for multicultural services[7].

3.2 LGBTIQA+ populations

Many LGBTIQA+ people face discrimination and disparities connected to their gender identification and/or sexuality that impact their physical and mental health and access to health care and other services[10]. Whilst not all LGBTIQA+ people experience challenges in their lives, many do, and LGBTIQA+ people are known to have a higher risk of certain chronic diseases such as cancers, asthma and cardiovascular disease[10]. Studies indicate that LGBTIQA+ people experience intimate partner violence at similar or higher rates compared to heterosexual people[11].

The Private Lives survey is Australia's largest national survey of the health and wellbeing of LGBTIQA+ people to date[10]. In the latest results, LGBTIQA+ people reported lower self-rated health status than the general Australian population, with fewer than one in three (31%) rating their health as very good or excellent compared to more than half (56%) of the general Australian population aged over 15 years. Two in five (40%) cisgender men rated their health as very good or excellent compared to only 29% of cisgender women, 26% of trans women, 20% of non-binary participants and 19% of trans men[10].

More than a third (39%) of participants reported living with a disability or long-term health condition[10]. When accessing a health or support service, 30% of those with a severe disability or long-term health condition felt accepted compared to LGBTIQA+ people who did not report a disability or long-term health condition (51%). More than three quarters (78%) with a severe disability or long-term health condition reported being treated unfairly by others in the past 12 months because of their disability or long-term health condition. This was followed by 56% of people with a moderate disability or long-term health condition and 43% with a mild disability or long-term health condition.

More than four in 10 (42%) of young Australian trans people have encountered medical services who did not respect, understand or have prior experience with gender diverse people[12]. Please refer to the Mental Health section for further details about mental health and suicide prevention for LGBTIQA+ populations.

Local intelligence has highlighted supply-side challenges, including limited understanding and education within the health sector about trans and intersex people[8]. Significant proportions of LGBTIQA+ people do not feel they can safely disclose their LGBTIQA+ identity to their GPs or have been misgendered in practices. It can be difficult to find LGBTIQA+ friendly services due to lack of advertising or promotion; subsequently many rely on word of mouth for this. Improved training and promotion of LGBTIQA+-friendly practices would be welcomed by the LGBTIQA+ community to address these issues.

It is important to note that there is a critical lack of research into the area of health of LGBTIQA+ people at an Australian population level[13]. Furthermore, each sub-group within the LGBTQIA+ population has its own unique health care needs, and it is inaccurate to treat these needs as homogenous across the LGBTIQA+ population. However, the lack of data, especially at a regional level, significantly limits the ability to identify and address the specific

needs of each group – something WAPHA will continue to lobby to improve. Some needs relevant across the LGBTIQA+ population include:

Clinical	
	Access to appropriate: • **Health and medical care** that is inclusive, delivered by health care providers trained to deliver LGBTIQA+ affirming care, such as using correct names and pronouns and understanding gender identity and sexual orientation. • **Preventive care**, such as tailored cancer screenings (e.g. cervical cancer for transgender men, prostate exams for transgender women) and routine health checks that address unique risk factors for different sub-groups. • **Mental health support** delivered by culturally competent mental health providers who understand the unique stressors LGBTQIA+ individuals can experience, including stigma, discrimination, and identity-related challenges.
Cultural	
	• **Respectful, non-judgemental treatment**: Health care free from stigma and discrimination, ensuring all LGBTQIA+ patients feel safe and respected. **Relevant and affirming health information**: Resources that reflect and respect LGBTQIA+ identities, such as educational materials on sexual health, mental wellbeing, and healthy relationships. • **Community support and per networks**: Programs that connect LGBTQIA+ individuals to peer groups, mental health resources, and LGBTQIA+ community organisations that provide culturally relevant support. • **Visibility of LGBTQIA+ friendly signage**: Clear signs, symbols, and inclusive language in health care facilities to signal a safe space for LGBTQIA+ patients.
Organisational	
	• **Inclusive policies and protocols** (e.g. anti-discrimination policies, use of inclusive terms on health care forms). • **Ongoing cultural competency and LGBTQIA+ sensitivity training** for all health care workers. • **Improved data collection** on LGBTQIA+ health needs (e.g. sexual orientation and gender identity data in patient records), helping to inform equitable policy and service delivery. • **Collaboration across LGBTQIA+ organisations** to create referral networks, share resources, and ensure service delivery aligns with community needs. • **Strict adherence to confidentiality policies**, especially regarding sensitive information related to gender identity and sexual orientation, to build trust with LGBTQIA+ patients.

Further information regarding health care standards in Australia that support the LGBTIQA+ community can be found at:

- Australian Charter of Health Care Rights – LGBTQI+
- Rainbow Tick guide to LGBTI-inclusive practice
- Australian Medical Association (AMA) LGBTQIASB+ Position Statement
- Australian Health Practitioner Regulation Agency (AHPRA) LGBTIQA+ Communities guidance for health practitioners
- General Practice Supervision Australia (GPSA) LGBTQIA+ Health and Inclusive Healthcare

3.3 Disability and carers

In WA, 5% of the population are living with a profound or severe disability, and 11% of people aged 15 years and over provide unpaid assistance to those with a disability[4]. The SA3s of greatest community need with regards to disability and carers in the Perth North PHN are Bayswater-Bassendean, Mundaring, Stirling, Swan and Kalamunda, each with approximately 5% of residents living with a profound or severe disability.

Carers may experience a decline in their physical, mental, and emotional health, and adverse financial and social impacts as a result from their care-giving responsibilities. In 2020, carers were more likely to report poor ratings of psychological distress (25.0 compared to 19.3 out of a possible score of 50), physical health (45% compared to 21%) and loneliness (35% compared to 11%) in comparison to non-carers[14]. 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[14]. The areas with the greatest prevalence of carers providing unpaid assistance to people with a disability are Cottesloe-Claremont (13%), Kalamunda (12%), Mundaring (12%), Bayswater-Bassendean (11%), Joondalup (11%) and Stirling (11%)[4]. It is worth noting that despite the relatively high prevalence of carers in Cottesloe-Claremont, it has a low prevalence of people living with a profound or severe disability, suggesting that care is being provided to people with less severe disabilities or who live outside of the Cottesloe-Claremont SA3[4].

3.4 Homelessness

In 2021, it was estimated that 3,502 people in the Perth North PHN experienced homelessness, with the highest rate in Perth City, Swan, Kalamunda and Wanneroo[4]. In Perth City, 85 people per 10,000 are experiencing homelessness, followed by 62 per 10,000 in Swan, 31 per 10,000 in Kalamunda and 25 per 10,000 in Wanneroo[4].

in Perth City and Swan (1,018 and 950 people respectively)[4]. 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, defined as requiring at least four extra bedrooms to accommodate the people usually living there.

Across the PHN, 21% of homeless people (732) live in severely crowded dwellings[4]. The areas of greatest concern are Wanneroo and Swan SA3s, where the number and rate of people living in severely crowded dwellings are the highest in the PHN region at 319 people or 16.23 per 10,000 in Wanneroo and 209 people or 15.05 per 10,000 in Swan[4]. The rates per 10,000 are above the WA rate of 12%[4].

In WA rates of homelessness have increased since 2016, and the latest data reports that 9,729 Western Australians experience homelessness every night[15]. On any given day in WA between 2022-2023, 205 specialist homelessness services were supporting almost 5,100 clients[16]. WA also has the highest proportion of rough sleeping (including improvised dwellings, tents and sleeping out) in Australia, with this number doubling between 2016 and 2021 (from 1,083 to 2,315)[15].

State-wide, health care barriers exist for people at-risk of or experiencing homelessness. A bespoke study into the needs of these people identified that many have had poor experiences with GP clinics and feel unheard when accessing primary health services. Experiences of fear, shame, and stigma were reported, often compounded by a clinical environment where some people feel out of place or unwelcome. Other barriers, including difficulty interacting with non-clinical staff (e.g. reception, security), fear of losing possessions to attend mainstream services, and financial barriers can also make it difficult for patients to make an appointment and see a clinician. Long wait times for appointments, transport availability and lack of fixed address mean keeping appointments is difficult.

Dual diagnoses and comorbidity can create complexities in accessing health care services, impacting eligibility for certain services and resulting in individuals feeling like they are being passed between different service providers in search of the right care. People experiencing homelessness indicated that it can be difficult to find the language to talk to clinicians about their concerns, and that clinicians may try to "fix everything all at once" as opposed to on one thing at a time.

In WA, 68% of the homeless population have at least one chronic health condition, 68% are living with mental health challenges, and 62% have a substance use disorder[17]. More than one third (38%) have poor health from all three (physical, mental and substance issues)[17].

There are four primary health services specialising in care for people experiencing homelessness in the Perth North PHN, located in Perth City, Stirling, Joondalup, and Bayswater-Bassendean[18]. However, they are thinly stretched and constrained by funding barriers. There is a consensus that in the Perth metropolitan areas, there is no need for new services, rather existing services should be supported to expand their operations, and support should be provided for coordination of services and care. It's also noted that outreach and in-reach

models where there are trusting relationships and continuity of care have a higher likelihood of being successful in supporting people at risk of or experiencing homelessness access primary health care services.

Homelessness among LGBTIQA+ people

Evidence shows that LGBTIQA+ people are more likely to experience homelessness compared to those who identify as heterosexual[19]. Key risk-factors leading to homelessness for LGBTIQA+ people are violence, harassment, societal ignorance and discrimination, all which can lead to adverse outcomes in terms of employment and income, particularly for trans and gender diverse people[19, 20].

One in five (22%) have experienced homelessness at some point[10]. Trans and gender diverse participants reported higher rates of ever experiencing homelessness than cisgender participants, with 34% of trans men and non-binary participants, 32% of trans women, 20% of cisgender women and 17% of cisgender men ever experiencing homelessness[10].

3.5 Developmentally vulnerable children

The Australian Early Development Census 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.

Children in the Perth North PHN are slightly less likely to be classified as developmentally vulnerable (17% vs 20% in WA overall)[4]. Though relative need is low in the Perth North PHN compared to other areas of the state, the areas with the highest proportions of developmentally vulnerable children in within the PHN region are Swan (21% of children are developmentally vulnerable on one or more domains), Kalamunda, Wanneroo and Mundaring (20% each).

3.6 Family, domestic and sexual violence

The Australian National Plan to End Violence against Women and Children 2022–2032 aims to end gender-based violence through prevention, early intervention, response, recovery and healing. Aligning with this, Western Australia's Family and Domestic Violence Prevention Strategy details initiatives to prevent and respond to family, domestic and sexual violence, the key outcomes for which are prevention and early intervention; safety for victims through timely and accessible services; and accountability for perpetrators and support to cease violent behaviour.

One in six Australian women and one in eighteen men (since the age of fifteen) have been subjected to physical and/or sexual violence by a current or previous cohabiting partner[21]. Moreover, one in six women and one in nine men were physically or sexually abused before the age of 15 years[21]. The following groups have been identified as being more at risk of family, domestic and/or sexual violence[22].

- women
- children
- people living with a disability
- Aboriginal people
- people from multicultural backgrounds
- people in rural and remote Australia
- older people
- LGBTIQA+ people
- people experiencing socioeconomic disadvantage.

In 2018, partner violence was ranked as the fourth leading risk factor contributing to total disease burden for women aged 15-44, with child abuse and neglect during childhood being the leading risk factor[23]. Family and domestic violence is also a leading cause of homelessness. In 2022-23, approximately 104,000 (38%) of clients assisted by specialist homelessness services (SHS) had experienced family and domestic violence and of these, 3 in 4 (75%) were female[23].

WA Police statistics indicated that across the state from July 2023 to June 2024, there were 31,569 recorded family related assault offences, with a monthly average of 2,631[24]. The areas of greatest concern in the Perth North PHN are the WA Police districts of Midland (encompassing the Swan, Mundaring and Kalamunda SA3s) and Mirrabooka (encompassing areas from the Stirling and Bayswater-Bassendean SA3s), equating to an average of 198 per month in Midland and 176 in Mirrabooka[24].

Family, domestic and sexual violence among LGBTIQA+ communities

More than two fifths (42%) of LGBTIQA+ people who participated in the latest Private Lives survey reported having ever been in an intimate relationship where they felt they were abused in

some way by their partner(s)[10]. A similar proportion (39%) reported ever feeling abused by a family member. Among those who reported having experienced intimate partner or family violence, 28% reported the incident to a relevant service at the most recent time this occurred. Almost half (49%) had been coerced or forced into sexual acts they did not want to engage in at some point in their lives, including 9% in the past 12 months[10].

The Family, Domestic and Sexual Violence in Australia report notes that lesbian and bisexual women experience more physical, sexual and emotional abuse than exclusively heterosexual women, and that in a survey of bisexual, transgender, intersex and queer men, almost three in five(62%) reported that they had experienced physical, verbal or emotional abuse in a relationship, with approximately one in four (26%) experiencing abuse within the last year[23]. The Family, Domestic and Sexual Violence in Australia report notes that lesbian and bisexual women experience more physical, sexual and emotional abuse than exclusively heterosexual women, and that in a survey of bisexual, transgender, intersex and queer men, almost three in five (62%) reported that they had experienced physical, verbal or emotional abuse in a relationship, with approximately one in four (26%) experiencing abuse within the last year[23].

3.7 Women's health: hysterectomy and endometrial ablation

In Australia, heavy menstrual bleeding affects one in four women of reproductive age with many also experiencing pain, fatigue and anxiety[25, 26]. Of women experiencing heavy menstrual bleeding, less than half seek medical treatment and more than 60% are iron deficient[27]. A range of treatment options are available, from oral medication (non-hormonal and hormonal) to the more invasive treatments of endometrial ablation and hysterectomy.

The Australian Commission on Safety and Quality in Health Care recently published a revised Heavy Menstrual Bleeding Clinical Care Standard (2024 June) with an emphasis on informing the patient about her treatment options and potential benefits and risks, and participation in shared decision making based on their preferences, priorities and clinical situation[28]. It notes that hysterectomies for management of heavy menstrual bleeding should only be considered when alternative treatment options are ineffective or unsuitable, or at the patient's request. It also notes that the patient be fully informed of the potential risks and benefits before deciding. Separately, the Women's Health Focus Report maps geographic variation in hysterectomy and endometrial ablation hospitalisation rates, to investigate whether appropriate care is being delivered and improve the range of treatment options available to women experiencing heavy menstrual bleeding.

Hysterectomy is mostly performed for benign gynaecological conditions of which heavy menstrual bleeding is one of the most common[27]. Between 2014-2015 to 2021-2022, there was a 24% decrease in WA (312 to 236) in hysterectomy hospitalisation ASR (non-cancer diagnoses) per 100,000 women aged 15 years and older; slightly above the 20% decrease seen nationally during the same period[27]. Relative to other areas in WA, the Perth North PHN has lower hysterectomy rates per 100,000, however there is some variation within the region, with Joondalup (255), Cottesloe-Claremont (249) and Wanneroo (239) all having hysterectomy hospitalisation ASRs above state level of 239 per 100,000[27]. At 197 per 100,000, Aboriginal women in WA have a lower hysterectomy hospitalisation ASR compared to the overall state rate[27].

Whilst not usually as effective in managing heavy menstrual bleeding as a hysterectomy, endometrial ablation has a shorter recovery period and lower risk of short-term effects[27]. Between 2013-16 to 2019-22, there was a 10% increase in endometrial ablation hospitalisation ASR (non-cancer diagnoses) per 100,000 women aged 15 years and older in WA; equal to the national rate[27]. Relative to other parts of WA, the Perth North PHN has a lower rate of endometrial ablation, however there is some variation within the region, with Joondalup (227), Mundaring (211), Kalamunda (202), Swan (202) and Wanneroo (199) all above the state rate of 181 per 100,000. At 97 per 100,000, Aboriginal women in WA have a lower endometrial ablation hospitalisation rate than the overall state rate[27].

4. 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. 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.

4.1 Risk factors

Established risk factors for chronic disease include having high blood pressure, being overweight or obese, smoking and doing little or no exercise[29]. Psychosocial factors such as social isolation and loneliness also contribute to chronic ill health[29]. Risk factors for chronic disease tend to be more prevalent in areas experiencing socioeconomic disadvantage and in regional and remote areas[30].

Perth North residents have lower rates of risk factors, compared to the rest of WA:

- 71% of Perth North PHN residents are classified as overweight or obese, compared to 74% of Western Australians[31].
- 15% of Perth North PHN residents undertake no leisure physical activity, compared to 17% of Western Australians[31].
- 10% of Perth North PHN residents currently smoke compared to 11% of Western Australians[31].

However, some areas within the Perth North PHN have higher rates for these risk factors, particularly Swan, Mundaring, Wanneroo and Bayswater-Bassendean. In the Swan SA3, 76% are classified as overweight or obese, while Mundaring and Wanneroo have higher proportions of residents not undertaking any leisure physical activity (20% and 17% respectively)[31]. Rates of smoking are above state levels in Bayswater-Bassendean (13%) and Swan (12%)[31]. High blood pressure is noted in Kalamunda and Stirling (25% each compared to 23% in WA overall)[31].

4.2 Burden of disease

Burden of disease measures the impact of different diseases or injuries on a population. It combines the years of healthy life lost (YLL) 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 accounts for a two thirds (67%) of the burden of disease in Western Australia. The latest Western Australian Burden of Disease Study[32] indicates the top five disease groups are cancers (17%), mental and substance use disorders (14%), musculoskeletal conditions (13%), cardiovascular disease (12%), and injuries (11%)[32].

The leading cause of fatal disease burden in WA was coronary heart disease for both males and females[32]. Breast cancer and suicide and self-inflicted injuries ranked second for females and males respectively[32]. Lung cancer ranked third for both males and females. Males have higher burden from coronary heart disease (12 YLL compared to eight YLL for females).

Within Western Australia, the top three leading cause of non-fatal disease burden are back pain and problems, depressive disorders, and anxiety disorders for both males and females[32].

4.3 Prevalence of chronic disease

For the first time in 2021, the Census collected information on ten common long-term health conditions in Australia, which included, arthritis, asthma, cancer including remission, dementia including Alzheimer's disease, diabetes excluding gestational diabetes, heart disease including heart attack or angina, kidney disease, lung conditions including chronic obstructive pulmonary disease (COPD) or emphysema, stroke, and mental health conditions including depression or anxiety. In the 2021 Census, 19% of all Western Australians (484,000) reported they had one of the above conditions and 5.3% reported they have two of the selected conditions[33].

In the Perth North PHN, the rates for all chronic diseases reported on in the Census were similar to the state rates[4], indicating that the Perth North PHN is not an area of significant need for chronic conditions, relative to other parts of WA. The most prevalent chronic coniditions in the Perth North PHN are mental disorders including depression or anxiety (ASR=8.3 people per 100), arthritis (7.6 per 100) and asthma (7.3 per 100)[4]. Swan had the highest rates in the Perth North PHN for six chronic diseases (lung conditions, asthma, stroke, kidney disease, heart disease and diabetes) with Wanneroo being in the top three highest SA3s for the following chronic diseases - lung disease, arthritis, asthma, stroke, kidney disease, heart disease, diabetes and dementia[4]. Both Swan and Wanneroo's rates were higher than Perth North PHN averages for all diseases except cancer[4]. Stirling had similar rates for all diseases to Perth North PHN[4].

Nearly one in three (31.2%) of people aged 15-44 years were estimated to have a mental and behavioural condition[34]. After adjusting for age, multi-morbidity was more common in females

(23.8%) than males (19.9%) and in people living in the lowest socioeconomic areas (28.4%) compared to the highest socioeconomic areas (16.1%)[34]. However, the prevalence of multi-morbidity was similar across remoteness areas[34].

Reported estimates for common chronic conditions for Perth North PHN are given in the table below[4].

Chronic condition	Estimated prevalence for Perth North PHN (ASR per 100)
Mental health conditions including depression or anxiety*	8.2
Arthritis	7.6
Asthma	7.3
Diabetes excluding gestational diabetes	4.2
Heart disease including heart attack or angina	3.7
Cancer including remission	2.9
Lung conditions including COPD	1.5
Dementia including Alzheimer's disease	0.8
Kidney disease	0.7
Stroke	0.8

*This the first time the chronic conditions have been collected in the Census, and there is some evidence that there may be biases in reporting mental health conditions. Therefore, these number should be interpreted with caution.

Using WAPHA's new method of estimating condition prevalence from General Practice Data, rates of clinician diagnosed diabetes were significantly higher in Bayswater-Bassendean (9.2%), Swan (8.5%) and Kalamunda (8.4%), compared to the state rate of 7.9%[35].

4.4 Potentially preventable hospitalisations 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. Chronic conditions that are classified as potentially preventable include: angina, asthma, COPD, congestive cardiac failure, diabetes complications, hypertension and iron deficiency anaemia.

Relative to WA, the Perth North PHN has a lower rate of PPHs due to each of these chronic conditions. Swan (1111) and Wanneroo (948) had the highest ASR rates for total chronic conditions, followed by Bayswater-Bassendean (807) and Stirling (733)[4]. The lowest rates were in Joondalup SA3 (465) and Cottesloe – Claremont SA3 (273)[4].

4.5 Management of chronic disease in primary care

Medicare rebates are available to GPs to manage chronic or terminal medical conditions, including preparing, coordinating, reviewing or contributing to chronic disease management plans (CDMP). They apply for a patient who suffers from at least one medical condition that has been present (or is likely to be present) for at least six months or is terminal[36].

Wanneroo (18%) had the highest CDMP utilisation, followed by Kalamunda (15%), Joondalup (14%) and Swan (14%)[37]. This could be indicative of greater service awareness or availability and/or higher prevalence of chronic conditions in these areas. There is evidence of higher prevalence of chronic conditions in Wanneroo, Swan and Kalamunda.

Spotlight on: Heather

Heather, a 44-year-old transgender woman, has multiple chronic conditions, including diabetes. She is estranged from her family and socially isolated and is reluctant to access any support services for fear of being judged as she has had bad experiences in the past. She struggles to coordinate her medical appointments and often misses them.

Heather works part-time and finds it hard to manage her finances, especially with the cost of living increasing. She has poor nutrition and usually buys processed foods as they are cheaper than fresh produce, which makes managing her diabetes difficult.

5. Avoidable mortality

Avoidable mortality refers to deaths of people under 75 years from conditions that are potentially preventable or treatable through primary/hospital care. The rate of avoidable deaths in the Perth North PHN is below WA overall (ASR=100.5 vs. 117.6), however, Swan and Bayswater-Bassendean are above state rates at 119.8 and 119.0 per 100,000 respectively[5]. The leading causes of avoidable deaths were[5]:

	Swan	Bayswater - Bassendean	WA
Cancer	27.4	27.6	25.8
Cerebrovascular disease	7.7	7.3	6.7
Circulatory system diseases	33.7	35.5	32.3
Colorectal cancer	10.4	8.8	8.7
COPD	9.3	4.0	7.1
Diabetes	7.1	8.5	6.5
Ischaemic heart disease	21.4	25.2	21.6
Respiratory system diseases	9.8	4.5	7.4
Suicide and self-inflicted injuries	21.9	15.4	16.9

6. Lower urgency emergency department presentations

Lower urgency emergency department (ED) presentations, also known as GP-type ED presentations, are defined as presentations at public hospital EDs where the person was assigned a triage category of semi-urgent or non-urgent (triage category four or five), did not arrive by ambulance, police or correctional vehicle, was not admitted to hospital or referred to another hospital, and did not die. In some cases these instances may be managed more effectively in the community by GPs[38]. 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. Lower urgency presentations are those where the person: was assessed as requiring semi-urgent or non-urgent care (triage category four or five); 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 6pm (excluding public holidays) and Saturdays between 8am and 12pm.

Data from the Emergency Department Data Collection indicated that in 2023, there were 94,172 lower urgency presentations across the Perth North PHN (820 per 10,000), of which 47% were after hours[39]. Within the Perth North PHN, lower urgency ED presentations were highest among residents of Swan (955 per 10,000), Wanneroo (928), Mundaring (843) and Kalamunda (830), all of which exceed the Perth North PHN rate[39]. High rates of lower urgency ED presentations may indicate gaps in access to primary care services within the community. These presentations suggest that individuals may be seeking emergency care for conditions that could be managed in a general practice setting, pointing to potential barriers such as availability, affordability, or awareness of primary care options. Addressing these issues could alleviate pressure on emergency services and improve overall access to appropriate health care in these areas.

7. Utilisation of primary care services

7.1 General practitioner services

In the Perth North PHN, 85% of the population visited a GP in 2022-23; comparable to the state level of 84%[37]. Utilisation of non-urgent and urgent after-hours GP services in the Perth North PHN were 14% and 2% respectively; again similar to the state rates of 13% and 1%[37]. Kalamunda (17%), Joondalup (16%) and Bayswater-Bassendean (15%) had the highest utilisation of non-urgent after-hours GP services, while Mundaring and Cottesloe-Claremont were lowest utilisation at 10% each[37]. For urgent after-hours GP services, the greatest utilisation was in Swan, Wanneroo, Stirling and Bayswater-Bassendean, all at 2% each[37]. In the Perth North PHN, 85% of the population visited a GP in 2022-23; comparable to the state level of 84%[37]. Utilisation of non-urgent and urgent after-hours GP services in the Perth North PHN were 14% and 2% respectively; again similar to the state rates of 13% and 1%[37]. Kalamunda (17%), Joondalup (16%) and Bayswater-Bassendean (15%) had the highest utilisation of non-urgent after-hours GP services, while Mundaring and Cottesloe-Claremont were lowest utilisation at 10% each[37]. For urgent after-hours GP services, the greatest utilisation was in Swan, Wanneroo, Stirling and Bayswater-Bassendean, all at 2% each[37].

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 groups of people who may be at higher risk of health issues or poor health outcomes. These can include Aboriginal people, people aged 75 years and over, and people living with disability. In 2022-2023, the utilisation of GP health assessments in the Perth North PHN was 4%, similar to the state rate of 5%[37]. Mundaring (7% and Kalamunda (6%) had the highest utilisation within the PHN region, while Cottesloe-Claremont (3%) had the lowest utilisation[37]. All other areas within the Perth North PHN region had 4% of residents with a GP health assessment[37]. Please note, these data only include Medicare-subsidised services, and it is not currently possible to obtain data by type of health assessment.

7.2 Allied health services

In 2022-23, 37.3% of people in the Perth North PHN utilised Medicare-subsidised allied health services; slightly above the state rate of 35.8%[37], noting that the majority of Medicare-subsidised allied health services are for optometry services, and Medicare-subsidised allied health services only account for a portion of allied health service use in Australia. This is because they are only available to patients with a GP or specialist referral, and exclude non-Medicare subsidised services, such as those provided by Aboriginal health services and other non-government organisations[37]. In the Perth North PHN, utilisation of Medicare-subsidised allied health services was slightly above the WA rate (37.3% vs. 35.8%)[37], suggesting community need for these services is more sufficiently met compared to other areas of the state. Utilisation was highest in Joondalup and Kalamunda at 42% and 39% respectively, and while it was lowest in Swan (35%) and Stirling (36%), these levels are on par with the overall state rate[37].

7.3 Nurse practitioner, practice nurse and Aboriginal health worker

In 2022-2023, 4% of people in the Perth North PHN utilised a Nurse Practitioner service, similar to the state rate of 3%[37]. Wanneroo and Stirling had the highest utilisation at 4% each, while Cottesloe-Claremont (2%) was lowest, followed by Bayswater-Bassendean, Kalamunda and Swan (3% each)[37]. No areas in the Perth North PHN were below the state rate.

The nursing and Aboriginal health worker service group consists of Medicare-subsidised services delivered by a nurse practitioner, practice nurse, midwife or Aboriginal health worker[40]. In 2022-23, 5% of residents within the Perth North PHN had utilised an MBS-subsidised Nurse/Aboriginal Health Worker service; slightly below the state rate of 7%[37]. Utilisation was highest in Kalamunda (9%), followed by Wanneroo, Mundaring and Bayswater-Bassendean (6% each) [37]. The lowest utilisation was in Cottesloe-Claremont (3%), Perth City (4%), Swan (5%) and Stirling (5%)[37].

8. Access Relative to Need index

The Access Relative to Need (ARN) index measures access to primary health care relative to predicted need and is based on a methodology developed by the Australian Institute of Health and Welfare in 2014[41]. The ARN index is based on the following information:

- The location of general practices and the populations they serve.
- The number of GP (FTE) working at each location.
- The demographic and socioeconomic characteristics of the population.

In 2024, WAPHA updated the ARN index to identify areas with a low access to GPs relative to need.

Within the Perth North PHN, Bayswater-Bassendean has the lowest access relative to need (80% lower than all SA3s in WA), followed by Perth City and Stirling (70% lower than all WA SA3s). Poor access relative to need for general practice services highlights the need for more GP workforce in the area.

8.1 Consumer views of accessing GPs

To better understand the experiences of people experiencing socioeconomic disadvantage accessing primary health care, particularly general practice when they need it WAPHA commissioned consumer research in 2021[42].

Most people experiencing disadvantage were able to access a GP when needed. Although 31% of respondents encountered barriers when visiting a GP, 92% had visited a GP in the last year[42]. However, approximately 1 in 10 respondents (11%) had needed a GP on at least one occasion but had not visited one[42]. This was higher among Aboriginal people (22%), people aged 18-39 (20%), those living with disability (16%) and females (15%)[42]. The main reasons these people needed a GP were illness, concerns about mental health, to get a prescription and to help with the management of a long-term health condition[42]. Only 8% of these people sought help from an alternative healthcare professional,

such as a pharmacist[42]. A lack of available appointments was the main reason for not seeing a GP when needed, cited by nearly half (43%) of this group[42]. A further 25% reported a lack of time and other commitments, while 16% felt afraid of being judged[42].

Among the full sample, the most common reason to visit a GP was to get a prescription (53%), followed by managing a chronic condition (28%) and general check-up (25%)[42].

Accessibility factors such as appointment availability were the most cited barrier to accessing a GP, followed by transportation issues and conflicting commitments[42]. Women, people with young children, young people, people from multicultural communities, people living with a disability and Aboriginal people were most likely to experience barriers[42].

Cost did not appear to play a large role in limiting access to a GP, with only one in 10 (10%) mentioning it as a barrier[42]. This finding is attributed to over 80% of the survey cohort indicating that their GP service was bulk billed[42]. 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[42].

Nearly nine in 10 (87%) prefer attending a GP appointment in person but 2 in 3 (67%) would be comfortable with a telehealth appointment under some circumstances, such as for follow up appointments[42].

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 one, two and five years. Data from the Australia Immunisation Register from 1 January 2023 to 31 December 2023 indicated that in the Perth North PHN, full child immunisation coverage was higher than State average for all ages (one, two and five years), but was still below the 95% target[43]. Approximately 93% of children were fully immunised at 1 year and 93.2% at five years compared to only 90.1% at two years[44].

No SA3 within the Perth North PHN met the 95% immunisation coverage target for children aged one, two or five years[44]. Mundaring had the lowest immunisation rate of all SA3s within the Perth North PHN for all three age categories, with all being below the 95% target (89% 1-year olds are vaccinated, as are 86% of 2 year olds and 89 of five year olds)[44]. Stirling and Cottesloe-Claremont were also areas of concern; below target for all three age groups[44].

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 2019-2020, the breast cancer screening participation rate in the Perth North PHN was 51% (for women aged 50 – 74), equal to the state rate[45]. Across the PHN, the lowest participation rate was in Cottesloe-Claremont (43%)[45], however private suppliers of mammogram services are not represented in this data, so it is possible that screening rates may be higher than reported here. Other areas in the Perth North PHN where fewer than half of eligible women have been screened are Perth City (48%), Mundaring (49%), Swan (49%) and Wanneroo (49%)[45]. In 2020-21, the bowel cancer screening participation rate in the Perth North PHN was 42% (for people aged 50-74 years), equal to the state rate[45]. Across the PHN, the lowest participation rates were in Swan (38%), Wanneroo (40%), Perth City (40%) and Bayswater-Bassendean (41%)[45].

From 2018 – 2021, the cervical cancer screening participation rate in the Perth North PHN was 66% (for women aged 25-74), slightly below the state rate of 69%[45]. The lowest participation rates were in Swan and Wanneroo at 62% each, followed by Kalamunda (64% and Bayswater-Bassendean (65%)[45]. Please note, participation in the new five-year program for cervical cancer screening cannot be accurately reported until there are five years of data available (2018-21).

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.

Services include mobile health applications (Medicare Online, COVID check-in apps), electronic prescribing, electronic health records (My Health Record) and telehealth/telemedicine[46].

Australia wide, the volume of My Health Records with data in them had a growth of 520,000 from January 2023 to March 2024[47]. The largest increase in use from 2023 to 2024 has been seen in specialist letters (78% increase), diagnostic imaging reports (34% increase), and pathology reports (25% increase)[47]. In March 2024, WA had 2.6 million My Health Records[47].

There has been a decrease in the proportion of people who have had at least one telehealth consultation in the 12-months from 30.8% in 2021-22 to 27.7% in 2022-23[48]. Those who had a long-term health condition (37.1%) are more likely to use telehealth compared to those without one (17.3%)[48]. In addition, those aged 65-74 years (31.6%) are more likely to use telehealth than people aged 15-24 (20.9%)[48]. Unfortunately, those living in outer regional, remote or very remote areas (23.4%) are less likely to use telehealth than those living in major cities (28.3%) – there could be several reasons for this including, internet availability/access, telehealth compliant gadgets such as phones and laptops[48]. Of people who used telehealth services in the past 12 months, 87.7% reported that they would use it again if offered[48].

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[49]. It appears that the focus on digital health including telehealth consultations during COVID-19 helped fast track the adoption of technology and more providers saw 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 February 2024, there are now more than 23.5 million My Health Records Australia-wide and more than 23 million or 98% of them have data in them[50]. It is important to note that the COVID pandemic drove telehealth, but unfortunately, these gains have not been sustained as patients are favouring face to face consultations once again.

12. After hours care

The PHN after-hours program aims to improve access to GP services in the after-hours period, being before 8am and after 6pm weekdays; before 8am and after 12pm Saturdays; and all-day Sundays and public holidays, particularly for people at risk of or experiencing homelessness. In Australia, there are four common primary after-hour service models including practice-based after-hours GP, medical deputising models, GP collaboratives and telehealth / internet-supported triage models. The purpose of these models is to enable access to ongoing primary health care for patients unable to engage primary health care providers during-hours; and to divert urgent, but not acute, emergency department (ED) attendances outside of regular operating hours. The role of PHNs is to support the provision of after-hours primary health care by commissioning services in areas with high need, including funding for GP collaboratives and telehealth models of care.

A quantitative data analysis was conducted on need, unmet demand and supply indicators to assess the relative demand of SA3 locations. A Composite Index Score (CIS) was calculated based on the after-hours demand and supply indices, where each SA3 was ranked by relative demand from highest to lowest score.

In the Perth North PHN, there are 388 primary health services open after-hours. The Perth North PHN had a higher utilisation rate of after-hours primary care services (4 per 10,000 population) than the state (3 per 10,000)[6]. Primary health services collectively operate for 62 hours weekly per 10,000 population, which is higher than the state (45 hours)[6]. There were 23 MBS after-hours GP services (urgent and non-urgent) claimed per 100 population in the Perth North PHN, which was 15% higher than the state[6].

The areas of greatest unmet need based on the highest demand and lowest supply of after-hours primary care services are Mundaring (CIS=1.90), Swan (1.71) and Wanneroo (1.56)[6]. Mundaring has the second highest level of demand and second lowest level of supply, and including the least Medicare-subsidised GP after hours services relative to population size[6]. Swan has the highest demand for after-hours services, including the highest levels of GP-type ED presentations after-hours relative to population size, and Wanneroo has the lowest

supply of after-hours services, high demand including a high proportion of people under four years old and over 65 years old, and high proportion of people with multi-morbidities[6].

Stakeholder consultations further revealed two insights for after-hours primary health care across WA. First, operating after-hours services is not financially viable for most GP practices, with prevalent financial barriers including insufficient MBS incentivisation for after-hours services, financial risk due to unpredictable demand in after-hours patient volume and, workforce constraints due to inability to incentivise staff to work during the after-hours period[6]. Second, the Royal Commission into Aged Care Quality and Safety recommendations have increased demand for after-hours GP care for residential aged care home (RACH) providers[6]. The stronger regulation of RACHs to ensure older people receive appropriate care relative to their needs has increased the reliance of RACHs on GPs, resulting in an increase in the number of calls made by RACHs to GPs during the after-hours period due to fear of potential repercussions if the RACHs fail to report or respond to medical incidents, irrespective of the severity of the health concern presented.

13. Workforce

General practitioners

Accurate, up-to-date GP FTE figures are unavailable, so the Department of Health and Aged Care comprised a proxy measure which calculates a GP's workload based on MBS services claimed, with one GPFTE representing a 40-hour week over 46 weeks of the year. For each Medicare provider, the new measure attributes an estimate of the amount of time they have spent on their claims in relation to what would be worked by a fulltime GP (billable time, non-billable time, and non-clinical time). It is an estimation of GP workforce service utilisation and not an exact count of GP FTE available. For this report, we will refer to this measure as the GP Claimed Service Equivalent (GPCSE).

The Perth North PHN has 103 GPCSE per 100,000 residents; similar to the WA rate of 102 per 100,000[51]. Stirling has the lowest rate at 81 GPCSE per 100,000, followed by Bayswater-Bassendean (87 per 100,000), Mundaring (91 per 100,000) and Wanneroo (94 per 100,000)[51]. Local intelligence found that within the Wanneroo SA3, the Two Rocks-Yanchep GP catchment is an area of need for GP workforce, driven by its high population growth rate[52]. There are local four general practices, of which two are accredited to train GP Registrars[52].

The Swan GP catchment, located within the Swan SA3, has two local Aboriginal Community Controlled Health Organisations, one of which has a general practitioner. Also located within the Swan SA3 are 27 general practices, of which 18 are accredited to train GP Registrars[52]. The Swan catchment has one of the highest levels of socioeconomic disadvantage in the Perth North PHN, and detailed workforce analyses identified it as an area of moderate workforce need despite its high level of supply. This is driven by recruitment challenges linked to the financial incentives locally available. The Swan GP catchment is on the Eastern border of the Perth metropolitan area and in addition to high levels of socioeconomic disadvantage, has the highest level of multimorbidity in the Perth North PHN. However, it is not classified as a Distribution Priority Area (DPA), being locations within Australia that have an identified shortage of general practitioner services. This limits the financial incentives that can be offered to GPs, and this alongside perceived complexities of the medicine practised and longer commute times makes it a difficult area to attract GPs to. In response, a local collaborative is lobbying for the Swan catchment to be reclassified as a DPA.

Primary care nurses

In 2022, the Perth North PHN had 3020.7 primary care nurse full-time equivalent (FTE) or 263.1 FTE per 100,000 residents, higher than the state rate at 251.2 FTE per 100,000 residents[51]. Kalamunda has the lowest rate at 71.7 FTE per 100,000[51]. Wanneroo SA3, Stirling SA3 and Swan SA3 had 108.2, 162.6 and 173.2 primary care nurse FTE per 100,000 respectively[51].

Mental Health
Priorities

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
Mental and substance use disorders are the second leading cause of disease burden in WA overall, and the leading cause among Western Australians aged 15-44 years. Disease burden caused by mental and substance use disorders has increased over time, to account for one quarter (26%) of non-fatal burden. Some areas have high levels of clinician-diagnosed anxiety, depression and chronic alcohol misuse, but low utilisation of available mental health services.	Some areas with high mental health needs have low utilisation of available mental health services, and a low supply of psychologists. There are high levels of self-harm hospitalisations in some locations. In 2023, there were nearly 1,000 mental-health related GP type ED presentations in the Perth North PHN, equating to 8.2 presentations in every 10,000 and placing burden on hospital emergency departments that could be managed in a primary health care setting.	**Enable timely access to community-based support services and primary mental health care for people experiencing anxiety, depression, psychological distress or engaging in self-harm.** **Support primary health care providers to refer to appropriate mental health services, including telehealth-enabled services.**	Swan, Wanneroo	Population health	Access
Mental and physical health conditions often co-occur and can mean people with mental and physical comorbidity have complex care needs.	Some areas have high rates of people living with three or more long term health conditions. Mental health conditions (including anxiety and depression) are the leading chronic condition reported by Perth North PHN residents. Co-occurrence of mental and physical conditions increases care complexity for primary health care providers.	**Enable access to integrated care pathways that address both mental and physical health concurrently.** **Support primary health care providers in managing complex care cases for patients with mental and physical comorbidities.**	Whole PHN	Population health Mental health	Access Chronic conditions Practice support

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
Youth mental health is a critical issue, and self-harm hospitalisation among people under 25 years is above the state level. A recent study found substantial numbers of WA high school students report poor life satisfaction, low self-esteem, high levels of stress and the feeling they can't cope with life's challenges. Local intelligence highlights significant need among Aboriginal youth for culturally appropriate mental health support.	Access to youth-focussed mental health care is required to offset the concerning levels of need in this group, however WA youth mental health providers face challenges meeting demand.	**Enable access to safe, quality and culturally appropriate primary mental health care for young people experiencing mental health issues.**	Swan, Wanneroo, Joondalup, Perth City, Bayswater-Bassendean, Kalamunda, Mundaring	Mental health	Access
Intentional self-harm is the fourth leading cause of death among Aboriginal people in Australia. Some areas within the Perth North PHN have rates of avoidable deaths for Aboriginal people due to suicide and self-inflicted injuries.	Some areas in the Perth North PHN have a high rate of mental health-related GP-type ED presentations by Aboriginal people.	**Enable access to early intervention, culturally appropriate suicide prevention services and support primary health care providers in identifying people at risk.** **Enable access to culturally appropriate suicide Aftercare services for those recovering from a suicide attempt.**	Stirling, Swan, Perth City	Mental health	Early intervention and prevention Access

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
The Perth North PHN has the second largest population of people born in predominantly non-English countries in WA. These people can experience mental health challenges resulting from resettlement challenges.	Multicultural people in the Perth North PHN present to hospital emergency departments for GP-type reasons at a rate of 128 per 10,000. People from multicultural communities can experience barriers accessing mental health care, influenced by language difficulties, different cultural understandings of mental health, cultural stigma, confidentiality concerns, unfamiliarity with Australian health systems, and limited culturally competent mental health services.	**Enable access to culturally appropriate mental health care for people from multicultural communities experiencing mental health challenges.**	Stirling, Wanneroo, Swan, Perth City, Bayswater-Bassendean	Mental health	Access
Older people living in aged care and supported accommodation settings are at increased risk of chronic mental health problems.	There is a shortage of mental health services for older adults in aged care or supported accommodation, and aged care providers have limited capacity to address mental health challenges.	**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

Mental health

Description of evidence

Mental health is a key component of overall health and wellbeing. In Australia, the National Survey of Mental Health and Wellbeing 2020-2022 estimated that 43% of Australians aged 16 – 85 had experienced a mental condition at some time in their life[53].

A mental illness can be defined as a clinically diagnosable disorder that significantly interferes with a person's cognitive, emotional or social abilities. The term itself covers a range of illnesses including anxiety disorders, affective disorders, psychotic disorders and substance use disorders[54].

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. 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[54].

1. Overview

The Perth North PHN has slightly higher prevalence across numerous mental health indicators compared to overall state rates. In triangulating a wide range of measures, the areas of greatest unmet need for mental health overall are Mundaring and Bayswater-Bassendean.

2. 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 measure[32].

In 2018, mental disorders (including substance use disorders) were ranked as the second leading cause of disease burden in Western Australia (14%)[32]. Anxiety disorders, depressive disorders and bipolar disorder accounted for over half (54%) of the burden in this disease group[32]. Mental health conditions along with substance use disorders were the second-leading disease group causing total burden in 2023 (15%) and the leading disease group causing non-fatal burden (26%)[32].

3. Prevalence

3.1 Anxiety and depression

Using WAPHA's new method of estimating condition prevalence from General Practice Data, rates of clinician diagnosed Depression and Anxiety were statistically significantly higher in Swan (8.3%, 6.0%), Perth City (7.4%, 5.8%) and Wanneroo (7.3%, 5.5%) compared to state rates (6.7%, 4.8%)[35]. Results for Perth City should be interpreted with caution, as there is reason to believe patients attending these practices may live in other SA3s. Diagnoses of mixed Depression and Anxiety are included in both disease estimates.

3.2 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. The WA Health and Wellbeing Surveillance System (HWSS) found 13% of participants aged 16 years or more across Western Australia and within the Perth North PHN were experiencing high or very high psychological distress. Mundaring and Wanneroo SA3s have the highest estimated prevalence at 15% each, followed by Swan and Stirling (14% each), and Bayswater-Bassendean (13%)[31].

4. Suicide and self-harm

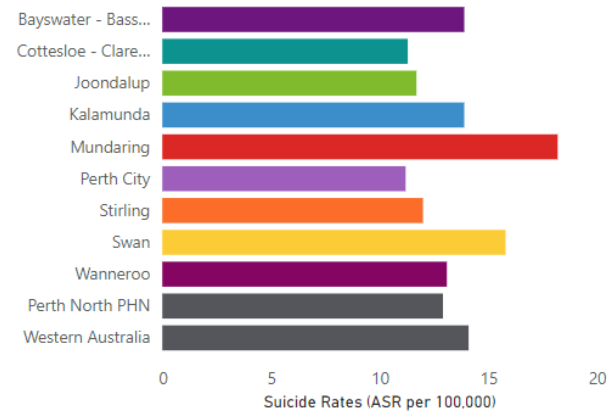
4.1 Suicide

In 2018 to 2022, 733 deaths by suicide in the Perth North PHN were reported at a rate of 12.9 per 100,000. The SA3s of Mundaring (18.2 per 100,000) and Swan (15.8 per 100,000) both had suicide rates above the state rate of 14.1. Wanneroo and Stirling SA3s had rates lower than the state[55].

In 2017 to 2021, suicide was the ninth leading cause of death in the Perth North PHN, accounting for 3% of deaths from all causes in this period[56].

Research suggests that mental health conditions such as depression, psychosis, substance use or personality and trauma-related disorders can be attributed to high numbers of suicides and suicide attempts[57]. This is especially evident immediately after discharge periods from a facility hospital and/or when treatment has potentially been reduced[58]. It is also noted that people with harmful alcohol or drug use can have a higher risk of suicide and self-harm than the general population[59].

Figure 6 - Suicide rates (ASR per 100,000) in Perth North PHN by SA3 (2018-2022)



Tabular data

Name	Suicide rates (ASR per 100,000)
Bayswater - Bassendean	13.9
Cottesloe - Claremont	11.3
Joondalup	11.7
Kalamunda	13.9

Mundaring	18.2
Perth City	11.2
Stirling	12
Swan	15.8
Wanneroo	13.1
Perth North PHN	12.9
Western Australia	14.1

The HWSS collects data on suicidal ideation among adults aged 16 years and over. In the Perth North PHN, 7% of people reported thinking seriously about ending their own lives between 2018 and 2022[31]. Suicidal ideation was highest in Bayswater-Bassendean with 9% of people thinking seriously about ending their own lives, followed by Swan (8%) and Wanneroo (7%). Stirling SA3 was ranked seventh at 6%[31].

5. Youth mental health

Primary mental health care services play an important role in prevention and early intervention efforts reduce the prevalence and impact of mental health problems amongst young people[60]. One in seven young people aged 4 to 17 years, experience mental illness in any given year[61], while 75% of severe mental health problems emerge before the age of 25. Early intervention in childhood and adolescent years can prevent or mitigate potentially lifelong mental illness[62].

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[63].

In WA, 25.9% 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 12.8% of males[63].

Self-harm was roughly twice as high in females compared with males and in older compared with younger adolescents. Females aged 16-17 years had the highest rates of self-harm, with 16.8% having performed an act of self-harm[61].

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 (headspace) and private providers such as psychologists.

Hospital EDs) also play a role in treating mental illness. People seek mental health-related services in EDs for a variety of reasons, often as an initial point of contact or for after-hours care[64]. Between July 2022 and June 2024, 6,780 Western Australians aged 12-17 years presented to hospital EDs for mental-health related reasons; a rate of 370 per 10,000 people aged 12-17[65]. Compared to other areas in WA, the Perth North PHN has lower relative need for youth mental health support in hospital EDs, with 256 per 10,000 (2,063 presentations overall) mental health related ED presentations by people aged 12-17[65]. All areas within the Perth North PHN region were below the state rate, however Perth City (307 per 10,000) Stirling (279), Wanneroo (271) and Bayswater-Bassendean (265) were the greatest areas of concern within the PHN; all above the PHN rate[65].

headspace services support young people across Australia to be mentally healthy and engaged in their communities[66]. Across the Perth North PHN, 1.6% of people aged 12-25 have utilised a headspace service; similar to the state level of 2.2 %[67]. The highest utilisation was in Swan (2.3%), Wanneroo (2.1%) and Kalamunda (1.8%), while the lowest was in Cottesloe-Claremont (0.5%) and Mundaring (1.0%)[67]. Each patient's episode of care comprised of an average of 5.2 occasions of service (i.e. interactions with the service or mental health worker); slightly above the WA average of 4.2[67]. Wanneroo and Joondalup have the highest rate at 6.3 and 6.1 respectively, while the lowest rates are noted in Mundaring (3.5), Swan and Kalamunda (3.7 each)[67].

The Australian Youth Self-Harm Atlas reported the 12-month prevalence of suicidality and self-harm in 2019, as well as risk and protective factors, for young people aged 12 to 17 years. The Perth North PHN is somewhat disparate, with self-harm prevalence and suicide attempts below state rates, but suicidal ideation/planning above state levels[68].

In the Perth North PHN and WA overall, it is concerning that nearly 1 in 10 (9%) young people experienced some form of suicidality (suicidal thoughts or behaviours, including ideation, plans, and attempts)[68]. The greatest areas of concern in the Perth North PHN region were Perth City, Kalamunda, Swan and Mundaring (10% each), all of which were slightly above the state level[68].

Many areas within the Perth North PHN exceed state levels in terms of the proportions of 12 to 17-year-olds who have experienced suicidal ideation or formulated plans in the last 12 months. Across WA, this is an estimated 7.1%, compared to 8.4% in the Perth North PHN[68]. Mundaring, Wanneroo, Swan, Joondalup and Kalamunda are the areas of greatest concern at 9% each, followed by Stirling (8%)[68].

The prevalence for self-harm (regardless of intent), non-suicidal self-harm and suicide attempt were all on par or below state levels in the Perth North PHN[68].

Major depression and anxiety disorders are risk factors associated with higher self-harm prevalence among 12 to 17-year-olds[68]. The proportion of 12 to 17-year-olds experiencing major depression or anxiety disorders in the Perth North PHN is 8%, slightly below the WA prevalence of 9%[68]. Swan (10%) and Kalamunda (9%) are the greatest areas of concern in the Perth North PHN[68].

People whose needs are not met by current mental health services are often 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[69].

Young people have raised concerns about mental health supports only being available once things reach a 'critical level' or 'crisis point'. The current system often requires a young person to meet a select criteria of symptoms before they can access the next level of care[70]. Due to this, of the 26% of young people in any given year with a mental health condition, approximately 12% are likely to miss out on care by not meeting specific criteria[69].

5.1 Self-harm

Intentional self-harm is defined as deliberately injuring or hurting oneself, with or without the intention of dying. It can come in many forms, and affects people from different backgrounds, ages and lifestyles. 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[55].

Hospital admissions for self-harm may indicate a lack of access to mental health services. Within the Perth North PHN, people aged under 25 years were hospitalised for self-harm at a higher rate than the state (148.2 vs. 139.7 per 100,000), and all SA3s except Stirling and Cottesloe were above the state rate[55]. The areas of greatest concern for this age group are Joondalup, Perth City (202.9 per 100,000), Bayswater-Bassendean and Swan (204.7, 202.9, 156.7 and 155.5 self-harm hospitalisations per 100,000 respectively)[55].

6. Complex and severe mental health conditions

Mental disorders can vary in severity and be episodic or persistent in nature. It is estimated that 3% (approximately 500,000 Australians) have a severe mental condition[71], as judged by diagnosis, intensity and duration of symptoms, and degree of disability caused. This is not confined to those with psychotic disorders and it also includes people with severe and disabling forms of depression and anxiety[72].

The National Study of Mental Health and Wellbeing estimates that 111,638 Western Australians aged between 16-85 years have a severe mental condition, equating to 5% of the population[53]. The rate within the Perth North PHN is also 5%, representing 44,015 people[53].

The National Mental Health Services Planning Framework estimates that in 2023-24, 563,975 Western Australians in need of mental health services, of whom 72,053 (13%) were classified as severe and complex[73]. People experiencing severe and complex mental illness may have more severe diagnoses or episodes of illness that last and long time, require more services, impact on daily living, or include co-morbidities or trauma[74].

A similar proportion (12%) in the Perth North PHN were classified as severe, representing 28,361 residents[73]. All SA3s within the Perth North PHN have a similar estimated rate, ranging between 12-13%[73]. The areas with the greatest estimated proportions of people classified as severe are Mundaring, Bayswater-Bassendean, Perth City and Swan (13% each) [73].

The Primary Mental Health Care Minimum Data Set (PMHC-MDS) reports that 4,361 people who engaged with a PHN-funded mental health service in Western Australia during FY22-23 had a Kessler Psychological Distress Scale (K10) severity group category recorded, of which 2,478 (57%) were classified as Severe/Very Severe[75]. A comparable proportion (56%) in the Perth North PHN were classified as severe/very severe, representing 864 people[75].

7. At-risk populations

7.1 Multicultural and linguistically diverse communities

Australia's multicultural population have reported lower levels of voluntary access to mental health care and support than those in the wider community. This is due to language difficulties, different cultural understandings of mental health, cultural stigma, confidentiality concerns, unfamiliarity with the Australian health systems, and the overall lack of culturally competent health services[76].

Australia's multicultural population often faces significant resettlement challenges, including the obstacles presented by the effects of conflict, torture and trauma and the migration or refugee journey itself. These experiences may present as grief, anger, depression and other mental health issues. For example, refugees in Melbourne have been found to be three times more likely to have a mental health issue and twice as likely to have post-traumatic stress disorder (PTSD) compared with Australian-born individuals[76]. Additionally, a lack of English proficiency can have a negative effect on access to health services[76].

Evidence has shown that due to a number of access barriers, multicultural consumers tend to present to emergency hospital departments later in the course of an illness, suggesting that their mental ill health has been prolonged resulting in a decrease in quality of life for them and their families/carers[76].

Mental health presentations often include a range of complexities and sensitivities that can be exacerbated by the prevalence of additional cultural, language and mental health literacy barriers[64]. In the Perth North PHN, 12% of mental disorder-related hospital ED presentations from July 2022 to June 2024 were by multicultural people; above the state level of 9%[39]. Notably, all SA3s within the Perth North PHN except Mundaring have proportions above the state level. Stirling has the greatest proportion of mental disorder-related ED presentations by multicultural people at 16%, followed by Bayswater-Bassendean (14%), Swan, Cottesloe-Claremont, Wanneroo and Perth City (12% each)[39].

Across the Perth North PHN, 10% of people who utilised a headspace service (which provides mental health support to people aged 12-25 years) are multicultural; similar to the state rate of 9%[67]. Of the areas with sufficient data available, the highest proportion was in Perth City, where approximately 1 in 6 (18%) headspace clients are multicultural, followed by Stirling (14%) and Swan (10%)[67].

7.2 Lesbian, gay, bisexual, transgender, queer, and intersex (LGBTIQA+) populations

The term LGBTIQA+ refers to people who identify as lesbian, gay, bisexual, trans/transgender, intersex, queer, and other sexuality (including asexual), gender, and bodily diverse people and communities[77]. A disproportionate number of LGBTIQA+ people experience poorer mental health outcomes and evidence from Australia and overseas indicates that LGBTIQA+ communities experience higher levels of mental disorders, suicidality and self-harm, compared with the general population[77]. This is due to stigma, prejudice, discrimination, and abuse – all of which are key determinants of health[78].

LGBTIQA+ people are more likely to experience and be diagnosed with depression and/or anxiety, specifically:

- LGBTIQA+ people are nearly six times more likely to be diagnosed with depression and three times as likely to report having an anxiety-related condition[78].
- 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[78].
- Transgender and gender diverse people aged 18 and over are five and a half times more likely to be diagnosed with depression[78].
- People with an intersex variation are over twice as likely to experience and be diagnosed with depression[78].

Further, compared to the general population, LGBTIQA+ people are more likely to attempt suicide, to have thoughts of suicide and to have engaged in self-harm in their lifetime, specifically:

- Transgender people aged 14-25 are fifteen times more likely to have attempted suicide in their lifetime[78].
- LGBTIQA+ people aged 18 and over were over eighteen times more likely to have considered attempting suicide in the previous 12 months[78].
- LGBTIQA+ young people are over four times as likely to engage in self-injury[78].

Studies indicate a high prevalence of mental health disorders among LGBTIQA+ 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[78]. This is compared with 10.4% of the general population[78]. 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[78]. 30.5% of lesbian, gay, bisexual and transgender and gender diverse people aged 16 and over had stated being diagnosed or treated for depression in the three years prior to the report being conducted[78]. Research has consistently found that bisexual people experience higher rates of poor mental health than gay, lesbian or heterosexual people. In addition, transgender and gender diverse individuals experience greater psychological distress and suicidality than cisgender people[79].

Nearly 6 in 10 (57%) participants in the Private Lives survey reported experiencing high or very high levels of psychological distress in the four weeks preceding the survey, and significant proportions reported diagnoses of depression and anxiety (61% and 47% respectively)[10]. Three in four people had considered attempting suicide at some point in their lives, with 42% considering suicide in the previous 12 months[10]. Suicide attempts in the previous 12 months were highest among trans men (14%), trans women (11%), non-binary people (7%), cisgender women (4%) and cisgender men (3%)[10].

Across the Perth North PHN, 18% of people who utilised a headspace service (which provides mental health support to people aged 12-25 years) identify as LGBTIQA+; similar to the state rate of 19%[67]. The highest proportion was in Swan, where approximately 1 in 5 (22%) headspace clients identify as LGBTIQA+, followed by Bayswater-Bassendean (24%), Perth City (21%) and Mundaring (19%)[67].

8. Older adult mental health

Mental illness may be more common among particular groups of older Australians, such as older carers, people in hospital and people with dementia. People living in residential aged care are another subgroup at higher risk of poor mental health. As of June 2019, of those people living in permanent residential aged care, the majority (87%) were diagnosed with at least one mental health or behavioural condition and 49% had a diagnosis of depression[80].

In WA, 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[81].

Nationally, 35% of people aged 65–85 years with a 12-month mental disorder have seen a health professional for their mental health, with one quarter visiting a GP. Over half people aged 65–85 years with a 12-month mental health disorder were dispensed at least one mental health-related medication[53].

9. Service utilisation

For mental health consumers and their families, navigating the mental health system and finding the right care at the right time can be difficult and frustrating[82], however, identifying the appropriate intervention services could mitigate symptom severity and prevent mental health hospitalisation[83].

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

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, mental health and alcohol and drug issues[84].

9.1 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. In 2022-23, 8% of residents accessed a GP mental health plan in the Perth North PHN, equal to the state rate[37]. Wanneroo, Perth City and Mundaring had the highest utilisation at 9% each[37]. Utilisation levels were relatively uniform across the PHN, ranging from 8-9%. Utilisation was lowest in Swan and Kalamunda (8 each%)[37].

A GP mental health treatment plan can be used to refer patients to psychiatrists, psychologists, counsellors, social workers and occupational therapists. In 2022-23, 3% of the population In the Perth North PHN accessed a Clinical Psychologist and an equal proportion accessed Psychiatry services[37]. Utilisation of MBS rebated clinical psychology was highest in Cottesloe-Claremont and Perth City (4% each)[37]. The lowest utilisation was in Swan and Wanneroo (2% each)[37]. Utilisation of MBS rebated Psychiatry services was also highest in Cottesloe-Claremont and Perth City (4% each), and lowest in Swan and Wanneroo (2% each)[37]. This shows that there is a high uptake of MBS in less socioeconomic disadvantaged areas, however there is a need to increase usage of MBS and public services for mental health in areas of high unmet community need, such as Mundaring and Bayswater-Bassendean.

NOTE: MBS utilisation data is reported by the patient's place of residence and as such, the location of services can confound utilisation data. For instance, Cottesloe-Claremont and Perth City have the highest utilisation of mental health MBS services. This may be influenced by the proximity of health services closely located to hospital precincts.

9.2 Primary Mental Health Care services

Utilisation of PHN-funded services is monitored via the Primary Mental Health Care Minimum Data Set (PMHC-MDS). In WA, 17,667 episodes of care were delivered by a PHN-funded mental health care service from 2022 - 2023, of which approximately 1 in 4 (4,510) were delivered to 5,965 residents of the Perth North PHN[75].

A review of current mental health service providers in the Perth North PHN found that Perth City has the greatest number of local providers at 38, followed by Joondalup (16) and Swan (12)[85]. In contrast, the areas with the lowest number of locally based mental health service providers are Bayswater-Bassendean (one) and Kalamunda (two)[85]. This is particularly concerning in Bayswater-Bassendean, which has high levels of anxiety, depression, suicide ideation and self-harm hospitalisations, and moderate levels of residents experiencing socioeconomic disadvantage.

Spotlight on: Jackson

Jackson, a 30-year-old man, has a long-standing history of depressive symptoms and homelessness.

He has a limited social circle and no family support, and without a job, his financial constraints and the current rental crisis is making it hard for him to find somewhere to live.

Jackson lives in a small regional town. There aren't a lot of local mental health support services, and the next nearest service is 200km away. A fear of someone seeing him enter a such a service has stopped him from seeking help in the past.

Things have become so bad he went to see a GP about it, who referred him to the nearest public mental health service, where he was placed on a waiting list and told that no one would be available to see him for at least four weeks.

Conditions have worsened during this time (the wait to access timely care has exacerbated his condition) and he can't afford to seek private mental health care.

He is trying to get through one day at a time while hoping he gets an appointment soon.

Alcohol and other drugs
Priorities

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
Harmful alcohol consumption causes multiple chronic diseases resulting in complex care needs. In the Perth North PHN, 1 in 4 residents are at high risk of long-term harm from alcohol consumption. Rates of clinician-diagnosed chronic alcohol misuse are above state rates in the Perth City SA3.	Early screening and intervention are needed to reduce the impact of harmful alcohol use. Evidence has shown GPs to be crucial in the effectiveness of interventions and management of alcohol-related issues.	**Enable access to early screening and treatment for harmful alcohol use.** **Increase the skills and capacity of primary health care and specialist Alcohol and Other Drug (AOD) workforce to respond effectively to current and emerging alcohol related harms.**	Perth City, Joondalup	Alcohol and other drugs	Early intervention and prevention
There is a complex relationship between mental health and alcohol and other drug use, with drug and alcohol use and mental health disorders often co-occurring.	Services that meet the needs of people with alcohol and other drug problems comorbid with mental illness.	**Enable access to integrated and coordinated care for clients with a mental health condition and harmful alcohol and other drug use.**	Whole PHN	Alcohol and other drugs	System integration
Hepatitis C is spread through blood-to-blood contact, commonly through unsafe injecting practices. Though rates of Hepatitis C have been declining, untreated Hepatitis C can lead to liver disease (including cirrhosis), liver cancer and death.	Antiviral treatment for Hepatitis C is now readily available. Treatment is more than 95% effective at curing Hepatitis C and available to most people via prescription from their GP.	**Contribute to the elimination of Hepatitis C and reduction of other blood borne viruses through increased screening and treatment in primary care settings.**	Bayswater-Bassendean, Stirling	Alcohol and other drugs	Access

Some areas in the Perth North PHN have high rates of unintentional drug-induced deaths.	Some areas with high risk rates have low numbers of local specialist AOD treatment and support services.	**Enable timely access to specialist AOD treatment and support, particularly for people in under-served population groups.** **Continuously improve the safety and quality of AOD treatment and support services.**	Bayswater-Bassendean, Perth City, Stirling	Alcohol and other drugs	Access
Tobacco related diseases account for the highest rate of mortality among people with alcohol and other drug burdens, and tobacco use is a significant cause of disease burden in WA. More than 70 chemicals in tobacco smoke cause cancer. Some areas in the Perth North PHN have high rates of smoking.	Tobacco consumption is a major risk factor for numerous chronic conditions and places avoidable burden on the health system.	**Support primary health care providers in identifying and supporting smokers to cease or reduce their tobacco consumption.** **Enable access to smoking and vape intervention support.**	Bayswater-Bassendean, Swan	Alcohol and other drugs	Early intervention and prevention

Alcohol and other drugs

Description of evidence

1. Alcohol use (risky drinking)

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[86]. Current research suggests that consuming any alcohol increases risk of health conditions[87].

In 2021, an estimated $1.9 billion in alcohol sales occurred in WA, a 24% increase in sales from 2019[88]. The National Drug Strategy Household Survey (NDSHS) found that 31% of Australians consumed alcohol in a way that was risky for their health[89]. Additionally, 24% of people aged 14 and over consumed more than four standard drinks on one occasion at least once a month, exceeding the lifetime risk guidelines[89].

The WA Health and Wellbeing Surveillance System (HWSS) provides estimates of the risk of long-term harm from alcohol consumption for adults aged 16 years and over in WA from 2017 to 2023[90]. In this report, long-term harm (> six months) from alcohol refers to the development of a chronic health condition due to the consumption of alcohol that has a significant impact on a person's life. In the Perth North PHN and across WA, 26% of the population were at high risk of long-term harm from their alcohol consumption[90]. The areas of greatest concern are Perth City (31%), Joondalup (30%) and Cottesloe-Claremont (26%)[90]. Stirling and Kalamunda are significantly below the state rate for risk of long term harm from alcohol[90].

Short term harm of alcohol refers to accidents and injuries. In the Perth North PHN, 9% of residents were at risk of short term harms from alcohol; similar to the state prevalence of 10%[90]. The areas of greatest concern were Perth City (13%) and Joondalup (11%)[90].

Using WAPHA's new method of estimating condition prevalence from General Practice Data, rates of clinician diagnosed Chronic Alcohol Misuse were statistically significantly higher than the state rate in Perth City only at 1.6% compared to 1.5%[35]. Results for Perth City should be interpreted with caution, as there is reason to believe patients attending these practices may live in other SA3s.

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[91]. The study revealed that following discharge from hospital, individuals that are at risk of alcohol consumption and readmission must engage effectively with a GP to benefit from ASBI[91]. This highlights the effectiveness of ASBI delivered in primary care and the crucial role GPs have in management of alcohol related issues.

1.1 Fetal Alcohol Spectrum Disorder

Fetal Alcohol Spectrum Disorder (FASD) is a diagnostic outcome that describes negative health impacts of prenatal exposure to alcohol. Current Australian guidelines to reduce health risks from drinking state:

"*To prevent harm from alcohol to their unborn child, women who are pregnant or planning a pregnancy should not drink alcohol. For women who are breastfeeding, not drinking alcohol is safest for their baby.*"[86]

Research suggests that only 45% of health professionals routinely asked about a woman's alcohol use, and only 25% provided information about the implications of drinking alcohol, suggesting that health professionals are acting on a presumption that a woman has stopped drinking alcohol[92]. 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[92].

The 2022-2023 NDSHS found that one in four (28%) of 14-49 year old women drank alcohol during pregnancy[89]. This is likely to be an under-estimate due to self-reporting.

In WA, a data linkage study has shown that exposure to alcohol during pregnancy increases the risk of contact with the youth justice system. This is the case even adjusting for factors affecting social determinants of health, such as social disadvantage, ethnicity and academic performance. One study, conducted in WA's sole detention centre for offenders aged 10 to 17 years, found a high prevalence of FASD (36%) among detainees[92].

Further WA research linking birth data shows that children of mothers who had an alcohol diagnosis during pregnancy had the greatest risk of entering child protection with 13.4% of alcohol-exposed

children entering care compared to the control group (2%)[92].

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"[86]. They also state that: "Early drinking increases the risk of behaviour and health problems in later life"[86].

The proportion of underage drinking in people aged 14-17 remained stable from 2016 (28%) to 2022-23 (31%)[89]. However, there was a notable increase in underage drinking for females from 2019 (29%) and 2022-23 (35%)[89]. In 2022-23 nearly two-thirds (65%) of Australian secondary school students reported to have consumed alcohol with 44% having consumed in the past year, 22% in the past month and 11% in the past week[93]. The rate of overall secondary school drinking has remained stable since 2017 (66%)[93]. The same study found that 8.8% of 16–17-year-olds reported risky drinking behaviour[93].

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. Smoking proportion in Australia have been steadily reducing with 8.3% of Australians reporting to have smoked daily in 2022-23, compared to 12.2% in 2019[89].The 2018 WA Burden of Disease Study reported 8.2% of the total burden of disease in Australia can be attributed to tobacco use with 78% of this contributing to fatal burden[32]. 20.6% of the burden of cancer and 38.5% of respiratory disease were attributed to tobacco use[32]. Leading diseases such as lung cancer and COPD showed that tobacco contributed to 76% and 73% of disease burden[32].

In the Perth North PHN 10% of the population smoke, compared to 11% across WA[90]. Bayswater-Bassendean (13%), Swan, Wanneroo and Perth City (12% each) have the highest prevalence of current smokers, all above the state rate[90].

Tobacco related diseases accounts for the highest rate of mortality among people with alcohol and other drug and mental health burdens[94]. The WA Burden of Disease Study 2018 found that tobacco use contributed to 39% of respiratory diseases, 21% of cancers, 12% of cardiovascular diseases and 8% of infections[32]. Smoking rates among people receiving alcohol and other drug treatment are 2-5 times higher than the general population[95].

2.1 Electronic Cigarettes and vapes.

Although there has been a steady decrease in smoking rates, there has been a marked increase in vaping and E-cigarette use from 2020 to 2023[95]. Exclusive vape and electronic cigarette rates follow a significant upwards trend from 2018 (2%) to March 2023 (9%)[96]. Populations in the age groups 14 -17 years, 18-24 years and 25-34 showed the largest increase in six-monthly prevalence of vaping[96]. The NDHSH found that in 2022-2023 over half (54%) of people who had ever used e-cigarettes reported to have used those containing nicotine[89].

Considerable uncertainty exists regarding how vaping and e-cigarettes can have long term effect on health and disease due to the relatively new establishment of these devices[97]. However, there is conclusive global evidence that exposure to nicotine e-liquids can lead to nicotine toxicity and poisoning, neurological outcomes such as seizures and nerve damage, burns and acute lung injury due to chemical inhalation[97]. Individuals who are non-traditional smokers but use e-cigarettes are nearly 3 times more likely to take up traditional cigarette smoking then those who do not use e-cigarettes[97].

In 2022-2023, 1 in 5 (21%) of the WA population had used an e-cigarette in their life[98]. Additionally, 1 in 15 (7%) WA people over the age of 14 currently used e-cigarettes[98], double the prevalence from 2019 (3%). Of those currently using e-cigarettes 25% were people aged 18-24 showing that there is a growing need to address this issue in the younger population[98].

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 2022-2023 NDSHS estimated that 47% of Australian's aged fourteen and over had used drugs at some point in their life, and 18% had used drugs in the past 12 months[89].

The most common illicit drugs used in WA in the past 12 months from 2022-2023 was cannabis (13% of people aged 14 and over), followed by cocaine (3%), hallucinogens (3%), pain-relievers and opioids (2%) and ecstasy (2%)[89]. Cannabis use was the only illicit drug which had a statistically significant change between 2019 and 2022-2023 with an increase of 2%[89]. Between the period of 2020 -2022, it is

estimated that 3% of West Australians had a 12-month substance use disorder[53].

The National Wastewater Drug Monitoring Program (NWDMP) provides leading-edge, coordinated national research and intelligence on illicit drugs and licit drugs that can be abused. Reports collected for the year 2022-2023 found that methylamphetamine, cocaine and MDMA consumption had increased in WA from 2021-2022 to 2022-2023[99].

Using WAPHA's new method of estimating condition prevalence from General Practice Data, rates of clinician diagnosed Chronic Drug Misuse were at or below state rates for all SA3s in the Perth North PHN[35].

Drug use among the LGBTIQA+ community

There is evidence that intravenous use of steroids is particularly high among gay and bisexual men[100]. A study of 2,733 gay and bisexual men in Australia found that 4% used anabolic androgenic steroids, consistent with international studies finding higher use among gay and bisexual men in comparison to heterosexual men[100]. 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, people aged 14 and over who identified as being gay, lesbian or bisexual, have had consistently higher levels of substance use than heterosexual people (36% compared to 16%)[95]. 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[95].

Nearly one in five (17%) participants in the Private Lives survey had struggled to manage their alcohol use in the past 12 months and experienced negative impacts on their everyday life[10]. Four in ten (44%) reported using one or more drugs for non-medical purposes in the past 6 months, with the most reported drugs being cannabis (30%), ecstasy/MDMA (14%) and cocaine (10%)[10]. One in seven (14%) reported struggling to manage their drug use in the past 6 months, with it negatively impacting their everyday life[10].

The 2022-23 National Drug Strategy Household Survey found that illicit drug use in the last 12 months was more common among people who identified as homosexual or bisexual (47%) than heterosexual people (16%), and had increased significantly since 2019 (up from 40%)[89]. This increase was not seen among the heterosexual population[89].

It is important to note that there is a lack of publicly available and comprehensive data examining drug use among the LGBTIQA+ community. Therefore, these results should be taken as estimates and may not be true representations of the population.

4. Burden of disease due to alcohol and other drugs

In WA, alcohol use accounts for 5% of total disease burden, with two thirds of this due to death and the remaining third to disability[32]. Alcohol use is responsible for 14% of burden related to suicide, 13% poisoning, 7% of gastrointestinal disorders and 5% of cancer burden[32]. Of the diseases linked to alcohol use, alcohol dependence is the greatest single cause of disability-adjusted life years (DALY) burden in Australia[95]. Concerningly, males (12%) have three times the rate of burden from alcohol use compared to females (4%)[95].

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Illicit drug use accounts for 4% of disease burden in WA[95, 101]. It contributes to this burden through its role in chronic disease, injury, poisoning and pre-mature death[95].

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5. Impacts from alcohol and other drug consumption

In 2020-2021, 151,797 hospitalisations were alcohol and drug related[102]. Harm related to someone's use of illicit drugs was reported in the form of verbal mistreatment (9%) and physical mistreatment (3%), while 8% of people reported feeling afraid due to someone's behaviour while under the influence[98].

5.1 Alcohol

Regular consumption of high levels of alcohol contributes to the development of chronic diseases such as liver disease, oral health conditions and cardiovascular disease and some cancers[95].

Alcohol induced deaths are deaths where the underlying cause can be directly linked to alcohol use. This includes acute conditions such as alcohol poisoning, and chronic conditions such as alcoholic liver cirrhosis[103]. In 2022 there were 1,742 alcohol-induced deaths in Australia, an increase of 9% from the year prior[104]. The rates among both males and females (8.7 and 3.4 per 100,000 respectively) were the highest seen in a 10-year period, with the largest increases noted among males aged 65-84 years and females aged 45-64 years[104].

Chronic disease	% of burden due to alcohol use
Liver cancer	39.9
Mouth and pharyngeal cancer	37.5
Chronic liver disease	19.2
Laryngeal cancer	23.2
Oesophageal cancer	21.0
Pancreatitis	12.2
Breast cancer	11.2
Hypertensive heart disease	10.4
Bowel cancer	5.8

5.2 Accidental overdose from illicit drug consumption

Most drug overdoses in Australia are non-fatal[102]. Health impacts of non-fatal overdoses include health issues such as low blood pressure, abnormal heart disturbances, reduced breathing, and injury to liver function[102]. Impacts of non-fatal overdoses to health include brain injuries from lack of oxygen, organ damage and strokes[102].

Australia's Annual Overdose Report, produced by the Penington Institute, reported an increase in unintentional drug-induced (accidental poisoning) deaths in WA from 2004 (2.7 per 100,000) to 2021 (8 per 100,000)[102]. Of this, males account for two thirds (71%) of unintentional drug-induced death compared to women[102]. People age 40-49 had 455 (27%) unintentional drug-induced deaths in 2021 and were found to be the most at-risk age group[102].

In 2021, opioids continued to be the largest overall drug group identified in unintentional drug-induced deaths in 2021 (46%), followed by benzodiazepines (33%) and anti-depressants (19%)[102].

WA had the second highest rate of heroin deaths, at 1.5 deaths per 100,000. This corresponds with higher rates of death for other opioids such as fentanyl/pethidine/tramadol (0.8 deaths per 100,000)[102]. There has also been an increase in deaths involving benzodiazepines in WA from 2013 to 2021 (from 1.1 to 3 deaths per 100,000), and stimulants such as methamphetamine and amphetamines (From 1.3 to 3 deaths per 100,000)[102].

From 2017-2021, the rate of unintentional drug-induced deaths in Perth North PHN was 8.3 per 100,000[102]. Perth City (13.1), Bayswater-Bassendean (11.9) and Stirling (10.2) SA3s recorded a rate of more than 10 deaths per 100,000 of unintentional drug-included deaths, having the highest rates in the Perth North PHN and exceeding the state rate of 9.1 per 100,000[102].

5.3 Hepatitis B and C

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 [105] and 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[106]. 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 GP[105].

In WA, notifications of hepatitis B and C have been declining. Between 2017 and 2023, notification rates of hepatitis B have slightly reduced from 21 to 18 notifications per 100,000[107]. hepatitis C notification rates decreased (from 62 to 47 notifications) between 2004 and 2017 and has continued to decrease with 32 notifications per 100,000 people in WA in 2023[107].

The proportion of people with hepatitis B in Perth North PHN is 0.75%, equal to the state prevalence[108]. Bayswater-Bassendean have the highest prevalence within the Perth North PHN at 0.96%, followed by Stirling (0.91%)[109]. The proportion of people with a hepatitis C diagnosis is 0.66% in the Perth North PHN. Perth City has the highest prevalence of hepatitis C at 1.36%[110].

6. Link between alcohol and other drugs and mental health

There is a complex relationship between mental health and alcohol and other drug use[95]. 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[95].

The 2022-2023 National Drug Strategy Household Survey (NDSHS) found that people with high/very high levels of psychological distress were more likely to smoke daily compared to those who have low levels of stress (15% compared with 7%, respectively)[89]. Conversely, smoking rates among those with mental illness are 1.8 times higher than those among people without mental illness[89]. Illicit drug use was higher in people with high and very high levels of psychological distress with 1 in 3 (32%) having used illicit drugs in the past 12-months compared to low levels of psychological distress (1 in 8, 13%)[89]. This is similar to people with a mental health condition more likely to use illicit drugs to those without one (29% compared to 16%)[89].

6.1 Suicide and self-inflicted injuries

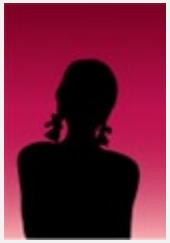
In 2022 acute alcohol use was recorded as a factor in 16% of suicides and psychoactive substance use was a factor in 14% of suicides[104]. Males aged 25-44 years were the most likely to have substance use as a risk factor for suicide and self-inflicted injuries[104].

In 2021-2022, 76% of Australian hospitalisations due to intentional self-harm involved pharmaceuticals drugs (78.1 per 100,000) and 4% were due to poisoning by other substances (3.7 per 100,000)[111].

7. Alcohol and other drugs treatment and rehabilitation services

In the Perth North PHN, alcohol and other drug services are provided by the State and for-profit primary and tertiary care services. WAPHA funds outreach, early intervention, and counselling programs in the Perth North PHN for communities at risk of experiencing poor health outcomes, particularly due to avoidable health inequities. 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 include the Alcohol and Drug Support Service, the Community Treatment Service for Alcohol and Other drugs and the Rick Hammersley Therapeutic Community. Within the priority locations Swan SA3 had the highest number of public AOD services (11), with both Stirling and Wanneroo SA3 having only one service, showing a lack of support for AOD in these areas. However, these results were limited to services found on the Mental Health Commission My Services search engine and the National Health Services Directory[85].

In 2022-2023 the AIHW reported that of all publicly funded AOD treatment services (including PHN-commissioned services), the Perth North PHN provided 243.2 treatment episodes per 100,000 people[112]. The main treatment type was counselling (64%) with the highest treatment delivery setting being non-residential treatment facilities[112]. Those aged 20-29 (25%) and 30-39 years (28%) had the highest treatment participation rates in the Perth North PHN and males have higher participation rates than females (61% compared to 39%)[112]. The drug of greatest concern with the highest recorded treatment was alcohol (45%), followed by amphetamines (22%) and cannabis (20%)[112].



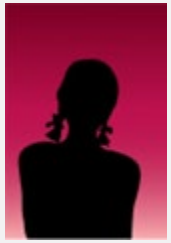
Spotlight on: Melody

Melody, a 22-year-old woman, has symptoms of depression, social anxiety and alcohol use problems.

Experiencing childhood trauma, she has limited relationships with family and friends and often uses alcohol as a coping mechanism.

While she used to only drink on weekends, lately she's been drinking more often. It's starting to impact her performance at work, which she feels a great deal of shame about.

She has started using an alcohol and other drug support service in her area, but it's understaffed, which has restricted the services it can offer. It provides counselling and group therapy, it but isn't well-integrated with broader mental health services to help with her depression and social anxiety, and doesn't provide detoxification or rehabilitation services, which she needs for comprehensive treatment.



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Aboriginal health
Priorities

Health need	Service need	Priority	Priority location (IARE)	Priority area	Priority sub-category
Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non-Aboriginal people, with the leading cause of death among Aboriginal people being ischemic heart disease.	Some areas in the Perth North PHN have higher rates of chronic disease PPHs for Aboriginal populations compared to the rate for Aboriginal people in WA overall.	**Support primary health care providers to provide culturally appropriate chronic disease management for Aboriginal people living with chronic disease and build capacity for patient self-management.**	Bassendean, Swan, Bayswater, Stirling IAREs	Aboriginal health	Chronic conditions Appropriate care (including cultural safety)
Aboriginal people may be at risk of experiencing poor health outcomes related to social determinants of health.	Aboriginal people living in the Perth North PHN have a high rate of lower urgency ED presentations.	**Enable access to culturally appropriate alternative options to EDs for Aboriginal people.**	Bayswater-Bassendean, Swan, Stirling, Mundaring IAREs.	Aboriginal health	Social determinants Appropriate care (including cultural safety)
Aboriginal people are impacted by vaccine preventable diseases (e.g. influenza) at a higher rate than non-Aboriginal people. Some areas in the Perth North PHN have a high rate of vaccine preventable conditions PPHs compared to WA levels. Some areas in the Perth North PHN are below childhood immunisation targets for Aboriginal children.	Under-vaccination increases risk of vaccine-preventable illnesses. Vaccine-preventable diseases place avoidable burden on primary health care and the Aboriginal health workforce.	**Support primary health care providers to deliver culturally appropriate and accessible vaccination programs for Aboriginal people, including children.**	Perth, Bayswater, Joondalup, Kalamunda, Swan, Mundaring-Swan View, Yanchep-Two Rocks, Wanneroo – North-East, , Stirling IAREs	Aboriginal health	Immunisation

Health need	Service need	Priority	Priority location (IARE)	Priority area	Priority sub-category
Suicide is a serious issue for Aboriginal people, with rates substantially higher compared to non-Aboriginal people.	Self-harm and suicide-related ED presentations add pressure to EDs	**Enable access to culturally appropriate early intervention suicide prevention services and support primary health care providers in identifying Aboriginal people at risk.** **Support primary health care providers in identifying Aboriginal people at risk of suicide and providing culturally appropriate support.**	Stirling, Swan IAREs	Aboriginal health	Early intervention and prevention Appropriate care (including cultural safety)
Alcohol and substance use challenges are present within some Aboriginal communities, often linked to broader social and historical factors.	Community-led early screening and intervention are needed to reduce the impact of harmful drug and alcohol use.	**Enable access to culturally appropriate screening and treatment services for alcohol and other drugs.** **Support primary health care providers in managing drug and alcohol-related issues for Aboriginal people in a culturally safe way.**	Whole PHN	Aboriginal health	Early intervention and prevention
Many Aboriginal people would prefer to die on Country rather than in a hospital or aged care facility.	There are limited culturally appropriate home palliative care providers, with many older Aboriginal people dying in hospitals or aged care services.	**Enable access to culturally appropriate at-home palliative care services.**	Whole PHN	Aboriginal health	Appropriate care (including cultural safety)

Aboriginal health

Description of evidence

1. Overview

Australia has a rich Aboriginal history that has evolved over hundreds of generations, comprising of hundreds of different nations and clans. Aboriginal communities maintain strong connections to their culture, language, traditional lands and spirituality[113]. Core to the Aboriginal culture is a complex system of family relationships and roles that define one's place in the community and how each family member can support others in the kinship[113]. There is much knowledge to be gained from the Aboriginal healing practices that have been practiced in Australia for millennia[114].

In this Needs Assessment, community need for Aboriginal people has been assessed with insight from a wide range of health indicators, using rate-based comparisons (e.g. per 10,000 Aboriginal residents) wherever possible. A rates-based approach allows for fair comparisons across different geographies, as it accounts for differences in population size and avoids potential over or under reporting of local health needs relative to other areas, which can occur when relying solely on raw numbers or proportions. Local rates are further compared to state rates to identify regions with comparatively higher or lower needs relative to Aboriginal people across WA.

2. Demographics

2.1 Socioeconomic disadvantage

Socioeconomic factors including poor rates of educational attainment, financial and housing instability, and low rates of employment are key factors impacting the health outcomes of Australians, including Aboriginal people who experience socioeconomic disadvantage.

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 housing support[115]. A higher IRSEO value indicates a higher level of disadvantage.

Aboriginal people living in the Perth North area are relatively less socioeconomically disadvantaged (IRSEO=30) compared to the state (IRSEO=51) and national (IRSEO=41) Aboriginal people[115].

Mundaring-Swan View and Bassendean IAREs have the highest IRSEO scores at 57 and 51 respectively, indicating the highest overall disadvantage in the Perth North PHN[115]. However, the Yanchep-Two Rocks (53%) and Bassendean (53%) IAREs have high reported rates of Aboriginal low income households under financial stress from mortgage or rent, while Stirling, Bassendean and Bayswater have high proportions of Aboriginal single-parent families with children (58%, 57% and 51%) respectively[115].

2.2 The population of Aboriginal people

A total of 25,049 Aboriginal people live in the Perth North PHN, representing 2.2% of Perth North PHN population[4]. The SA3s with the highest proportion of Aboriginal residents are Mundaring (5%), Swan (4%) and Kalamunda (3%). The highest number of Aboriginal people live in Swan (6,647), Wanneroo (5,232) and Stirling (3,313) SA3s[4].

3. Aboriginal health

Chronic disease contributes significantly to the differences in life expectancy between Aboriginal and non-Aboriginal people. In 2018, Aboriginal people experienced 2.3 times the rate of disease burden, with an age standardised death rate for chronic disease 3.8 times the rate of non-Aboriginal people[116]. In the 2021 Census, the age standardised rate (ASR) per 100 Aboriginal people who reported they had one or more long-term health conditions in the Perth North PHN was 28.9[115], compared to 18.5 for the whole Perth North PHN population[4].

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[117].

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

Through Medicare, Aboriginal people can receive Aboriginal-specific health checks from their doctor, as well as referrals for Indigenous-specific follow-up services. In March 2020, telehealth items for Aboriginal health checks were introduced in response

to COVID 19 and associated restrictions[118].

In 2021-2022, the proportion of the Aboriginal people who received an Aboriginal Health Check was 21.1% in the Perth North PHN, similar to the state rate of 22.2%[118]. Nationally, face-to-face Aboriginal health checks was the preferred method compared to Telehealth[118].

3.1 Aboriginal mortality

In the five-year period between 2018 to 2022, the median age at death of Aboriginal people in WA was 58, meaning 50% of deaths among Aboriginal people occurred before the age of 58[115]. This is vastly below the median age at death among the overall population, being 80 years[115].

Nationally, the leading specific cause of death among Aboriginal Australians overall was ischemic heart disease, accounting for 537 deaths (12% of all deaths or 119.9 per 100,000)[119]. This was followed by Chronic lower respiratory diseases with rate of 80.1 deaths per 100,000 (293 deaths)[119].

In 2015–2017, life expectancy at birth for Aboriginal Australians was estimated to be 71.6 years for males and 75.6 years for females[120]. These expectancies are 8.6 years and 7.8 years less than non-Aboriginal males and females, respectively[120].

3.2 Avoidable deaths by selected conditions: Aboriginal people aged 0-74 years

Avoidable deaths by selected conditions for Aboriginal people aged 0 to 74 years were similar to state rates across all IAREs within Perth North PHN compared to the state's population of Aboriginal people[115].

3.3 Potentially Preventable hospitalisations for Aboriginal hospital admissions

PPH indicator is a proxy measure of primary care effectiveness. PPHs are certain hospital admissions (both public and private) that potentially could have been prevented by timely and adequate health care in the community[115]. PPHs are reported under three broad categories: Chronic, acute and vaccine preventable hospitalisations.

Chronic conditions that are classified as potentially preventable through behaviour modification, lifestyle change and timely care: angina, asthma, COPD, congestive cardiac failure, diabetes complications, hypertension and iron deficiency anaemia. Acute PPHs relate to conditions that usually come on suddenly, and may not be preventable, but may not have resulted in hospitalisation if timely and adequate care was received in the community). Vaccine-preventable PPHs are hospitalisations due to conditions that can be prevented by vaccination[121].

From 2017-18 to 2020-21, the annual average ASR for PPHs among Aboriginal people overall in the Perth North PHN was 3,796 per 100,000; below the state rate of 6,264 per 100,000[115]. Total PPHs were highest in the Bassendean IARE (6,773), which was above the state level and driven by high PPH rates among residents age 15-24 years and 25-44 years[115]. The Bayswater IARE also had a high rate of PPHs by Aboriginal people aged 25-44 years, while Swan had a high rate of PPHs by Aboriginal people aged 65 years and over[115]. All other IAREs in the Perth North PHN were below state levels[115].

The annual average ASR for PPHs due to chronic conditions among Aboriginal people was 1,472 per 100,000; below the state level of 2,402 per 100,000[115]. The highest total PPHs due to chronic conditions was in the Bassendean IARE (3,323), followed by Swan IARE (1,854) and Stirling IARE (1,647)[115]. For specific conditions, the IAREs of greatest concern are:

- COPD: Bassendean (1,113), which exceeds the state level of 608 per 100,000[115].
- Chronic congestive cardiac failure: Bassendean (1,245), which is above the state level of 405 per 100,000[115].
- Chronic iron deficiency anaemia: Swan (237), which exceeds the state level of 208 per 100,000[115].
- Chronic angina: Bassendean (241 per 100,000) and Swan (228), each of which are above the state rate of 206 per 100,000[115].
- Chronic asthma: Yanchep-Two Rocks (254), which exceeds the state rate of 192 per 100,000[115].

No IAREs within the Perth North PHN region exceed state level of 547 per 100,000[115] for chronic diabetes complications, and this is not a relative need for the Perth North PHN[115].

The annual average ASR for PPHs due to acute conditions among Aboriginal people was 1,840 per 100,000; below the state level of 2,905 per 100,000[115]. The highest total PPHs due to acute conditions was in the Bassendean IARE (2,651), followed by Swan IARE (2,108), though each of these are below the state level[115]. For specific conditions, the IAREs of greatest concern are:

- Acute dental conditions: Perth (455), which is above the state level of 431 per 100,000[115].
- Acute convulsions and epilepsy: Stirling (601) and Bayswater (486), each of which exceeds the state rate of 460 per 100,000[115].

- Acute urinary tract infections, including pyelonephritis: Bassendean (601), which is above the state rate of 516 per 100,000[115].

No IAREs within the Perth North PHN region exceed state levels for acute cellulitis or acute ear, nose and throat infections, and these are not a relative need for the Perth North PHN[115].

The annual average ASR for PPHs due to vaccine-preventable conditions among Aboriginal people was 426 per 100,000; approximately half that of the state (855 per 100,000). The only IAREs above the state level in the Perth North PHN are Perth (1,080) and Bayswater (931) IAREs[115]. When reviewing PPHs due to pneumonia and influenza specifically, the Bassendean and Perth IAREs are above the state level at 521 and 285 respectively compared to 278 per 100,000 across WA[115]. All other IAREs in the Perth North PHN fall below state levels, and compared to other areas of WA, vaccine-preventable PPHs are not a significant need for the Perth North PHN[115].

3.4 Non-urgent Emergency department presentations

High rates of non-urgent ED attendances indicate a potential gap in primary care services. In this report, lower urgency presentations are those where the person: was assessed as requiring semi-urgent or non-urgent care (triage category four or five); 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 6pm (excluding public holidays) and Saturdays between 8am and 12pm. Compared to Aboriginal people in other parts of WA, Aboriginal residents in the Perth North PHN have a lower rate of lower urgency ED presentations, with 1,829 non-urgent ED presentations per 10,000, compared to 6,167 per 10,000 across WA[39]. No areas within the Perth North PHN exceed the state rate, though the Perth City (2,776 per 10,000), Bayswater-Bassendean (2,185) and Swan (2,184) SA3s have the highest rates within the Perth North PHN region[39].

3.5 Aboriginal maternal and child health

Within the Perth North PHN, approximately 2 in 5 (37%) Aboriginal mothers smoked during pregnancy; below the state rate of 41%[115]. The Perth IARE had the highest percentage (44%) who reported smoking during pregnancy, followed by Stirling (41%)[115]. All other IAREs within the Perth North PHN were below state levels[115].

Approximately 1 in 7 (13%) Aboriginal babies within the Perth North PHN were born at a low birthweight, similar to the state prevalence of 13%[115]. Of the eight IAREs with available data in the Perth North PHN region, five exceed state levels[115]. The IAREs of greatest concern are Kalamunda (18%), Mundaring - Swan View (16%), Wanneroo-North-East (15%), Stirling (14%) and Bayswater (13%)[115].The IAREs of greatest concern are Kalamunda (18%), Perth, Joondalup and Yanchep (16% each) and Wanneroo-North-East (14%)[115].

Most (75%) Aboriginal mothers in the Perth North PHN did not attend antenatal care within the first 10 weeks of their babies being born; a higher proportion than the state rate of 61%[115]. The areas of with the most concerning levels of non-attendance are Kalamunda (87%), Bassendean (85%), Mundaring-Swan View (84%), Yanchep-Two Rocks (82%), Joondalup (79%), Swan (75%), Wanneroo-North-East (69%) and Stirling (64%)[115].

***Please note: The impact of alcohol consumption and Fetal Alcohol Syndrome is discussed in the alcohol and other drug section.*

3.6 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 IAREs within the Perth North PHN had rates below the target for children aged 1 year except Bassendean and Mundaring-Swan View (100% and 96% respectively)[115]. Joondalup had the lowest rate with only 47% of 1-year-olds being fully immunised, followed by Kalamunda at 82% and Swan at 89%[115].

Only Bassendean and Kalamunda IAREs within the Perth North met the 95% immunisation target for children aged 2 years[115]. The most concerning rates are in noted Perth (43%), Mundaring (53%), Yanchep-Swan View (60%), Wanneroo-North East (69%) and Stirling (81%)[115].

Seven of the eight IAREs in with Perth North PHN with available data met the 95% immunisation target for 5-year-olds[115]. The only area below the target was Stirling, at 92%[115].

3.7 Domestic violence

In 2021-2022, Aboriginal women were 33 times more likely to be hospitalised due to domestic violence than non-Aboriginal women, while Aboriginal men were 27 times more likely to be hospitalised than non-Aboriginal men[122]. 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.

The 2018-2019 National Aboriginal and Torres Strait Islander Health Survey reported that two in three Aboriginal people who had experienced physical harm reported a family member or intimate partner as the perpetrator[122]. It is important to note that Aboriginal people can face a range of barriers to reporting family and domestic violence and it is estimated that almost 90% of cases are undisclosed[122].

Local intelligence has identified some specific opportunities for improving the health care services delivered to Aboriginal people. Services need to be tailored to a region's specific culture needs and preferably delivered by the local community – a uniform approach across different areas is ineffective. There is a need to enhance the presence of Aboriginal culture in many services. Suggestions include increasing the volume of Aboriginal staff and displaying Aboriginal flags and artwork. There is a need for simplified language, less jargon, and more detailed explanations by health care staff, as well as a need for more gender-appropriate services for Aboriginal people in keeping with the client's cultural norms[9].

3.8 Services

Aboriginal people living in the Perth North PHN can access primary care services through general practice, Aboriginal Community Controlled Health Services, Integrated Team Care programs, tertiary institutes, and the hospital sector.

The Integrated Team Careprogram supports Aboriginal people living with complex chronic conditions to access health care and funds teams of Aboriginal health project officers, outreach workers and care coordinators. In the Perth North PHN, the two service providers are Arche Health and Moorditj Koort.

Through the Aboriginal Health Strategy, the North Metropolitan Health Service operates the Aboriginal Hospital Liaison Projects in Osborne Park and Sir Charles Gairdner hospitals to improve the patient journey for Aboriginal patients from hospital presentation to primary health providers.

The Child and Adolescent Health Service provides services to the Aboriginal community with children from birth to five years in Joondalup, Mundaring and Stirling SA3s respectively.

The Derbarl Yerrigan Health Service is an Aboriginal community controlled health organisation and provides holistic and integrated primary health care services to Aboriginal people in Stirling, Swan and Wanneroo SA3s respectively.

Other service providers include the University of WA, Yorgum and Luma.

4. Mental health

4.1 Suicide and self-harm

Rates of suicide among Aboriginal people are substantially higher than those for non-Aboriginal people, particularly among youth. Between 2018 and 2022, the rate of deaths by suicide among Aboriginal people in the Perth North PHN was 29.5 per 100,000 people aged 0-75 years, compared to for 13.8 per 100,000 among non-Aboriginal Australians[123]. The elevated rates among Aboriginal people are seen across both men and women[123].

Across Australia, rates of hospitalisations per 100,000 population for self-harm among Aboriginal people increased from 203 in 2008-2009 to 326 in 2021-2022[124]. In comparison, rates for non-Aboriginal Australians reduced (from 114 to 96) for the same period[124]. The largest increase was for Aboriginal females aged 0-14 years, with a six-fold increase over this period[124].

Further data on suicide and self-harm prevalence among Aboriginal people is unavailable due to small numbers.

5. Substance use

5.1 Alcohol consumption

While risky drinking rates are similar between Aboriginal and non-Aboriginal people[89], a higher proportion of Aboriginal people abstain from drinking altogether compared to non-Aboriginal Australians[95]. The proportion of Aboriginal people choosing not to consume alcohol has increased, from 25% in 2010 to 28% in 2022-23[95].

However, compared to Aboriginal people across Australia, Aboriginal people in Western Australian have a higher rate of high risk alcohol consumption (58.8 per 100 vs. 49.9 nationally); the highest rate of all states and territories in Australia[125].

Alcohol use accounts for 11% of the total burden of disease[126]. This includes 100% of burden due to alcohol use disorders, 43% due to suicide and self-inflicted injuries and 39% due to liver cancer[126].

5.2 Smoking

One in five (20%) Aboriginal people in Australia smoke tobacco daily in 2022-2023 and are 2.6 times more

likely to smoke daily compared to non-Aboriginal people contributing 20.3% to the health gap[89, 126]. In 2018 tobacco was responsible for 12% of burden of disease for Aboriginal people[126]. This same report found that 89% of total disease burden due to lung cancer, 88% burden due to laryngeal cancer and 83% burden due to COPD was attributable to tobacco use[126].

5.3 Illicit Drugs

Aboriginal people continue to experience a disproportionate burden of health conditions associated with substance use. In 2022-2023, approximately one in four (25%) Aboriginal Australians aged 14 and over reported having used an illicit drug in the past 12 months[89]. Cannabis was the most commonly used substance, with 15% of Aboriginal Australians reporting recent use, followed by pharmaceuticals used for non-medical purposes (8%) and methamphetamine or amphetamine (3%)[89]. According to the Australian Burden of Disease Report 2018, illicit drug use was a contributing factor in 7% of the total disease burden for Aboriginal people, making it the fourth leading risk factor disease[126, 127].

In 2021, Aboriginal people had a chronic hepatitis B prevalence of 1.5%; higher than the non-Aboriginal Australians (0.2%)[126]. The 2018 burden of disease study also found that illicit drug use contributed to 72.6% of hepatitis C burden and 33% of hepatitis B burden for Aboriginal Australians[126].

5.4 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 at 20 deaths per 100,000 compared to 6.0[102]. Opioids are the largest group of drugs identified in unintentional drug-induced deaths for Aboriginal people, accounting for 9.5 deaths per 100,000[102]. Additionally, stimulants have the most pronounced difference between accidental overdoses in Aboriginal people (8.5 deaths per 100,000) compared to non-Aboriginal people (1.9 deaths per 100,000)[102].

Aged care
Priorities

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
There are regions within the Perth North PHN with large current and projected older adult populations.	Some regions have limited access to aged care services and homes.	**Enable early intervention and monitoring activities to reduce early entry into residential care and support older people in living independently for as long as possible.** **Enable access to age-appropriate digital health services.**	Wanneroo, Swan	Aged care	Access
A number of older people with complex needs require support to live independently. Older people are more likely to be living with a chronic condition compared to the general population, and 1 in 10 have three or more long term conditions.	There are barriers to accessing aged care home support services, with wait times that can exceed 12 months. Older people need support to manage multiple conditions. Older people need support to live independently for as long as possible.	**Support primary health care providers (including general practices, allied health providers and aged care service providers) to effectively manage chronic conditions for older people and promote healthy ageing at home.** **Enable access to aged care services that support independent living and healthy ageing at home.**	Swan, Wanneroo, Bayswater-Bassendean, Kalamunda	Aged care	Access Chronic conditions
Some people may face challenges navigating the aged care system.	The aged care system is complex, and older people may require support navigating it to access the care they need.	**Enable access to care finder services for older people.**	Whole PHN	Aged care	Access

Health need	Service need	Priority	Priority location	Priority area	Priority sub-category
Some areas have high proportions of older people within priority population groups (including Aboriginal, LGBTIQA+ and multicultural people).	Some older people within population sub-groups (including Aboriginal, LGBTIQA+ and multicultural communities) may experience challenges in accessing aged care that meets their needs.	**Support health care and aged care providers in delivering patient-centred culturally appropriate care.**	Swan, Wanneroo, Stirling, Perth City	Aged care	Access
Most Australians would prefer to die at home rather than in a hospital or residential aged care home. For many Aboriginal people, this includes dying at home connected to country.	There is limited home palliative care providers, with many older people dying in hospitals or aged care services.	**Enable access to culturally appropriate at home palliative care services.** **Enable capability of non-specialist workforce to deliver community-based palliative care and supplment medical and aged care specialists in supporting people to live at home.**	Whole PHN	Aged are	Palliative care
Nearly 6 in 10 older people using permanent residential aged care in the Perth North PHN have a diagnosis of dementia.	People living with dementia rely heavily on aged care services for support. This will continue to increase as the population of older people grows.	**Support people living with dementia and their carers to navigate the aged care system and access appropriate services.**	Whole PHN	Aged care	Access
Older people living in aged care and supported accommodation settings are at increased risk of chronic mental health problems.	There is a shortage of mental health services for older adults in aged care or supported accommodation, and aged care providers have limited capacity to address mental health challenges.	**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

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 proportion of our total population. As of June 2020, there were approximately 4.2 million Australians aged 65 and over. This represented 16% of the total population and is expected to increase to between 21% to 23% of the population by 2066[80].

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[128].

In response to the 2021 final report of the Royal Commission into Aged Care Quality and Safety (Royal Commission), the government has announced the 2023-2024 Budget which contains several aged care reform measures. The expenditure on aged care services for 2023-2024 was estimated at $32.7 billion for this budget. Key regulatory reform includes a new Aged Care Act which is anticipated to begin from 1 July 2024, with funding to support its development and implementation, and for the sector to transition towards this new system. Additionally, the Budget also provides over $515 million over five years from 2022-2023 in response to the Work Value Case – *funding pay increases for aged care workers*.

1. The ageing population

In 2022, there are nearly 180,000 people aged 65 years and over in the Perth North PHN, representing about 17% of its population, similar to the state rate of 16%[4]. This is projected to increase to 218,000 people by 2030[4]. The proportion of people aged 65 years and over is highest in Cottesloe-Claremont, with 1 in 5 (21%) residents aged 65 or older[4].

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[129].

The Western Australian Burden of Disease Study 2018 reported that the five leading causes for older people aged 65 to 84 years were coronary heart disease, COPD, lung cancer, dementia and type 2 diabetes mellitus[32]. Specifically, for people aged 65 to 84, coronary heart disease was the leading cause of total burden (DALYs) for males and ranked second in their female counterparts; COPD was ranked first for females and ranked third in their male counterparts; lung cancer was ranked second for males and fourth for their female counterparts[32]. For people aged 85 years and over, dementia was reported as the leading cause of total burden of disease[32].

The Census reported that 10% of Western Australians and 11% of Perth North PHN residents aged 65 years and older have three or more long-term health conditions[130]. Across the Perth North PHN, Swan and Wanneroo had the highest prevalence at 11% each[130]. All other SA3s within the Perth North PHN were comparable to or below the state level[130].

Data from private general practices report that approximately 6 in 10 (58%) patients aged 65 and over have been diagnosed with three or more chronic conditions across the Perth North PHN; similar to the state rate of 59%[35]. Four of the nine SA3s in the Perth North PHN exceed the state level however, including Kalamunda (72%), Wanneroo (64%), Swan (62%) and Joondalup (59%)[35].

Please note that these data are drawn from 178 private general practices in the Perth North PHN and do not include GP services provided by non-government organisations[35].

2. Utilisation of health services

Australians aged 65 years and over may have limited access to health services depending on their social and cultural background, where they live, access to transport and overall health status [131].

According to the 2022-2023 Patient Experiences Survey, among people 85 years and older: 96% reported seeing a GP, 12% saw a GP for urgent medical care, 60% accessed a specialist, 25% visited an ED and 27% reported beling admitted to hospital[48].

In the Perth Norh PHN, 35% of people aged 80 years and over had a GP Health Assessment in 2022-2023, slightly below the state rate of 39%[37]. The number of GP attendances in residential aged care homes per patient in the Perth North PHN was similar to the state level at 15.2, compared to 15.5[37].

The Royal Commission into into Aged Care Quality and Safety noted that people receiving aged care, particularly those in residential aged care homes, 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[128].

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 collected by private general practices indicates that among the participating practices in the Perth North PHN, 24% of patients aged 75 years and over had health assessments; below the state level of 28%[132]. Six of the nine SA3s in the Perth North PHN had utilsation below the state level, with the lowest being in Bayswater-Bassendean (13%), Perth City (15%), Cottesloe-Claremont (20%), Joondalup (22%), Stirling (22%) and Swan (26%)[132]. This represents a relative area of need for the Perth North PHN.

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[133].

Most Australians would prefer to die at home, rather than in hospital or residential aged care[134]. 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[133].

The Australian Institute of Health and Welfare collects data on the utilization of palliative care in hospital settings. Palliative care-related hospitalisations include primary palliative care and other palliative care hospitalisations.

For 2021-2022, the palliative care-related hospitalisations rate per 10,000 population for Perth North PHN was 25.9; below the WA rate of 29.9 per 10,000 population[133].

The Royal Commission into Aged Care Quality and Safety made key recommendations for palliative care including[128]:

- Compulsory palliative care training for aged care workers.
- Comprehensive sector funding specifically including palliative care and end-of-life care.
- Review of the Aged Care Quality Standards to regulate high quality palliative care in residential aged care.
- Access to multidisciplinary outreach services.
- New Aged Care Act that includes the right to access palliative care and end-of-life care.

From 1 October 2022, a new funding model, the Australian National Aged Care Classification (AN-ACC) has replaced the Aged Care Funding Instrument. The AN-ACC provides equitable funding through three components, to approved residential aged care providers based on the service type delivered and each residents' care needs.

PHNs will receive funding from the Greater Choice for At Home Palliative Care Program to improve palliative care coordination in their local communities.

In 2022, there were 27.7 total full-time equivalent (FTE) palliative medicine physicians and 333.2 FTE palliative care nurses employed in WA[135, 136]. Palliative medicine physicians refer to physicians with a primary specialty of palliative medicine and palliative care nurses refer to nurses working in palliative care. Whilst it is recognised that the palliative care workforce is made up of a broad range of professional groups including other medical specialists and allied health professionals, the existing national data sources cannot accurately capture information on palliative care services provided by these health professionals, hence have not been reported. In SA3s with three or fewer practitioners/nurses, headcount and FTE values have been suppressed to protect confidentiality, in which case the total weekly hours per 1,000 aged 75 and over is reported as a universal rate across all SA3s.

The rate of palliative care nurses in the Perth North PHN is above state levels at 73.7 total weekly hours per 1,000 people aged 75 and over (compared to 65.0 across WA)[135]. Within the Perth North PHN region, the lowest rates of palliative care nurses were recorded in Swan (11.6), Stirling (15.3), Bayswater-Bassendean (17.5) and Wanneroo (24.9)[135]. In contrast, Kalamunda greatly exceeds all other Perth North PHN SA3s as well as the state rate at 247.2[135].

The rate of palliative care physicians in the Perth North PHN exceeds state levels at 10.3 total weekly hours per 1000 aged 75 and over, compared to 5.7 for WA overall. Across SA3s with available data, Stirling and Swan have the lowest rates at 1.2 and 5.6 total weekly hours per 1,000 respectively[138]. Similarly to the rate of palliative care nurses, Kalamunda far surpasses the state rate and all other SA3s within the Perth North PHN for palliative care physicians at 33.1[138]. Data were unavailable for Bayswater-Bassendean, Wanneroo and Mundaring due to no palliative medicine physicians employed working in these areas as their primary location[136].

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 aged care. Across Australia, more than two-thirds of people using aged care services access support from home[137].

Commonwealth Home Support Programme

The Commonwealth Home Support Programme (CHSP) provides entry-level support for older people so that they can continue to live independently at home. For 022-2023 in WA, domestic assistance had the highest number of clients serviced and had the highest expenditure; however, social support group had the highest amount of services provided by hours[138].

Home Care Packages program

The Home Care Packages (HCP) program provides structured 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 one (basic care needs) to level four (high care needs). Across Australia, wait times for approved HCPs range from three to six months for level one to at least 12 months for level two and above[139].

As at December 2023, there were a total of 7,996 people across the Perth Metro East and Metro North Aged Care Planning Regions (ACPR) participating in an HCP[139].

Table 1. Number of people in a HCP by level and ACPR

ACPR	Level 1	Level 2	Level 3	Level 4	Total
Metro East	19	650	1049	1240	**2958**
Metro North	148	1625	1766	1499	**5038**

Further to this, 1,524 people across the Metro East and Metro North ACPRs are not in an interim level of HCP and are waiting for an HCP at their approved level. Nearly 1 in 5 (18%) of these require the highest level of care (level 4)[139].

Table 2. Number of people waiting on a HCP at their approved level, who are not in an interim level HCP, by level and ACPR

ACPR	Level 1	Level 2	Level 3	Level 4	Total
Metro East	1	101	402	122	**626**
Metro North	6	174	571	147	**898**

4.1 Residential aged care

Home care providers in the Perth North PHN included aged care homes, religious and charitable organisations, community-based organisations, and local government.

Across WA, there are 249 residential aged care services, of which 103 are located within the Perth North PHN[140]. Perth City and Stirling have the largest number at 24 and 20 respectively while Mundaring and Kalamunda have the lowest number of service outlets at 2 and 6 respectively[140].

In addition, the Perth North PHN has 8,445 residential aged care places across all homes[140]. The rate of residential places to population aged 70 years and over (67 places per 1000) for Perth North PHN is slightly above the state rate of 64 places per 1000[140]. Within the Perth North PHN, Mundaring had the lowest rate at 27 places per 1000[140].

The Perth North PHN is slightly higher than the state rate of permanent residential aged care residents per 1,000 target population at 58.9 (compared to 55.8 acorss WA). The occupancy rate for residential care is 88.8%[141]. More than half (59%) of aged care

residentsin the Perth North PHN have a diagnosis of dementia[142]. People with dementia living in residential aged care require specific assistance and are more likely to have depression and arthritis than people without dementia, resulting in higher care need including 24-hour care by registered nurses, support services, personal care services and allied health services[51].

4.2 Aged care workforce

In 2022, the Perth North PHN had 1566.7 aged care nurse full-time equivalent (FTE) or 12.4 FTE per 1,000 people aged 70 years and over, similar to the state rate of 12.2 FTE per 1,000[51]. Kalamunda had the lowest rate of nurses in aged care (6.25 FTE per 1000) and the lowest average weekly hours of nurses in aged care (34 hours per week) in the PHN[51]. Swan, Wanneroo and Stirling were also below state rates at 10.4, 10.7 and 11.5 FTE per 1000 respectively[51].

The Royal Commission into Aged Care Quality and Safety 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[128]. Modelling by Deloitte Access Economics estimated that the number of direct care workers needed to maintain current staffing levels would be around 316,500 full-time equivalent by 2050, based on demographic trends and rates of use of aged care. 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 homes[128]. Between 2003 and 2016, the number of registered nurses in the residential direct care workforce fell from 21% to 15%[128]. At the same time, the proportion of residential direct care workforce who were personal care workers increased from 58% to around 70%[128]. This indicates a shift from a highly trained and skilled workforce to lower paid, 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

Althought the emergency phase of COVID-19 is over, the virus continues to impact people, especially those who are older, have a chronic condition, are immunocompromised or pregnant[143]. In November 2023, the World Health Organisation's Strategic Advisory Group on Immunisation have updated the recommendations on COVID-19 vaccination[143]. Revaccination after 6 to 12 months from the most recent vaccination dose is recommended for adults over 75 years old, which is considered a high priority-use group. In addition, the Australian Technical Advisory Group on Immunisation also recommended revaccination every 12 months for adults aged 65 to 74 years and, revaccination every 6 months for adults aged 75 years and older[143]. Specifically, the Department of Health and Aged Care strongly encourages COVID-19 vacccination for residential aged care residents as the most effective protection[144].

As of July 2023, in WA, there was a total of 16 active outbreaks in residential aged care homes including 99 active resident cases[144]. In addition, there were 6,320 residential aged care residents who have received a booster in the last 6 months, accounting for 47.2% of all active residents[145].

The vaccination rates for residential aged care residents in the Perth North PHN priority locations for people experiencing socioeconomic disadvantage are noted in Table 3.

Table 3. Residential aged care residents COVID-19 vaccination rates by priority locations (SA3)[145]

SA3	Number of outlets	% residents with three doses of a COVID-19 vaccine, of total residents	% residents with four doses of a COVID-19 vaccine of those who received a third dose more than three months prior
Stirling	21	80 – 89%	80 – 89 %
Swan	7	80 – 89%	70 – 79%
Wanneroo	11	80-89%	80 – 89 %

Spotlight on: Albert

Albert, a 66-year-old man, is at risk of eviction and homelessness due to a mental health condition that manifests as hoarding.

He has a history of trauma, lives alone since his wife passed away five years ago and has no family support.

Albert's home is near condemnation, filled with hoarded items, posing severe fire and health risks. He has no running water or gas as they've been disconnected due to severe paranoia. He is reluctant to reach out for support and is suspicious of those who offer help, but is worried he might lose his home.

Appendices

How to read the Priorities table

Perth North PHN Needs Assessment 2025-2027 identifies priorities by each of the PHN Pillars (population health, mental health, alcohol and other drugs, Aboriginal health and aged care).

The Priority outlines the actions the PHNs could take to address the health and service needs.

Priority sub-categories have been established by the Department of Health. A list of sub-categories can be found here.

Health need	Service need	Priority	Priority location[1]	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.	Joondalup, Perth City	Alcohol and other drugs	Early intervention and prevention

The health and service needs are identified through the Needs Assessment analysis.

The Priority location provides an indication of where this issue is most prevalent in the PHN.

The Priority area corresponds to the PHN Pillars.

[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.

Needs Assessment priority sub-categories

Aboriginal and Torres Strait Islander Health
Access
Safety and quality of care
After hours
Aged care
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
Practice support
Workforce
People at risk of experiencing health inequities
Emergency response
Other (free-text description required)

Definitions

Term	Definition
Aged Care Planning Region (ACPR)	The current WA 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, Aboriginal and non-Aboriginal people).
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.
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 is a framework for statistical geography, which defines locations in terms of remoteness. Geographic remoteness is essentially a measure of a physical location's level of access to goods and services. Large population centres tend to have a greater range of goods and services available than small centres.

Statistical Areas (SAs)	• **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. • **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. • **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. • **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.
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).

Glossary

Illicit drugs:	Illegal drugs, drugs and volatile substances used illicitly, and pharmaceuticals used for non-medical purposes.
	• 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.
	Note
	^ used for non-medical purposes
	Excludes the use of cannabis for medical purposes that was prescribed by a doctor only.

Non-Medical Use:	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.
Standard drink:	Containing 10 grams of alcohol (equivalent to 12.5 milliliters of alcohol); also referred to as a full serve.

Bibliography

1. DOHAC. PHN Program Needs Assessment Policy Guide. 2021;2024(24 October 2024). https://www.health.gov.au/sites/default/files/documents/2021/07/primary-health-networks-phns-needs-assessment-policy-guide_0.pdf
2. WAPHA. Aboriginal Cultural Competency and Capability Framework. 2023. Accessed 24 October 2024. https://www.wapha.org.au/wp-content/uploads/2023/02/WAPHA_Aboriginal-Cultural-Framework.pdf
3. Butler TL, Anderson K, Garvey G, et al. Aboriginal and Torres Strait Islander people's domains of wellbeing: A comprehensive literature review. *Social science & medicine*. 2019;233:138-157.
4. PHIDU. Data from: Social Health Atlas. 2023. *Australia*.
5. Welfare AIoH. Mortality Over Regions and Time (MORT) books: Statistical Area Level 3 (SA3), 2018-2022. Australian Institute of Health and Welfare. Accessed 12 July 2024, https://www.aihw.gov.au/reports/life-expectancy-deaths/mort-books/contents/mort-books
6. ImpactCo. *After Hours Program Final Report*. 2024:108. *WA Primary Health Alliance Needs Assessment for the After Hours, Multicultural Access and Homelessness Support Programs*. 10 July 2024. Accessed 1st November 2024.
7. ImpactCo. *Multicultural Access Program Final Report*. 2024:69. *WA Primary Health Alliance Needs Assessment for the After Hours, Multicultural Access and Homelessness Support Programs*. 12 July 2024.
8. Alliance WPH. Multicultural Community Workshops - feedback overview. 2023. Accessed 8 Nov 2024.
9. Services K. *Summary of Research and Community Consultations for the WA Primary Health Alliance Competency Frameworks*. 2022.
10. Hill A, Bourne A, McNair R, Carmen M, Lyons A. *Private Lives 3: The health and wellbeing of LGBTQI+ people in Australia.* 2020. https://www.latrobe.edu.au/__data/assets/pdf_file/0009/1185885/Private-Lives-3.pdf
11. Rollè L, Giardina G, Caldarera AM, Gerino E, Brustia P. When Intimate Partner Violence Meets Same Sex Couples: A Review of Same Sex Intimate Partner Violence. Review. *Frontiers in Psychology*. 21 August 2018 2018;9
12. Strauss P, Cook A, Winter S, Watson V, Wright Toussaint D, Lin A. Trans Pathways: the mental health experiences and care pathways of trans young people. Telethon Kids Institute; 2017. https://www.telethonkids.org.au/projects/past/trans-pathways/
13. Carman M, Farrugia C, Bourne A, Power J, Rosenberg S. *Research Matters: How many people are LGBTIQ+*. 2022. https://opal.latrobe.edu.au/articles/educational_resource/Research_Matters_How_many_people_are_LGBTIQ_/20304708
14. Caring for Others and Yourself: The 2021 Carer Wellbeing Survey (Centre for Change Governance) (2021).
15. Statistics ABo. Estimating Homelessness: Census. ABS Website. Accessed 20 March 2024, 2024. https://www.abs.gov.au/statistics/people/housing/estimating-homelessness-census/latest-release#cite-window1
16. WA S. Specialist homelessness services annual report 2022-23. Accessed 24 October 2024,
17. Vallesi S, Tuson M, Davies A, Wood L. Multimorbidity among People Experiencing Homelessness - Insights From Priamry Care Data. Int. J Environment Res Public Health; 2021;18:6498. doi:doi:10.3390/ijerph18126498 https://static1.squarespace.com/static/6071957fd38b343b68afe4d5/t/619d9a6d8679e039f8126f2c/1637718638665/Multimorbidity+among+people+experiencing+homelessness+-+Homeless+Healthcare+Manuscript.pdf
18. ImpactCo. *Homelessness Support Program Final Report*. 2024. *Needs Assessment for the After Hours, Multicultural Access and Homelessness Support Programs*. 12 July 2024. Accessed 1 November 2024.

19. McNair R, Andrews C, Parkinson S, Dempsey D. GALFA LGBTQ Homelessness Research Project. GALFA; 2017. https://apo.org.au/sites/default/files/resource-files/2017-09/apo-nid106146.pdf
20. Mizock L, Mueser K. Employment, mental health, internalized stigma, and coping with transphobia among transgender individuals. Psychology of Sexual Orientation and Gender Diversity; 2014;1(2):146-158. doi:https://doi.org/10.1037/sgd0000029 https://psycnet.apa.org/doiLanding?doi=10.1037%2Fsgd0000029
21. Statistics ABo. Personal Safety, Australia. ABS Website. Accessed 20 March 2024, 2024. https://www.abs.gov.au/statistics/people/crime-and-justice/personal-safety-australia/latest-release#cite-window1
22. Family, domestic and sexual violence in Australia: continuing the national story 2019 (Australian Institute of Health Welfare) (2019).
23. Family, domestic and sexual violence data in Australia (Australian Institute of Health and Welfare) (2022).
24. WAPOL. Crime Statistics: Crime in Western Australia. Western Australia Police Force. Updated 3 May 2024. Accessed 16 April 2024, https://www.police.wa.gov.au/crime/crimestatistics#/
25. Shapley M, Jordan K, Croft PR. An epidemiological survey of symptoms of menstrual loss in the community. *British Journal of General Practice*. 2004;54(502):359-363.
26. Spilsbury K, Hammond I, Bulsara M, Semmens J. Morbidity outcomes of 78 577 hysterectomies for benign reasons over 23 years. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2008;115(12):1473-1483.
27. Care ACoSaQiH. *Women's Health Focus Report*. 2024. 28 October 2024. https://www.safetyandquality.gov.au/our-work/healthcare-variation/womens-health-focus-report
28. Care ACoSaQiH. Heavy Menstrual Bleeding Clinical Care Standard. Sydney NSW: Australian Commission on Safety and Quality in Health Care; 2024. p. 51.
29. RACGP. *Social-prescribing-report-and-recommendation*. 2020. Accessed 11/04/2024. https://www.racgp.org.au/FSDEDEV/media/documents/RACGP/Advocacy/Social-prescribing-report-and-recommendation.pdf
30. Chronic conditions and multimorbidity (Australian Institute of Health and Welfare) (2023).
31. Health service utilisation estimates, risk factors and prevalence of mental health conditions by geographic area, Health and Wellbeing Surveillance System, 2018 to 2022 (Epidemiology Directorate

, Department of Health WA) (2024).
32. The Burden of Disease in Western Australia 2018 (Epidemiology Directorate) (2023).
33. Snapshot of Australia (Australian Bureau of Statistics) (2021).
34. Health conditions prevalence (Australian Bureau of Statistics) (2022).
35. Alliance WPH. Data from: PrimarySense Prevalence for selected conditions by SA3 (2023). 2024.
36. DOHAC. Medicare Benefits Schedule - Item 721. Accessed 28 October 2024, https://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=721&qt=item&criteria=721%2D731
37. Welfare AIoHa. Data from: Medicare-subsidised GP, allied health and specialist health care across local areas: 2022-23. 2024. *Canberra*.
38. Welfare AIoHa. *Use of emergency departments for lower urgency care: 2015–16 to 2018–19*. 2020. https://www.aihw.gov.au/reports/primary-health-care/use-of-ed-for-lower-urgency-care-2018-19
39. Department of Health P, Western Australia. Data from: Emergency Department Data Collection (EDDC). 2023.
40. Nursing and Aboriginal health workers (2024).

41. Welfare AIoHa. *Access to primary health care relative to need for Indigenous Australians*. 2014. 29 October 2024. https://www.aihw.gov.au/reports/indigenous-australians/access-to-primary-health-care-relative-to-need
42. Alliance WPH. Consumer research reveals most people experiencing disadvantage are still able to access a GP. Accessed 1 November 2024, https://news.wapha.org.au/consumer-research-reveals-most-people-experiencing-disadvantage-are-still-able-to-access-a-gp/
43. PHN Childhood immunisation coverage data (2023).
44. DOHAC. Immunisation coverage rates for all children. Department of Health and Aged Care. Updated 8 April 2024. Accessed 20 March 2024, https://www.health.gov.au/topics/immunisation/immunisation-data/childhood-immunisation-coverage/immunisation-coverage-rates-for-all-children
45. Cancer screening programs: quarterly data (Australian Institute of Health and Welfare) (2023).
46. Welfare AIoHa. *Digital health*. 2022. https://www.aihw.gov.au/reports/australias-health/digital-health
47. My Health Record: Statistics and Insights (The Australian Digital Health Agency) (2024).
48. Patient Experiences (Australian Bureau of Statistics) (2022-23).
49. Koh D. WA's acceleration towards digital health: ten years of reforms in ten days. *Healthcare IT News*. https://www.healthcareitnews.com/news/anz/wa-s-acceleration-towards-digital-health-ten-years-reforms-ten-days
50. The BIG picture (2024).
51. DOHAC. Commonwealth Department of Health HeaDS UPP Tool, Needs Assessment. Accessed 5 April 2024.
52. Alliance WPH. *Western Australia Workforce Needs and Training Capacity Report*. 2024:55. July 2024. Accessed 1 November 2024.
53. 2023 National Study of Mental Health and Wellbeing, 2020-2022 (ABS) (2023).
54. 2022 National Study of Mental Health and Wellbeing, 2020-2021 (ABS) (2022).
55. 2024 Suicide and Self-Harm Monitoring Data (Australian Institute of Health and Welfare) (2023).
56. Welfare AIoHa. *Mortality Over Regions and Time (MORT) books: Primary Health Network (PHN), 2017–2021*. 2023. https://www.aihw.gov.au/getmedia/b82c64dd-58bc-42b5-92eb-e6b7de3acfdc/AIHW-PHE-229-MORT_PHN_2017_2021.xlsx.aspx
57. S. Rocker SB. Suizidalität bei psychischen Erkrankungen - Prävention und Behandlung [Suicidality in mental illness – prevention and therapy]. *Therapeutische Umschau Revue thérapeutique*. 2015;72(10):611–617.
58. Chung DT, Ryan, C. J., Hadzi-Pavlovic, D., Singh, S. P., Stanton, C., & Large, M. M. Suicide Rates After Discharge From Psychiatric Facilities: A Systematic Review and Meta-analysis. *JAMA psychiatry*. 2017;74(7):694–702.
59. Suicide and hospitalised self-harm in Australia: trends and analysis (AIHW) (2014).
60. Oostermeijer S BB, Nicholas A, et al. Implementing child and youth mental health services: early lessons from the Australian Primary Health Network Lead Site Project. *International Journal of Mental Health Systems*. 2021;15
61. The mental health of children and adolescents : Report on the second Australian Child and Adolescent Survey of Mental Health and Wellbeing (Department of Health) (2015).
62. Department of Health V. Mental illness in children, adolescents and young people. https://www.health.vic.gov.au/mental-health-services/mental-illness-in-children-adolescents-and-young-people
63. People CfCaY. *Speaking Out Survey 2021. The views of WA children and young people on their wellbeing – a summary report*. 2021. https://www.ccyp.wa.gov.au/our-work/speaking-out-survey/Commissioner for Children and

Young People WA

64. Health NMo. *Mental Health For Emergency Departments: A Reference Guide*. 2015. https://www.health.nsw.gov.au/mentalhealth/resources/Publications/mental-health-ed-guide.pdf
65. Department of Health P, Western Australia. Data from: Emergency Department Data Collection (EDDC). 2024.
66. headspace. who we are. Accessed 6 Nov 2024, https://headspace.org.au/our-organisation/who-we-are/
67. Headspace. Youth Mental Health Statistics - 2022. Headspace, Australia. Accessed 20 March 2024, https://headspace.org.au/our-impact/evaluation-research-reports/youth-mental-health-statistics/
68. Welfare AIoHa. Data from: Australian Youth Self-Harm Atlas. 2023.
69. Orygen h. *Submission to the Productivity Commission's Inquiry into Mental Health*. 2019. https://www.orygen.org.au/Orygen-Institute/Policy-Areas/Government-policy-service-delivery-and-workforce/Government-policy/Productivity-Commission-s-Inquiry-into-Mental-Heal/Orygen-and-headspace-Productivity-Commission-Submi?ext=.
70. People TCfCaY. *Developing a 'fit for purpose' mental health care system for 21st century children and young people*. 2023. https://www.ccyp.com.au/wp-content/uploads/2023/10/Screen-%E2%80%93-Issue-Brief-Developing-a-fit-for-purpose-mental-health-care-system-for-CYP.pdf
71. Prevalence and impact of mental illness (AIHW) (2024).
72. Welfare AIoHa. *Overview of mental health services in Australia*. 2019. https://www.aihw.gov.au/getmedia/31503865-c1c5-41e8-842c-eec372176203/overview-of-mental-health.pdf.aspx
73. Welfare AIoH. National Mental Health Service Planning Framework. Accessed 7 November 2024, https://www.aihw.gov.au/nmhspf
74. National Guidelines to improve coordination of treatment and supports for people with severe and complex mental illness (2022).
75. Alliance WPH. Data from: Primary Mental Health Care Minimum Data Set (PMHC-MDS). 2023.
76. Forum NMHCaC. *Advocacy Brief - Culturally and Linguistically Diverse (CaLD) Mental Health*. 2021. https://nmhccf.org.au/component/edocman/advocacy-brief-culturally-and-linguistically-diverse-cald-mental-health/download?Itemid=0
77. Welfare AIoHa. LGBTIQ+ communities. https://www.aihw.gov.au/reports-data/population-groups/lgbtiq/overview
78. Australia LH. Snapshot of Mental Health and Suicide Prevention Statistics for LGBTIQ+ People. https://www.lgbtiqhealth.org.au/statistics
79. Taylor J, Power, J, Smith, E & Rathbone, M. Bisexual mental health and gender diversity: Findings from the 'Who I Am' study. *Australian Journal of General Practice*. 2020;49(7):392-399.
80. Welfare AIoHa. *Older Australians*. 2023. https://www.aihw.gov.au/reports/older-people/older-australians
81. Health and Wellbeing of Adults in Western Australia 2022 (Department of Health WA) (2023).
82. Association AM. Mental Health - 2018. https://www.ama.com.au/articles/mental-health-2018-0
83. Sydney TUo. Nearly two-thirds of adolescent long stays in NSW hospitals for mental health. https://www.sydney.edu.au/news-opinion/news/2023/04/05/nearly-two-thirds-adolescent-long-stays-nsw-hospitals-mental-health.html
84. Commission MH. *Mental Health 2020: Making it personal and everybody's business - Reforming Western Australia's mental health system*. 2020. https://www.mhc.wa.gov.au/media/1316/mhc-strategic-plan.pdf
85. Australia H. Healthmap. Accessed 7 Nov 2024. https://healthmap.com.au/
86. NHMRC. Australian Guidelines to Reduce Health Risks from Drinking Alcohol. National Health and Medical Research Council. Accessed 20 March 2024, https://www.nhmrc.gov.au/health-advice/alcohol
87. Mudd J, Larkins S, Watt K. The impact of excess alcohol consumption on health care utilisation in regional patients with chronic disease – a retrospective chart audit. *Australian and New Zealand Journal of Public Health*. 2020/12/01/ 2020;44(6):457-461. doi:https://doi.org/10.1111/1753-6405.13020

88. Alcohol retail during COVID-19 (2020-2021) (Foundation for Alcohol Research and Education) (2022).
89. Welfare AIoHa. *National Drug Strategy Household Survey 2022–2023*. 2024. https://www.aihw.gov.au/reports/illicit-use-of-drugs/national-drug-strategy-household-survey
90. WA Health and Wellbeing Surveillance System (HWSS) (Epidemiology Directorate, Department of Health) (2023).
91. Hazeldine S, Davies I, Tait RJ, Olynyk JK. Critical Role of General Practitioners in Preventing Readmission Following Emergency Department Alcohol Screening and Brief Intervention Management of Alcohol-Related Problems. *J Prim Care Community Health*. Jan-Dec 2021;12:21501327211027437. doi:10.1177/21501327211027437
92. Effective approaches to prevention, diagnosis and support for Fetal Alcohol Spectrum Disorder (Commonwealth of Australia) (2021).
93. ASSAD 2022-2023: Australia secondary school students' use of alcohol and other substances (Department of Health and Aged Care) (2024).
94. Galrao MH, M; Sun, W. Western Australian Burden of Disease Study 2015 – contribution of risk factors to burden in health regions in WA. Department of Health WA; 2021. Accessed 1 July 2024. https://www.health.wa.gov.au/~/media/Corp/Documents/Reports-and-publications/WA-Burden-of-Disease-Study-2015-Summary-report/13939-WA-Burden-of-Disease---Contribution-of-risk-factors-to-burden-in-health-regions.pdf
95. Welfare AIoHa. *Alcohol, tobacco & other drugs in Australia*. 2023. https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia
96. Current vaping and smoking in the Australian population aged 14 years or older - February 2018 to March 2023 (Department of Health and Aged Care) (2023).
97. Banks E, Yazidjoglou A, Brown S, et al. *Electronic cigarettes and health outcomes: systemic review of global evidence*. 2022. https://www.nhmrc.gov.au/sites/default/files/documents/attachments/ecigarettes/Electronic_cigarettes_and_health_outcomes_%20systematic_review_of_evidence.pdf
98. Welfare AIoHa. *State and Territory summaries of alcohol, tobacco, e-cigarette and other drug use*. 2024. https://www.aihw.gov.au/reports/illicit-use-of-drugs/state-alcohol-drug-use
99. ACIC. *National Wastewater Drug Monitoring Program - Report 21*. 2023. https://www.acic.gov.au/sites/default/files/2024-03/Wastewater%2021%20FOR%20WEB2.PDF
100. Griffiths S, Murray SB, Dunn M, Blashill AJ. Anabolic steroid use among gay and bisexual men living in Australia and New Zealand: Associations with demographics, body dissatisfaction, eating disorder psychopathology, and quality of life. *Drug and Alcohol Dependence*. 2017/12/01/ 2017;181:170-176. doi:https://doi.org/10.1016/j.drugalcdep.2017.10.003
101. Australian Burden of Disease Study 2023 (Australian Institute of Health and Welfare) (2023).
102. Institute P. *Australia's Annual Overdose Report 2023*. 2023. https://www.penington.org.au/wp-content/uploads/2023/08/PEN_Annual-Overdose-Report-2023_FINAL.pdf
103. ABS. Causes of Death, Australia. Australian Bureau of Statistic. Accessed 20 March 2024, 2024. https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/2021
104. 2024 Causes of Death. Australia (ABS) (2022).
105. Australia H. A Cure for Hepatitis C. Hepatits Australia. Updated 20 February 2024. Accessed 20 March 2024, https://www.hepatitisaustralia.com/hepatitis-c-cures
106. Hepatitis B: Australian Immunisation Handbook (Department of Health and Aged Care) (2023).
107. DOHAC. National Communicable Disease Surveillance Dashboard. Department of Health and Aged Care. Updated 12 July 2024. Accessed 9 April 2024, https://nindss.health.gov.au/pbi-dashboard/
108. Viral Hepatitis Mapping Project: Hepatitis B, Geographic diversity in chronic hepititis B prevelance, management and treatment (Doherty Institute) (2021).
109. MacLachlan J, Romero N, Purcell I, Cowie B. *Viral Hepatitis Mapping Project: Hepatitis B National Report 2021*. 2021. https://ashm.org.au/wp-content/uploads/2023/09/Viral-Hepatitis-Mapping-Project_National-Report-Hepatitis-B-2021.pdf

110. Viral Hepatitis Mapping Project: Geographic diverity in chronic hepatitis B and C prevalence, management and treatment (Doherty Institute) (2020).
111. Welfare AIoHa. *Intentional self-harm and suicide*. 2023. https://www.aihw.gov.au/reports/injury/intentional-self-harm-and-suicide
112. Welfare AIoHa. *Alcohol and other drug treatment services in Australia annual report*. 2024. https://www.aihw.gov.au/reports/alcohol-other-drug-treatment-services/alcohol-other-drug-treatment-services-australia
113. Vision W. 8 interesting facts about Aboriginal and Torres Strait Islanders. Accessed 8 Nov 2024, https://www.worldvision.com.au/global-issues/work-we-do/supporting-indigenous-australia/8-interesting-facts-about-indigenous-australia
114. Boards AN. The National Scheme's Aboriginal and Torres Strait Islander Health and Cultural Safety Strategy 2020-2025. Ahpra & National Boards; 2020. https://www.ahpra.gov.au/About-Ahpra/Aboriginal-and-Torres-Strait-Islander-Health-Strategy/health-and-cultural-safety-strategy.aspx
115. PHIDU. Data from: Aboriginal and Torres Strait Islander Social Health Atlas of Australia. 2024.
116. Aboriginal and Torres Strait Islander Health Performance Framework: summary report March 2024 (Australian Institute of Health and Welfare) (2024).
117. Cabinet DoPMa. Closing the Gap. Department of Prime Minister and Cabinet. Accessed 12 July 2024, https://www.closingthegap.gov.au/
118. Welfare AIoHa. *Health checks and follow-ups for Aboriginal and Torres Strait Islander people*. 2023. https://www.aihw.gov.au/reports/indigenous-australians/indigenous-health-checks-follow-ups
119. Causes of Death, Australia (Australian Bureau of Statistics) (2022).
120. Indigenous health and wellbeing (Australian Institute of Health and Welfare) (2022).
121. Welfare AIoHa. *Potentially preventable hospitalisations in Australia by small geographic areas, 2020–21 to 2021–22*. 2024. 13 Aug 2024. Accessed 8 Nov 2024. https://www.aihw.gov.au/reports/primary-health-care/potentially-preventable-hospitalisations-2020-22/contents/summary
122. Welfare AIoHa. Family, domestic and sexual violence: Aboriginal and Torres Strait Islander people. Australian Institute of Health and Welfare. Accessed 12 July 2024, https://www.aihw.gov.au/family-domestic-and-sexual-violence/population-groups/aboriginal-and-torres-strait-islander-people#:~:text=Across%20jurisdictions%20with%20published%20data,people%20in%20New%20South%20Wales
123. Welfare AIoHa. *Deaths by suicide among First Nations people*. 2023. Accessed 8 November 2024. https://www.aihw.gov.au/suicide-self-harm-monitoring/data/populations-age-groups/suicide-indigenous-australians
124. Welfare AIoHa. *Intentional self-harm hospitalisations among First Nations people*. 2023. Accessed 8 November 2024. https://www.aihw.gov.au/suicide-self-harm-monitoring/data/populations-age-groups/intentional-self-harm-hospitalisations-indigenous
125. Welfare AIoHa. Data from: Short-term risky/high risk alcohol consumption(a), by sex, remoteness area and jurisdiction, Indigenous persons (18 years and over), 2004–05, 2012–13 and 2018–19 2023.
126. Welfare AIoHa. *Australian Burden of Disease Study 2018: Interactive data on risk factor burden among Aboriginal and Torres Strait Islander people*. 2022. https://www.aihw.gov.au/reports/burden-of-disease/abds-2018-interactive-risk-factor-indigenous
127. Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2018 (Australian Institute of Health and Welfare) (2022).
128. Royal Commission into Aged Care Quality and Safety: Care, Dignity and Respect (Royal Commissions) (2021).
129. Brown-O'Hara T. Geriatric syndromes and their implications for nursing. *Nursing2024*. 2013;43(1):1-3. doi:10.1097/01.Nurse.0000423097.95416.50
130. SA3 (UR) by AGE5P Age in Five Year Groups and CLTHP Count of Selected Long-term Health Conditions [Census TableBuilder] (Australian Bureau of Statistics) (2021).
131. Medicare-Subsidised Mental Health-Specific Services (Australian Institute of Health and Welfare) (2023).
132. Alliance WPH. Data from: PrimarySense Proportion for 75+ GP Health Assessments (2023). 2024.

133. Welfare AIoHa. *Palliative care services in Australia*. 2023. https://www.aihw.gov.au/reports/palliative-care-services/palliative-care-services-in-australia
134. Swerissen H, Duckett SJ. What can we do to help Australians die the way they want to? *Med J Aust*. Jan 19 2015;202(1):10-1. doi:10.5694/mja14.01580
135. DOHAC. National Health Workforce Data Tool Nurses in Palliative Care by SA3. Accessed 23 May 2024, https://hwd.health.gov.au/
136. DOHAC. National Health Workforce Data Tool Medical Practitioners in Palliative Medicine by SA3. Accessed 20 June 2024, https://hwd.health.gov.au/
137. DOHAC. About residential aged care. Updated 27 February 2024. Accessed 7 May 2024, https://www.health.gov.au/our-work/residential-aged-care/about-residential-aged-care?language=en
138. Aged care data snapshot - 2023 (Department of Health and Aged Care) (2023).
139. GEN Home Care Packages Program Data Report 1 October - 31 December 2023 (The Department of Health and Aged Care) (2024).
140. GEN Aged care service list: 30 June 2023 (Australian Institution of Health and Welfare) (2023).
141. My Aged Care Region (Australian Institute of Health and Welfare) (2021-22).
142. Welfare AIoHa. *Dementia in Australia*. 2023. https://www.aihw.gov.au/reports/dementia/dementia-in-aus
143. WHO. COVID-19 advice for the public: Getting vaccinated. World Health Organisation. Updated 5 December 2023. Accessed 7 May 2024, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines/advice
144. COVID-19 Vaccine Rollout (2024).
145. Residential aged care residents COVID-19 vaccination rates map (Department of Health and Aged Care) (2024).